A Global Leader in Innovative...

Wire & Cable Management • Cable Protection Systems
Power Connection & Control • Safety Technology

Thomas&Betts



Cable Protection Systems

www.tnb.com

Choose Thomas & Betts and connect to the power you need.

For over 100 years, Thomas & Betts has successfully applied innovative design and manufacturing techniques to meet the changing needs of the marketplace. Today, we offer more than 100,000 electrical components and systems to terminate, connect, fasten, protect and identify wires, components and raceway. Our vast offering makes us one of the largest and best sources of electrical components in North America.

At T&B, we're committed to:

- Products which provide solutions to your electrical needs
- Convenience of single-order, single-shipment to your site for thousands of stocking items
- Expert local point of contact for clear, consistent information regarding training, codes and standards
- Quality brands that have proven themselves over time
- Inventive design and manufacture of problem-solving products
- Offering a best-of-class warranty and returns policy
- Uniform carton labeling with additional bar-coding for convenient inventory management
- Nationwide network of stocking electrical distributors
- Outstanding customer service capability
- Supplying you with the right products, convenient packaging, on-time delivery and competitive pricing

We deliver the solutions that make your job easier and offer the power to bring it all together in one package. Call us today and let us help you profit from sourcing your electrical products from the leader, Thomas & Betts.



Healthcare



Wastewater Treatment



Food and Beverage



Oil and Gas

Cable Protection Systems

Access the Full Range of Thomas & Betts Electrical Solutions.

Other Thomas & Betts Catalogs...



Wire & Cable Management — CAT1

- Boxes & Covers
- Metal Framing & Cable Tray
- Fastening Systems
- Identification & Supplies



Power Connection & Control — CAT3

- Connectors & Grounding
- Wire Termination
- Power & High Voltage
- Power Quality



Safety Technology — CAT4

- Hazardous Location Lighting
- Emergency Lighting
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Vertical Market Solutions

Single- and Multi-Family Housing









At Thomas & Betts, residential construction goes beyond the simple house on the corner. From a single-family home to a multi-story apartment complex or high-rise condominium, we understand the dynamic challenges faced in the residential market and are committed to providing innovative electrical solutions that promote sustainability, reduce overall project costs and provide a safe working and living environment.

Technology and regulatory evolution is driving change throughout our living areas, and Thomas & Betts is focused on providing solutions that not only solve current real-world problems, but offer the flexibility to accommodate future demands.

For more information, request the Thomas & Betts Electrical Solutions for Single- and Multi-Family Housing brochure, GM-8330.







Commercial and Institutional Facilities





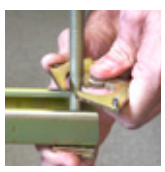




Thomas & Betts understands the challenges faced in commercial and institutional projects and is committed to providing innovative electrical solutions that not only reduce overall project costs, but also increase safety, promote sustainability and even improve cash flow. Whether it's labor-saving rough-in components, custom-designed electrical prefabrication systems, online cloud-based design tools or even our world-class logistics, Thomas & Betts can help bring commercial and institutional projects in on time, within budget and profitably.

For more information, request the Thomas & Betts Electrical Solutions for Commercial and Institutional Facilities brochure, GM-8333.







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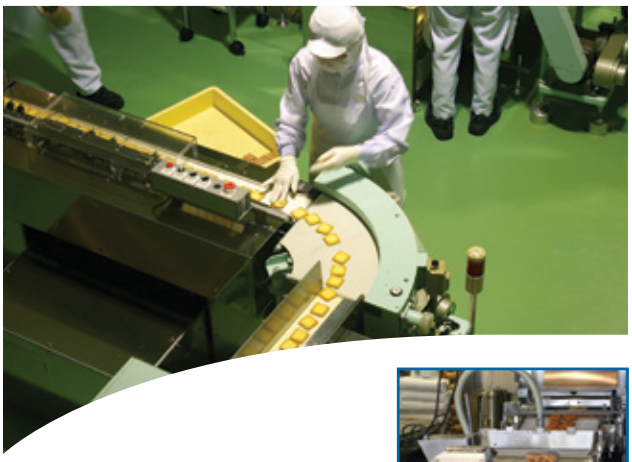
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Vertical Market Solutions

Food and Beverage Processing Industry









At Thomas & Betts, we understand the challenges you face in the food and beverage processing industry today. We're focused on providing electrical solutions that address the critical issues in every area of your operation, so you can focus on plant sustainability, cost, quality, flexibility, food and personnel safety and regulatory challenges across the production cycle. Our family of electrical solutions matches specific application criteria from start to finish inside food processing areas, assuring the quality and reliability of your electrical system throughout your facility, from incoming raw materials through shipping of finished goods. And with the industry's most efficient distribution system, we're prepared to meet your ongoing MRO, OEM and construction needs down the road.

For more information, request the Thomas & Betts Electrical Solutions for Food and Beverage Processing Facilities brochure, GM-8306.







Metals and Mining Industry









Thomas & Betts' long-term presence in the utility and industrial markets continues to drive the development of innovative electrical products that meet the stringent application requirements of metals and mining operations and perform over extended lifecycles. Our solutions are tailored to help you optimize operating costs and improve return on capital investments while protecting the environment and ensuring safety to workers and production assets. Our global network and fast logistics are in place to support your MRO, OEM and construction activities around the world.

For more information, request the Thomas & Betts Electrical Solutions for the Metals and Mining Industry brochure, GM-8332.







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Vertical Market Solutions

Pulp and Paper Processing Industry









At Thomas & Betts, we understand the challenges you face in the pulp and paper processing industry today. We're focused on providing electrical solutions that address the critical issues in every area of your operation, so you can focus on plant sustainability, personnel safety, cost, quality, flexibility and regulatory challenges across the production cycle. Our family of electrical solutions matches specific application criteria from start to finish inside processing areas, assuring the quality and reliability of your electrical system throughout your facility, from incoming raw materials through shipping of finished goods. And with the industry's most efficient distribution system, we're prepared to meet your ongoing MRO, OEM and construction needs today.

For more information, request the Thomas & Betts Electrical Solutions for Pulp and Paper Processing Facilities brochure, GM-8335.







Chemical Industry









Thomas & Betts designs, manufactures and supplies solutions for electrical systems. In order to be profitable running special batches or continuous commodity compounds, you need reliable, robust and cost-effective equipment. Your systems need to operate at peak performance. That's why we invest considerable resources towards R&D, training and channel management. Our products solve real-world problems. Thomas & Betts offers the industry's most advanced materials distribution system, and our commitment shows in our unmatched products, unequaled service and loyalty from end-users, OEMs and contractors.

For more information, request the Thomas & Betts Electrical Solutions for the Chemical Industry brochure, GM-8336.







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Vertical Market Solutions

Oil and Gas Industry









Thomas & Betts designs, manufactures and supplies technically advanced products for electrical systems. Profitable drilling, extracting, processing, transporting and dispensing operations require reliable, robust and cost-effective equipment. That's why we invest extensive amounts on R&D, training and channel management. Our solutions solve real-world problems. Thomas & Betts offers the industry's most advanced materials distribution system, and our commitment shows in our unmatched products, unequaled service and loyalty from end-users and OEMs.

For more information, request the Thomas & Betts Electrical Solutions for the Oil and Gas Industry brochure, GM-8329.

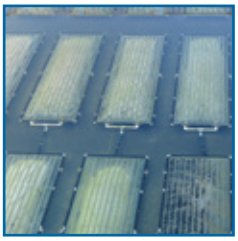






Water/Wastewater Treatment









At Thomas & Betts, we're focused on providing products that address the issues in every area of your wastewater treatment facility, so you can focus on cost, quality, flexibility and regulatory challenges. Our family of products matches specific application criteria from start to finish, assuring the quality and reliability of your electrical system throughout your facility, from power substation to administration buildings. With the industry's most efficient distribution system, we're also prepared to meet your ongoing MRO needs down the road.

For more information, request the Thomas & Betts Electrical Solutions for Wastewater Treatment Facilities brochure, GM-8291.







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Vertical Market Solutions

Civil Infrastructure









At Thomas & Betts, we understand the challenges faced in civil infrastructure. We're focused on providing electrical solutions that address the critical issues in every transportation sector, so you can focus on sustainability, cost, quality, flexibility, safety and regulatory compliance. Our family of quality electrical solutions matches specific application criteria, ensuring the continued reliability of infrastructure. And with the industry's most efficient distribution system, we're prepared to meet your ongoing operation and maintenance needs as well as serve new OEM and construction investments.

For more information, request the Thomas & Betts Electrical Solutions for Civil Infrastructure brochure, GM-8331.







Renewable Energy









The demand for natural, clean and sustainable energy resources has brought solar and wind power generation into the spotlight. Investments and incentives by public and private entities are speeding green development and proliferation, yet the promise is not fully realized. Thomas & Betts is committed to seeing the industry succeed — and thrive. We design integrated solutions with higher quality materials, fewer parts and ease of installation coupled with maintenance in mind in order to reduce product lifecycle costs. We provide the information and training necessary to correctly install and maintain critical structural systems for safe and reliable operation. With solutions from Thomas & Betts, you will meet your cost, quality, performance and regulatory challenges.

For more information, request the Thomas & Betts Electrical Solutions for Renewable Energy brochure, GM-8334.







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Vertical Market Solutions

Power Generation







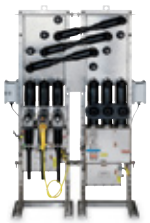


The power generation industry, which has performed solidly for decades, is undergoing a transformation brought on by government regulations, consumer demand and evolving industry standards. New and emerging technological developments support cleaner and more efficient energy generation and higher availability for plants young and old. Thomas & Betts is leading the way with high-quality, innovative electrical systems and devices that perform optimally with minimal product lifecycle costs. Integrated engineering design solution sets simplify product selection. Fewer, snap-together parts ease installation and maintenance. Training and support services ensure ongoing safe and reliable operation, while warranties instill confidence that our products will perform as required and meet your performance and output demands.

For more information, request the Thomas & Betts Electrical Solutions for Power Generation brochure, GM-8337.







Power Transmission and Distribution









From transmission lines and local distribution networks that crisscross the landscape to the customer premises, you'll find Thomas & Betts products to help you manage and control the constant flow of power. We understand that your customers depend on you to deliver a continuous, uninterrupted power flow, and that you rely on us to provide solutions that enable optimal reliability and efficiency. We also recognize your need to reduce the maintenance, repair and operations costs in your electric power transmission and distribution systems. Whether your systems are overhead or underground, we are your partner in power delivery. Our broad family of electrical solutions enables us to support your design, construction, operations and maintenance requirements economically, with fewer and shorter outages.

For more information, request the Thomas & Betts Electrical Solutions for Power Transmission and Distribution brochure, GM-8338.







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Customer Service

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Immediate, Knowledgeable Assistance



Every Thomas & Betts Customer Service Representative is right where the action is — surrounded by all the support and information they need to answer your questions and fill your orders faster than ever. Your calls and faxes are automatically routed to Customer Service Specialists who personally serve your account and can answer questions about products, order status, price and availability, and other service-related inquiries.

Phone: 1-800-816-7809
Fax: 1-800-816-7810
Email: generalcustomerserviceteam@tnb.com

Technical Services

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Over 170 Years of Industry Experience



Meeting and exceeding our customers' expectations is a fundamental goal of Thomas & Betts. Call our Technical Services Department and talk LIVE to an expert who'll answer questions and concerns regarding all aspects of our products and services. Our experienced and knowledgeable staff is second to none in the industry!

Tool Services

1-800-284-TOOL

Quality You Can Trust



Trust T&B's dedicated Tool Services Department to answer all questions regarding tool applications, repair, warranties, sales/lease/rental and technical information. Ask about our specialized services, including customer/sales training, demos and calibration/certification of tools.

T&B Online Support

T&B Access®

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T&B Access® is a global sales tool for our distributor partners, offering:

- Quote Requests
- Stock Checks
- Pricing Inquiries
- Cross Reference
- Order Entry
- Order Resolution
- Shipping Status
- Document Look-Up
- Automatic Order Receiving
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- Customer Report Cards
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All of these tools and more are available online 24 hours a day – 7 days a week, without having to make a single phone call. Multi-lingual options are available in English, French and Spanish. T&B Access® now serves over 10,000 satisfied customer users at over 3,500 locations every month.

Web Catalog

www.tnb.com/webcatalog

Thousands of Products at Your Fingertips



U.S. contractors and specifiers have made our web catalog their number one stop. Users can search for technical information by catalog number, UPC code, competitor number, keyword search, product category and/or brand. Having found the item(s) they are searching for, they can then use our ***Where To Buy*** function to locate a T&B local distributor and/or other support services.

T&B Online Tools

Web CAD Library

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Over 4,000 2D and 3D CAD Models Available FREE!

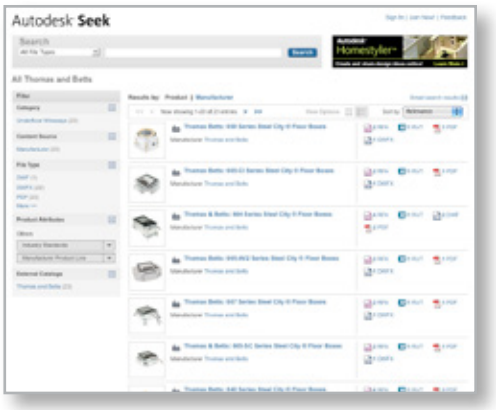
The T&B CAD Library is an on-line source of 2D and 3D CAD models, available FREE to customers who register. Users can download these files to their desktops for import into their working drawings. Drawings are offered in 90 of the most popular native file formats. This is a valuable tool for CAD designers, OEMs and engineering firms, as it will allow them to quickly locate and download T&B drawings into their projects. Over 4,000 drawings of T&B® Fittings, PMA® Cable Protection, Kindorf®, Red•Dot® and Superstrut® products and Steel City® and Carlon® Floor Boxes are currently available.



BIM Library

Now available to you through Autodesk® Seek (**seek.autodesk.com**), our BIM (Building Information Modeling) objects can easily be imported to your Revit® models. These BIM objects are fully standards compliant, Revit® Certified and completely configurable.

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New Products Spotlight

Our New Products Save You Time and Money!

Thomas & Betts has been on the leading edge of engineering and design for more than a century, and new product development continues to keep us at the forefront of the electrical industry today.

T&B engineers and product managers continually study the latest code and technology changes and talk to customers to identify specific needs and opportunities for new product ideas.

But simply being new isn't enough to qualify for development under one of the high-quality Thomas & Betts family of brand names.

A T&B new product must achieve one or more of the following benefits for our customers:

- Lower installed costs
- Improved labor efficiencies
- Compliance with code requirements
- Solves specific application challenges

The following pages highlight new products that meet these criteria within our Cable Protection Systems products.



Contents

T&B® Fittings

Stainless Steel Form 8 Conduit Bodies NP-2
XJG Expansion Couplings NP-2
LU® Universal Conduit Elbow NP-2
Stainless Steel Connector for Type A Conduit NP-3
STAR TECK® Stainless Steel Fittings NP-3
Ranger® Series Cord Connectors NP-3
STAR TECK EXTREME® DIRECTOR™ Fittings NP-4

PMA® Cable Protection Systems

Nylon Flexible Conduit Systems NP-4

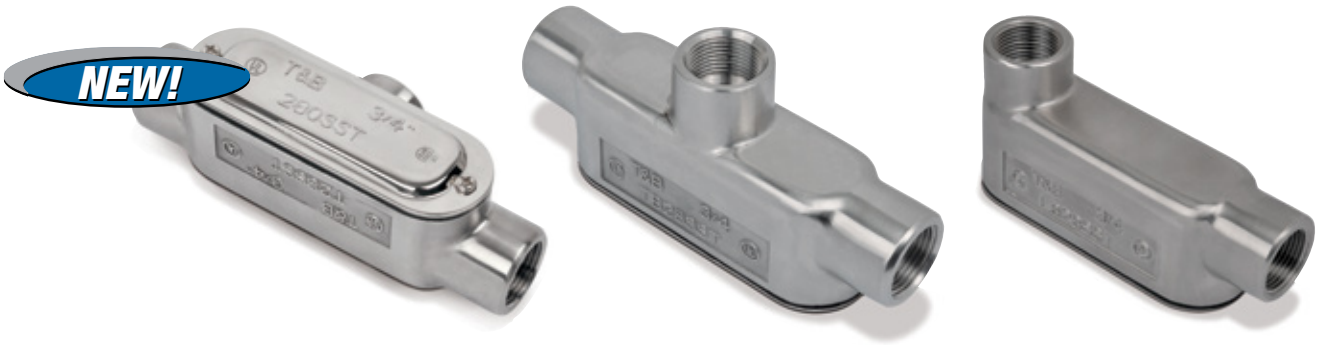
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NEW Products

T&B® Fittings

T&B® Fittings Stainless Steel Form 8 Conduit Outlet Bodies



- Marine-grade Type 316 stainless steel construction in rugged Form 8 design
- Suitable for use in food and beverage, pharmaceutical, petrochemical, wastewater treatment, pulp and paper processing and other corrosive environments
- Available in body shapes LB, T, TB and the new LU® Universal Conduit Elbow



For more information, see page E-69.

T&B® Fittings XJG Expansion Couplings for Rigid Conduit and EMT



NEW!

- No disassembly necessary to install
- True Internal Bonding Jumper — no external grounding strap required
- Tamper-proof internal jumper protected from the environment
- Exceed code requirements for long conduit runs to permit linear movement

For more information, see pages E-54–E-55.

T&B® Fittings LU® Universal Conduit Elbow



- 4-to-1 SKU reduction — replaces LL, LR, LB and C conduit bodies
- Radius is the same as the conduit elbow — pull wire through the body
- Angled cover port — easier wire pulling and uses standard covers
- BlueKote® four-layer protection provides internal and external corrosion resistance

For more information, see page E-67.

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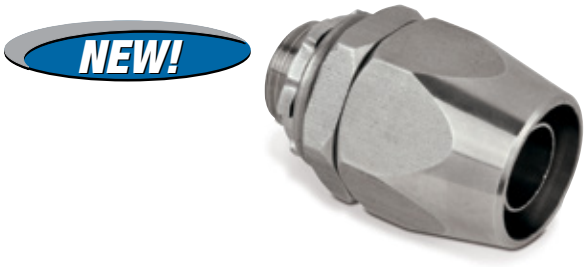
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T&B® Fittings

T&B® Fittings Stainless Steel Connector for Liquidtight Flexible Non-Metallic Conduit Type A



- Serrated design provides high mechanical pull-out strength
- Unique component parts (body/gland) design ensures positive seal between conduit and connector
- Tapered thread hub and furnished Neoprene sealing O-ring provide a liquidtight, dust-tight seal to a box or enclosure

For more information, see page E-18.

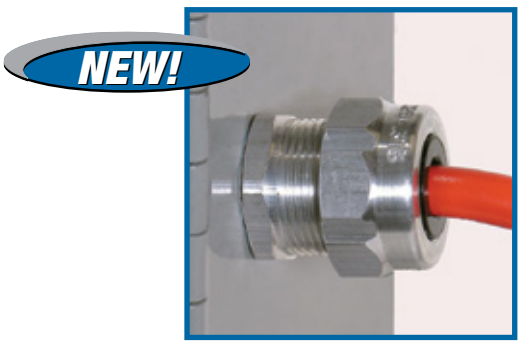
T&B® Fittings STAR TECK® Stainless Steel Fittings for Jacketed Metal-Clad and Teck Cables



- Now available in stainless steel with NEMA 4X rating
- Overlapping sizes minimize possibility of mismatched cables and fittings in the field
- Available in hub sizes from ½" to 4", handling outer jacket diameters from .525" to 4.340"
- Suitable for ordinary or hazardous locations (Class 1 Div. 2; Class II Div. 2; Class III)

For more information, see pages E-122–E-127.

T&B® Fittings Ranger® Series Cord Connectors





- Connectors take twice the cable range of ordinary strain relief connectors
- Smaller overall size makes it easy to fit into tight spaces
- Gland nut design restricts cable bending
- Available in steel, aluminum, stainless steel and non-metallic material

For more information, see pages E-134–E-138.

NEW Products

T&B® Fittings & PMA® Flexible Conduit and Fittings

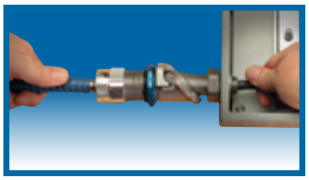
T&B® Fittings STAR TECK EXTREME® DIRECTOR™ Jacketed Metal-Clad and Teck Cable Termination Fittings

NEW!











- Rotate 90° to 180° for easy installation
- Use fewer components and take up less space than traditional fittings and accessories required for angled installation
- Require no disassembly prior to installation and can be easily disconnected

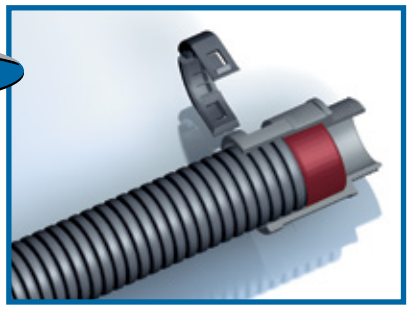
For more information, see pages E-128–E-129.

PMA® Nylon Flexible Conduit Systems





NEW!



- Safe, reliable systems that are easy to install
- Vibration-proof connections
- System connection strength
- Ingress protection conforming to recognized test methods

For more information, see pages E-165–E-266.

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T&B® Liquidtight Fittings



In this section...

T&B® Liquidtight Fittings

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Overview

Our Liquidtight Line Is the End-All for Liquidtight Dust-Tight Connections.

All our high-performance products are designed to deliver excellent reliability as well as ease of installation in virtually any application. And you benefit from our expertise through our liquidtight and dust-tight connections available for a variety of conduits as well as portable cord.

Thomas & Betts offers the largest and most technologically advanced line of liquidtight fittings in the industry, including connectors for highly specialized applications such as power and petrochemical plants, paper mills, robot manufacturers, packaging equipment, machine tool building, and other OEM and MRO applications. At Thomas & Betts, we integrate the latest manufacturing technologies with the highest quality materials available. So you can be assured of reliable, liquidtight products that offer improved on-the-job performance and reduced installation time and costs.



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Overview

T&B makes liquidtight fittings for demanding situations.

Liquidtight Flexible Metal Conduit Fittings

Gland deflects water away from connector and prevents "pooling" of moisture. Look for the distinctive "Pumpkin" appearance of the gland nut.

Self-Cleaning Threads inside gland nut keep dirt and grime out of the threads as you tighten.

Double Beveled Sealing Ring is designed with five unique sealing mechanisms and cannot be installed backwards. Manufactured of high-temperature rated thermoplastic to demanding specifications. Look for the unique T&B blue color ensuring the highest quality fitting.

Safe Edge® Ground Cone provides superior bonding, stronger pullout, easy threading and conductor protection. Look for the distinctive "ski slope" appearance within the "pumpkin" gland nut.

Heat-Curled Insulator provides excellent wire protection and easier glide of conductors through and into the fitting. In addition, the heat-curled finish gives the insulator more strength than glue-in insulators. Look for the unique T&B blue color ensuring the highest quality fitting.

Precision Machined Rolled Threads provide smooth, easy installations.

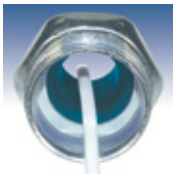
Tempered Cast Locknut with Teeth provides superior strength and electrical bonding and can be installed without a wrench in the enclosure.



Revolver® Grounding Fitting

Saves time and money using our infinitely adjustable rotating ground lug. Simply align the lug in your preferred position and tighten the gland. You'll never need to worry about tightening it into an inconvenient position again.

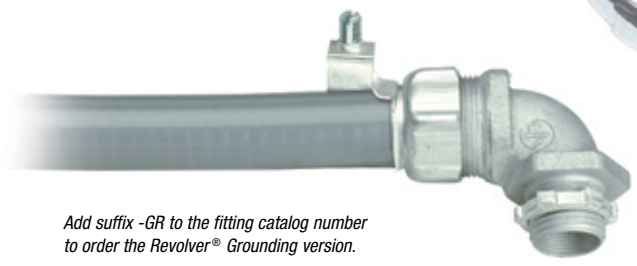




T&B's Heat-Curled Insulator



Competitor's Glue-In Insulator



Add suffix -GR to the fitting catalog number to order the Revolver® Grounding version.



Overview

Liquidtight Flexible Metal Conduit Fittings

Thomas & Betts Liquidtight fittings for flexible metal conduits are suitable for a wide range of installations, including heavy industrial applications. Our Liquidtight fittings are designed to stand up to demanding, wet or corrosive environments, including power and petrochemical plants, paper mills, and anywhere high performance is a requirement.

Features of Thomas & Betts Liquidtight Fittings include:

- Safe Edge® ground cone design that accepts variations in raceway convolutions and provides a positive bond
- Continuous sealing ring that completely surrounds the conduit to ensure a liquidtight seal
- Zinc chromatic plating for longer life and exceptional appearance
- The broadest liquidtight line in the industry, including PVC coated, externally grounded, aluminum series, CHASE® style, nonmetallic Bullet series, wire mesh grips and more



Liquidtight Fittings for Special Applications

The Revolver® Externally Grounded Fitting

The Revolver liquidtight grounding fitting is our latest breakthrough in convenience to save time and money on the job while delivering a quality connection.

The grounding lug of the new Revolver connector can be rotated in a full circle for convenient positioning that doesn't change when you tighten it. Plus, it's available for the first time in aluminum. It's the newest innovation in Thomas & Betts' versatile line of Liquidtight Connectors — fittings you can count on for liquidtight and dust-tight connections, because all our products revolve around your needs.

CHASE® Style Fittings

Where space is tight, our CHASE fittings enable for compact connections within an enclosure.

Sealing Gaskets

Thomas & Betts sealing gaskets are resistant to oil, coolants and hydraulic fluids as well as water, with a stainless steel retaining clip that ensures a quality seal. They're the ideal match to our Liquidtight connectors for a safe and secure seal.



Liquidtight Flexible Non-Metallic Conduit Fittings

When non-metallic, Type A or EFC conduits are called for, Thomas & Betts' XTRA FLEX® System has our outstanding Bullet® fittings and conduits for liquid- and dust-tight connections.

Bullet® Fittings

- Feature one-piece construction and a captive O-ring for ease of installation
- Provide a positive seal between the conduit and the connector
- Has tapered thread hub and sealing O-ring for a tight seal to the box or other enclosure
- Are constructed of nonburning, nondripping thermoplastic for high-strength chemical resistance
- Feature a smooth insulated body for maximum dielectric strength
- Have a serrated finger design that provides high mechanical pullout strength
- Include a complete range of flexible, non-metallic conduits — including both smooth and corrugated varieties — to complete our XTRA FLEX® System



Thomas&Betts

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800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

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Liquidtight Flexible Metal Conduit Fittings

Application

- Used where flexible metal raceway is installed in outdoor or indoor locations where exposed to continuous or intermittent moisture
- To positively bond conduit to box or enclosure

Features

- Ability to install quickly with low torque effort
- Ground cone design offers the following advantages:
  - (1) Compresses metallic convolutions; provides high-quality ground contact with low impedance and high raceway holding power (A)
  - (2) Single helical thread on ground cone is easy to install without cross thread; accepts variations in raceway diameters and convolution pitch (B)
  - (3) Rolled-over edge protects conductors (C)

Sealing Ring Design Features

- (1) Grips and seals at leading and trailing edge — will not abrade raceway jacket (D)
- (2) Provided with grooves on inside diameter for anti-sleeving (E)
- (3) Shoulders on both ends for extra sealing (F)
- (4) Symmetrical shape assures foolproof assembly

- Can be disconnected and reused
- Watertight/oil-tight installation at box or enclosure termination is ensured by:
  - (1) External taper thread hub on 5331 series and use of sealing gasket 5262 series (G)
  - (2) Captivated sealing O-Ring on 5361 series (H)
  - (3) Taper tapped hole on 5271 series
- Suitable for use in Class I Division 2, Class II Division 1 and 2 and Class III Division 1 and 2 Hazardous Locations per NEC® Section 500
- Suitable as a grounding means per NEC Section 351-9 (up to 1¼" trade size on)
- ½" & 1¼" sizes laboratory tested to carry ground fault current of up to 1,000 amps RMS with duration of fault current three cycles
- Conforms with JIC requirements
- Available with imperial, ISO and PG threaded hub

Standard Material

5331-5361-5271 Series

Body, Gland, Locknut & Ground Cones: Steel (¼"–1¼") or malleable iron (1½"–6")

Sealing Ring and Insulator: All thermoplastic

Sealing Gasket: Stainless Steel and Santoprene®

5331SST-5331SSTHT Series

304 Stainless Steel insulated

Sealing Ring and Insulator: All thermoplastic

Sealing Gasket: Stainless Steel and Santoprene®

5231 AL Series

All Copper-free Aluminum (non-insulated)

Standard Finish

5331-5361-5271 Series

Electro Zinc Plated with Chromate Coating

5331ST-5331STH Series

Electro Zinc Plated with Chromate Coating

5231 AL Series

Copper-free Aluminum

Range

5331 Series	⅜" through 6"* conduit
5341 Series	⅜" through 4" conduit
5351 Series	⅜" through 4" conduit
5361 Series	⅜" through 4" conduit
5271 Series	⅜" through 1¼" conduit
5331SST Series	⅜" through 2" conduit
5331SSTHT Series	⅜" through 2" conduit
5231 AL Series	⅜" through 4" conduit

**All hubs provided with taper pipe threads (NPT)*

Listings/Compliances

UL UL File No. E-23018

CSA LR-2884, LR-4484, LR-9555

UL 514B

CSA C22.2 No. 18

NEMA FB-1

NFPA 70-1999 (ANSI)

JIC EGP1

JIC EMP1

Federal Specification A-A-50552

Federal Standard H-28 (Threads)



*5331 Series**
5231 AL Series

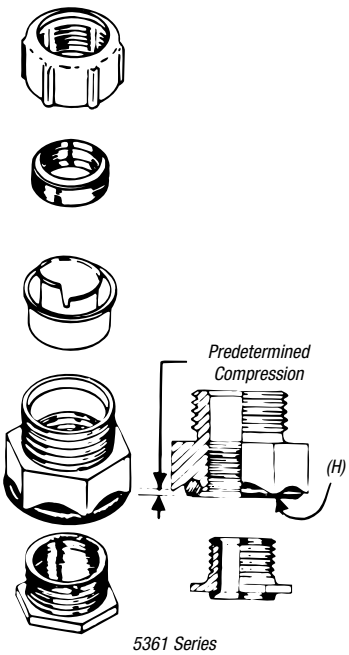


5361 Series



5271 Series

** 5341 Series…*
same as 5331, except 45° Connectors
5351 Series…
same as 5331, except 90° Connectors



5361 Series
CHASE® Style

NEC and National Electrical Code are registered trademarks of the National Fire Protection Association, Inc.

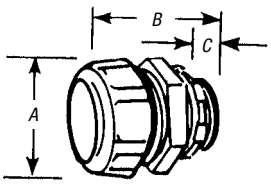
Santoprene is a registered trademark of Advanced Elastomer Systems.

52®/53® Series Liquidtight Fittings and Flexible Metallic Conduits

52® and 53® Series Liquidtight Straight Connectors*

CAT. NO.		CONDUIT SIZE	DIMENSIONS (IN.)		
INSULATED STEEL	NON-INSULATED STEEL		A	B	C
5229‡	—	¼"	27/32	1⅜	15/32
5330‡	—	5/16"	63/64	1⅜	15/32
5331†**	5231†	⅜"	1 5/32	1½	9/16
5332†	5232†	½"	1⅜	1 9/16	9/16
5333†	5233†	¾"	1 21/32	1⅝	9/16
5334†	5234†	1"	1⅞	2 1/16	¾
5335†	5235†	1¼"	2 9/32	2½	13/16
5336	5236	1½"	2 23/32	2 11/16	13/16
5337	5237	2"	3¼	3 1/16	⅞
5338	5238	2½"	3¾	4⅛	1
5339	5239	3"	4½	4¼	1
5340	5240	4"	5½	4½	1⅛
5385‡	5285	5"	8¾	7	1⅞
5386‡	—	6"	8¾	8½	2



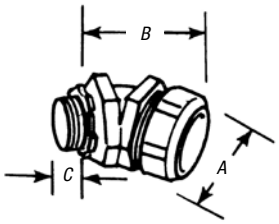


Steel/malleable iron or aluminum tapered hub threads. With safe-edge ground through 4" cone and double bevel seating ring (through 2").

52® and 53® Series Liquidtight 45° Angle Connectors*

CAT. NO.		CONDUIT SIZE	DIMENSIONS (IN.)		
INSULATED	NON-INSULATED		A	B	C
5341†**	5241†	⅜"	1 5/32	1 9/16	9/16
5342†	5242†	½"	1⅜	1⅞	9/16
5343†	5243†	¾"	1 21/32	2⅛	9/16
5344†	5244†	1"	1⅞	2¼	¾
5345†	5245†	1¼"	2 9/32	2¾	13/16
5346	5246	1½"	2 23/32	3⅜	13/16
5347	5247	2"	3¼	3⅞	⅞
5348	5248	2½"	3¾	4¼	1
5349	5249	3"	4½	4¼	1
5350	5250	4"	5½	4⅝	1⅛



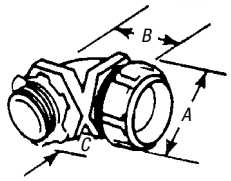


Malleable iron, tapered hub threads. With safe-edge ground cone and double bevel sealing ring (through 2").

52® and 53® Series Liquidtight 90° Angle Connectors

CAT. NO.		HUB SIZE	CONDUIT SIZE	DIMENSIONS (IN.)		
INSULATED	NON-INSULATED			A	B	C
5351	5251	⅜"	⅜"	1 5/32	1⅜	9/16
5352	5252	½"	½"	1⅜	1 9/16	9/16
5353	5253	¾"	⅜"	1 21/32	1¾	9/16
5354	5254	1"	1"	1⅞	2 3/16	¾
5355	5255	1¼"	1¼"	2 9/32	2¾	13/16
5356	5256	1½"	1½"	2 23/32	2 15/16	13/16
5357	5257	2"	2"	3¼	3 7/16	⅞
5358	5258	2½"	2½"	3¾	8⅞	1
5359	5259	3"	3"	4½	10¼	1
5360	5260	4"	4"	5½	12⅝	1⅛





** Suitable for hazardous locations use in Class I, Div. 2; Class II, Div. 1 and 2; Class III, Div. 1 and 2, where general-purpose equipment is specifically permitted per NEC®.*
*** ⅜" Conduit Fitting has ½" hub.*
† UL Listed as grounding means under NEC 350.60.
‡ Not UL Listed.

***Note:** UL Listed liquidtight; and CSA Certified watertight. Available with DURA-PLATE® Finish.*
UL File No. E-23018
CSA File No. 2884

For wire mesh grips, refer to page E-11.

Blue is a trademark color of Thomas & Betts.

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52®/53® Series Liquidtight Fittings and Flexible Metallic Conduits

53® Series High-Temperature Flexible Metal Liquidtight Fittings

Where liquidtight flexible metal fittings are required in high-temperature environments up to 150° C:



T&B HT-Series Liquidtight Fittings are available straight, 45° and 90°.

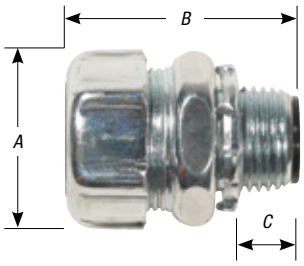
- Fitting's body, gland, locknut and ground cone shall be constructed from steel or malleable iron, electro-zinc plated and chromate coated for corrosion protection
- Fitting's sealing ring and throat insulator will be molded from high-temperature nylon, suitable for temperatures up to 150° C and a minimum UL flammability rating of UL94-V2
- The fitting shall be constructed to accept high-temperature flexible metal liquidtight conduit rated to 150° C
- The fitting shall have a plastic throat insulator to protect conductors
- The fitting shall have a steel ground cone to:
  - — provide high-quality ground contact
  - — single helical thread for easy installation into conduit
  - — rolled over edge to protect conductors
- The fitting shall have a plastic sealing ring to:
  - — grip and seal at leading and trailing edge (double bevel up to 2") of conduit jacket
  - — provide a watertight/oiltight seal
- The fittings shall be capable to terminate the conduit in either a threaded or threadless opening
- For applications where termination into a threaded opening is required, the fitting shall have external tapered NPT threads
- Fittings shall conform to UL 514B*
- Accepted Manufacturers: Thomas & Betts — 5331-HT straight series, 5341-HT 45° series, 5351-HT 90° series; 5262 sealing ring series

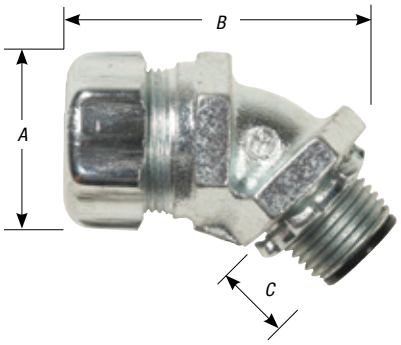
**** These fittings are not UL Listed.***

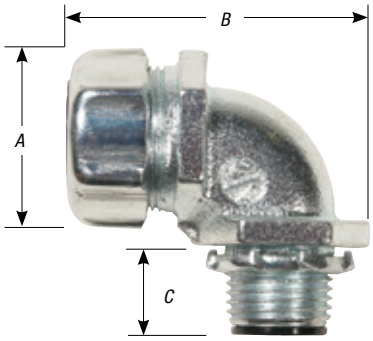


ATX Flexible Liquidtight Conduit

CAT. NO.	CONDUIT SIZE	LENGTH (FT.)	INSIDE BEND RADIUS (IN.)
ATX038-TB	⅜"	100	1.5
ATX050-TB	½"	100	2.0
ATX075-TB	¾"	100	2.5
ATX100-TB	1"	100	3.0
ATX125-TB	1¼"	50	3.5
ATX150-TB	1½"	50	4.5
ATX200-TB	2"	50	5.5
ATX250-TB	2½"	25	8.0
ATX300-TB	3"	25	10.0
ATX400-TB	4"	25	12.0







Straight Liquidtight Fittings — HT

CAT. NO.	CONDUIT SIZE	DIMENSIONS A	B	C
5331-HT	⅜"	1 5/32"	1½"	9/16"
5332-HT	½"	1⅜"	1 9/16"	9/16"
5333-HT	¾"	1 21/32"	1⅝"	9/16"
5334-HT	1"	1⅞"	2 1/16"	¾"
5335-HT	1¼"	2 3/32"	2½"	13/16"
5336-HT	1½"	2 23/32"	2 11/16"	13/16"
5337-HT	2"	3¼"	3 1/16"	⅞"
5338-HT	2½"	3¾"	4⅛"	1"
5339-HT	3"	4½"	4¼"	1"
5340-HT	4"	5½"	4½"	1⅛"

45° Liquidtight Fittings — HT

CAT. NO.	CONDUIT SIZE	DIMENSIONS A	B	C
5341-HT	⅜"	1 5/32"	1 9/16"	9/16"
5342-HT	½"	1⅜"	⅞"	9/16"
5343-HT	¾"	1 21/32"	2⅛"	9/16"
5344-HT	1"	1⅞"	2¼"	¾"
5345-HT	1¼"	2 3/32"	2¾"	13/16"
5346-HT	1½"	2 23/32"	2⅜"	13/16"
5347-HT	2"	3¼"	3⅜"	⅞"

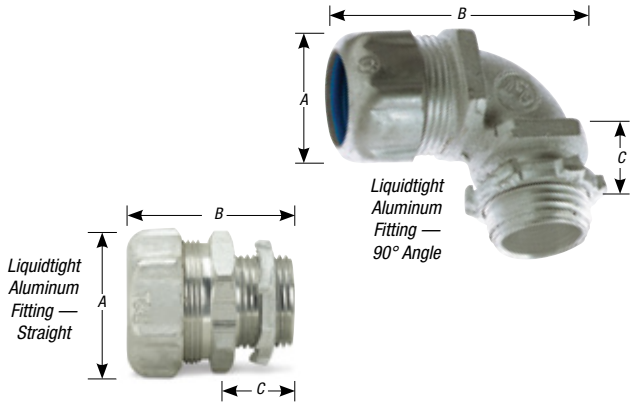
90° Liquidtight Fittings — HT

CAT. NO.	CONDUIT SIZE	DIMENSIONS A	B	C
5351-HT	⅜"	1 5/32"	1⅜"	9/16"
5352-HT	½"	1⅜"	1 9/16"	9/16"
5353-HT	¾"	1 21/32"	1¾"	9/16"
5354-HT	1"	1⅞"	2 3/16"	¾"
5355-HT	1¼"	2 3/32"	2¾"	13/16"
5356-HT	1½"	2 23/32"	2 5/16"	13/16"
5357-HT	2"	3¼"	3 7/16"	⅞"

52®/53® Series Liquidtight Fittings and Flexible Metallic Conduits

High-quality, corrosion-resistant, liquidtight termination for LTA flexible aluminum conduit.

52® Series Liquidtight Aluminum Connectors — Straight and 90°



Specifications

Standard Material

- Body, Gland, Locknut.....6061 Aluminum
- Sealing Ring .....Thermoplastic
- Ground Cone.....Steel

Standard Finish

- Body, Gland, Locknut.....Zinc Plating with Clear Chromate Ground Cones
- Ground Cone..... Electro-Zinc Plating

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C
Straight				
5231AL	3/8	1 5/32	1 1/2	9/16
5232AL	1/2	1 3/8	1 9/16	9/16
5233AL	3/4	1 21/32	1 5/8	9/16
5234AL	1	1 7/8	2 1/16	3/4
5235AL	1 1/4	2 9/32	2 1/2	13/16
5236AL	1 1/2	2 23/32	2 11/16	13/16
5237AL	2	3 1/4	3 1/16	7/8
5238AL	2 1/2	3 3/4	4 1/8	1
5239AL	3	4 1/2	4 1/4	1
5240AL	4	5 1/2	4 1/2	1 1/8
90° Angle				
5251AL	3/8	1 5/32	1 3/8	9/16
5252AL	1/2	1 3/8	1 9/16	9/16
5253AL	3/4	1 21/32	1 3/4	9/16
5254AL	1	1 7/8	2 3/16	3/4
5255AL	1 1/4	2 9/32	2 3/4	13/16
5256AL	1 1/2	2 23/32	2 15/16	13/16
5257AL	2	3 1/4	3 7/16	7/8



Designed to resist corrosion.

LTA Flexible Aluminum Conduit

Use T&B® LTA Flexible Aluminum Conduit with T&B Aluminum Liquidtight Fittings in corrosive environments or where weight is a major consideration — such as oil platforms, saltwater applications, pulp and paper, refineries, wastewater and food processing.

Specifications

- Construction: Utilizes the flexibility of a lightweight aluminum core, coupled with the advantage of a PVC jacket that is virtually unaffected by sunlight, acid and oil. WEEE and RoHS compliant
- Application: Used in situations where concerns of excessive weight and corrosion exist
- Standard Color: Machine tool gray
- Working Temperature: -20° C to +80° C
- Standard Materials/Finish: Conduit Core — Aluminum; Outer Jacket — PVC

CAT. NO.	CONDUIT SIZE (IN.)	LENGTH (FT.)	INSIDE BEND RADIUS (IN.)	WT. (LBS.)/ 100 FT.	WT. (LBS.)/ 50 FT.
LTA50-100	1/2	100	2.5	15	—
LTA75-100	3/4	100	3.0	20	—
LTA100-100	1	100	4.0	29	—
LTA125-50	1 1/4	50	4.5	—	20
LTA150-50	1 1/2	50	5.5	—	28
LTA200-50	2	50	7.0	—	36.5
LTA250-25	2 1/2	25	9.5	188	—
LTA300-25	3	25	11.5	244	—
LTA400-25	4	25	14	332	—

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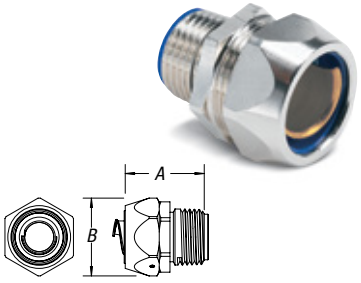
52®/53® Series Liquidtight Fittings and Flexible Metallic Conduits

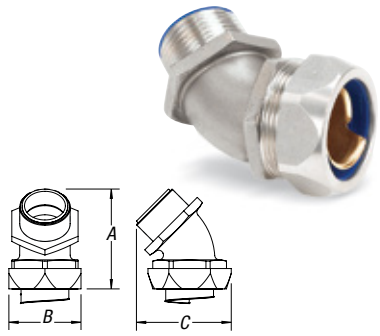
The strength of steel — with superior corrosion resistance!

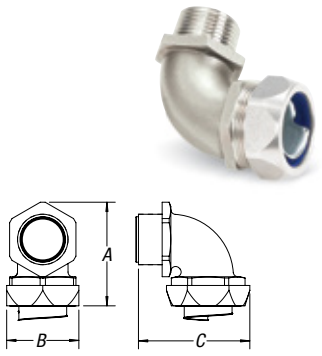
Stainless Steel Liquidtight Conduit Connectors

Until now, there's been no ideal conduit fitting solution for use in heavily corrosive environments. Traditional metallic fittings corrode and require frequent replacement. Non-metallic fittings offer less strength, lower UV resistance and don't stand up well in extreme temperatures. T&B® Stainless Steel Liquidtight Conduit Connectors are constructed of 304 stainless steel to resist corrosion while offering high strength, high UV resistance and high endurance. Choose among a full range of fittings in straight, 45°, and 90° angled configurations for ⅜" to 2" conduit sizes. Look for the distinctive blue insulator and sealing ring for assurance of T&B quality.

- Ideal for industrial MRO and OEM applications in food and beverage, pharmaceutical, petrochemical, wastewater, salt water and other corrosive environments
- Connects metallic-cored liquidtight conduit to a box or enclosure
- Type 304 stainless steel body and gland nut resist corrosion far better than other metallic fittings
- Stronger and more UV resistant than non-metallic fittings
- Ground cones are available in 1¼", 1½" and 2" sizes and are brass/nickel plated
- Available in straight, 45° and 90° angled configurations to fit conduit from ⅜" to 2"
- UL Listed Ratings: 3, 3R, 4, 4X
- Standard version (SST Series) rated for temperatures up to 105° C (221° F)
- Now available in a new high-temperature version (SSTHT Series) for applications up to 150° C (302° F)







Stainless Steel Liquidtight Conduit Connectors — 105° C Max.

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. PKG. QTY.
Straight					
5331SST	⅜	1.36	1.02	—	25
5332SST	½	1.36	1.18	—	25
5333SST	¾	1.39	1.37	—	25
5334SST	1	1.56	1.77	—	5
5335SST	1¼	1.72	2.12	—	20
5336SST	1½	2.02	2.48	—	5
5337SST	2	2.34	3.04	—	2

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. PKG. QTY.
45° Angled					
5341SST	⅜	1.84	1.02	1.43	25
5342SST	½	1.62	1.18	2.04	25
5343SST	¾	2.32	1.37	1.93	10
5344SST	1	2.86	1.77	2.37	5
5345SST	1¼	3.33	2.12	2.80	5
5346SST	1½	3.94	2.48	3.39	2
5347SST	2	4.73	3.04	4.23	1

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. PKG. QTY.
90° Angled					
5351SST	⅜	1.95	1.02	1.84	25
5352SST	½	2.12	1.18	2.07	25
5353SST	¾	2.47	1.37	2.44	10
5354SST	1	2.98	1.77	2.90	5
5355SST	1¼	3.53	2.12	3.36	5
5356SST	1½	4.16	2.48	3.88	2
5357SST	2	8.60	3.04	4.69	1

Blue is a trademark color of Thomas & Betts.

Stainless Steel High-Temperature Liquidtight Conduit Connectors — 150° C Max.

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. PKG. QTY.
Straight					
5331SSTHT	⅜	1.36	1.02	—	25
5332SSTHT	½	1.36	1.18	—	25
5333SSTHT	¾	1.39	1.37	—	25
5334SSTHT	1	1.56	1.77	—	5
5335SSTHT	1¼	1.72	2.12	—	20
5336SSTHT	1½	2.02	2.48	—	5
5337SSTHT	2	2.34	3.04	—	2

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. PKG. QTY.
45° Angled					
5341SSTHT	⅜	1.84	1.02	1.43	25
5342SSTHT	½	1.62	1.18	2.04	25
5343SSTHT	¾	2.32	1.37	1.93	10
5344SSTHT	1	2.86	1.77	2.37	5
5345SSTHT	1¼	3.33	2.12	2.80	5
5346SSTHT	1½	3.94	2.48	3.39	2
5347SSTHT	2	4.73	3.04	4.23	1

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. PKG. QTY.
90° Angled					
5351SSTHT	⅜	1.95	1.02	1.84	25
5352SSTHT	½	2.12	1.18	2.07	25
5353SSTHT	¾	2.47	1.37	2.44	10
5354SSTHT	1	2.98	1.77	2.90	5
5355SSTHT	1¼	3.53	2.12	3.36	5
5356SSTHT	1½	4.16	2.48	3.88	2
5357SSTHT	2	8.60	3.04	4.69	1

***Note**: High-temperature fittings feature a black insulator and black sealing gasket.*

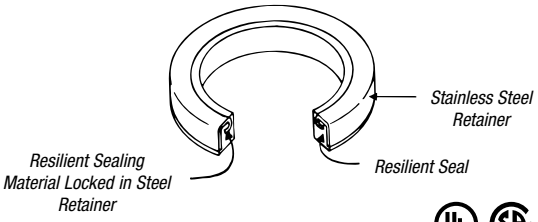
Sealing material resists oil, coolants and hydraulic fluids as well as water!

Liquidtight Sealing Gasket

The 5262 Series Sealing Gasket includes a stainless steel retaining ring to prevent elongation of the Santoprene® gasket, ensuring a superior seal.



5262 Series Sealing Gasket



Application

- When used with an externally threaded connector, provides a tight seal against oil, fumes or moisture at the knockout opening

Features

- Design locks resilient sealing material in steel
- Steel retainer protects seal from extruding out under torqueand limits compression to an optimum predetermined value; provides high-quality seal
- Resilient material flows and seals rough surfaces
- NEMA 3R, 4, 6 and 13

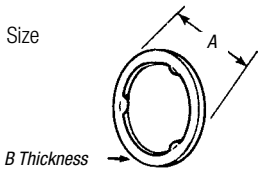
Standard Material

Retainer .....316 Stainless Steel

Sealing Material.....Santoprene®
Thermoplastic Rubber

Range

¼" thru 4" Hub Size



For use with T&B Fittings.

CAT. NO.	CONDUIT SIZE	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. PKG. QTY.
5299**	¼"	.80	.11	50
5261**	⅜"	.95	.11	50
5262	½"	1.16	.18	50
5263	¾"	1.49	.19	25
5264	1"	1.75	.19	25
5265	1¼"	2.15	.22	5
5266	1½"	2.42	.23	5
5267	2"	2.92	.23	5
5268	2½"	3.44	.23	5
5269	3"	4.08	.23	5
5270	4"	5.29	.31	5

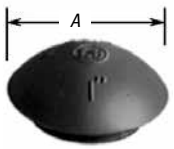
*** UL not applicable.*

UL File No. E 13938 CSA File No. 2884

Santoprene is a registered trademark of Advanced Elastomer Systems.

Provides a re-usable rain-, dust- and oil-tight seal for unused knockouts!

Liquidtight K.O. Plug



- No need to replace a NEMA 3R, 4, 6 or 13 box when a knockout is no longer used
- No tools needed to install — just push into knockout hole, and plug snaps in
- Made of flame-retardant Neoprene
- Meets UL 514 flammability test and NEMA 3R, 4, 6 and 13 requirements
- Temperature range – 30° C to 105° C

CAT. NO.	SIZE	A
5710	½"	1 9/32"
5711	¾"	1 ½"
5712	1"	1 27/32"
5713	1¼"	2 7/32"
5714	1½"	2 ½"
5715	2"	3 3/32"
5716	2½"	3 21/32"
5717	3"	4 19/64"
5718	4"	5 19/64"

UL Listed raintight.

Meets Coast Guard Regulation CG293.

UL File No. E 13938

CSA File No. 2884

Thomas&Betts

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

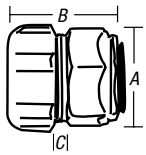
Technical Services
Tel: 888.862.3289

www.tnb.com

52®/53® Series Liquidtight Fittings and Flexible Metallic Conduits

Nylon-Insulated CHASE® Connectors





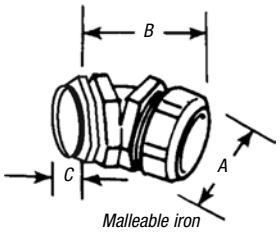
Steel or malleable iron with O-Ring Seal

CAT. NO.	CONDUIT SIZE	DIMENSIONS (IN.) A	B	C
5361†	⅜"	1 3/32	1⅜	⅛
5362†	½"	1⅜	1⅜	3/16
5363†	¾"	1 11/16	1⅝	¼
5364†	1"	2 1/32	2 1/16	¼
5365†	1¼"	2⅜	2⅜	5/16
5366†	1½"	2 15/16	2¾	⅜
5367†	2"	3 9/16	3	⅜
5368†	2½"	4⅜	3 15/16	7/16
5369†	3"	5⅛	4⅛	½
5370†	4"	5⅛	4⅛	½

With SAFE-EDGE® ground cone and double bevel sealing ring (through 2").

† UL listed as grounding means under NEC 351-7.

Nylon-Insulated 90° Angle CHASE® Connectors



Malleable iron

CAT. NO.	CONDUIT SIZE	DIMENSIONS (IN.) A	B	C
5371†	⅜"	1 1/32	1½	3/16
5372†	½"	1 15/64	1 15/32	3/16
5373†	¾"	1 31/64	1⅞	9/32
5374†	1"	1 23/32	2¼	11/32

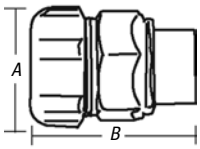
With SAFE-EDGE® ground cone and double bevel sealing ring.

***Note**: UL Listed Liquidtight; & CSA certified watertight. Suitable for hazardous locations use in Class I, Div. 2; Class II, Div. 1 and 2; Class III, Div. 1 and 2, where general purpose equipment is specifically permitted per NEC® Section 500-2(a).*

† UL listed as grounding means under NEC 351-7.

Standard Liquidtight Female Hub Adapter





CAT. NO.	CONDUIT SIZE	DIMENSIONS (IN.) A	B
5271†	⅜"	1 5/32	1 9/16
5272†	½"	1⅜	1 11/16
5273†	¾"	1 21/32	1¾
5274†	1"	1⅞	2⅛
5275†	1¼"	2 9/32	2½
5276†	1½"	2¾	2 11/16
5277†	2"	3 15/32	3 1/16

† UL Listed as grounding means under NEC 351-7.

Prevents severe conduit bends and pullout!

Wiremesh Grips for Liquidtight Fittings



CAT. NO.	CONDUIT SIZE	LIQUIDTIGHT CONNECTORS STRAIGHT	45°	90°	CHASE	90° CHASE	ADAPTER
WMG-LT1	⅜"	5331	5341	5351	5361	5371	5271
WMG-LT2	½"	5332	5342	5352	5362	5372	5272
WMG-LT3	¾"	5333	5343	5353	5363	5373	5273
WMG-LT4	1"	5334	5344	5354	5364	5374	5274
WMG-LT5	1¼"	5335	5345	5355	5365	—	5275
WMG-LT6	1½"	5336	5346	5356	5366	—	5276
WMG-LT7	2"	5337	5347	5357	5367	—	5277
WMG-LT8	2½"	5338	5348	5358	5368	—	5278
WMG-LT9	3"	5339	5349	5359	5369	—	5279
WMG-LT10	4"	5340	5350	5360	5370	—	5282

Order wiremesh grip separately: no need to duplicate inventory.

UL File No. E23018 *CSA File No. 2884 & 4484*

External Bonding Liquidtight Flexible Metal Conduit Connectors



Application

- Used where external bonding jumper is required around liquidtight flexible metal conduit
- To positively bond conduit to box or enclosure
- Used where flexible raceway is installed in outdoor or indoors location where exposed to continuous or intermittent moisture

Features

- Designed with provision to install bonding jumper in several positions
- Designed to accept mechanical or compression lug
- Ability to install quickly with low torque effort
  - (1) Compressed metallic convolutions; ensures ground contact with low impedance and high raceway holding power (A)
  - (2) Single helical thread on ground cone is easy to install without cross thread; accepts variations in raceway diameters and convolution pitch (B)
  - (3) Rolled over edge protects conductors (C)
- Sealing ring design has following exclusive features:
  - (1) Grips and seals at leading and trailing edge — will not abrade raceway jacket (D)
  - (2) Provided with grooves on inside diameter for anti-sleeving (E)
  - (3) Shoulders on both ends for extra sealing (F)
  - (4) Symmetrical shape ensures foolproof assembly
- Can be disconnected and reused
- Watertight/oil-tight installation at box or enclosure termination is ensured by:
  - (1) External taper thread hub on 5331GR series and use of sealing gasket 5262 series (G)
  - (2) Taper tapped hole on 5271 series
- Suitable for use in Class I Division 2, Class II Division 1 & 2 and Class III Division 1 & 2 Hazardous Locations per NEC® Article 500
- Suitable as a bonding means per UL 467 and NEC Article 350.60
- Conforms with JIC requirements

Standard Material

52/53GR Series

Lugs: High-conductivity copper (for copper conductor only)

Body, Gland, Locknut & Ground Cones: All steel or malleable iron

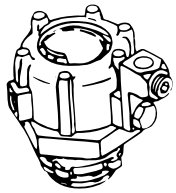
Sealing Ring and Insulator: All thermoplastic

Sealing Gasket: Stainless Steel and Santoprene®

Strap: Steel

52ALGR Series

Copper-free aluminum



Series 5331GR

Standard Finish

52/53GR Series

All Electro Zinc Plated and Chromate Coated except lugs

Lugs: Bright Dipped

52ALGR Series

Zinc plating with clear chromate ground cones

Range

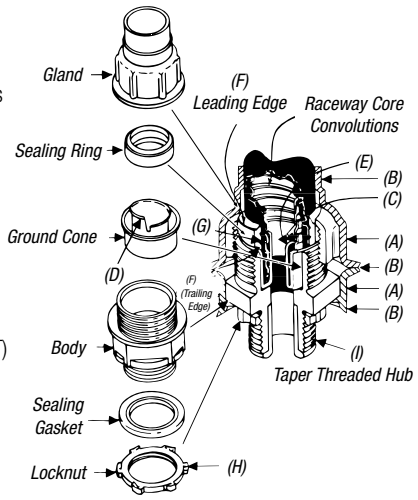
5331GR Series (straight connectors with male hub): ⅜" thru 6" conduit

5341GR Series (45°): ⅜" thru 4" conduit

5351GR Series (90°): ⅜" thru 4" conduit

5232ALGR Series: ⅜" thru 1" conduit

All hubs provided with taper pipe threads (NPT)



Listings/Compliances

UL File #E-23018

CSA

UL 467

UL 514B

CSA C22.2 No. 18

CSA22.2 No. 41

NEMA FB-1

NFPA 70

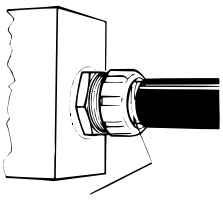
JIC EGP1

JIC EMP1

Federal Specification A-A-50552

Federal Standard H-28 (threads)

1 per C.E. Code, this method is not permissible.



Sleeving

Raceway Jacket pulls off — exposing core and affecting liquidtight termination. Feature (E) on sealing ring helps overcome this problem.

Thomas&Betts

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800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

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52®/53® Series Liquidtight Fittings and Flexible Metallic Conduits

Straight Grounding Fittings

CAT. NO.				DIMENSIONS (IN.)			GROUND WIRE (AWG)
STEEL INSULATED	STEEL NON–INSULATED	ALUMINUM NON–INSULATED	CONDUIT SIZE	A	B	C	
5331GR**	5231GR*	5231 ALGR*	⅜"	1 5/32	1½	9/16	#14–#8
5332GR*	5232GR*	5232ALGR*	½"	1⅜	1 9/16	9/16	#14–#8
5333GR*	5233GR*	5233ALGR*	¾"	1 21/32	1⅝	9/16	#14–#4
5334GR*	5234GR*	5234ALGR*	1"	1⅞	2 1/16	¾	#14–#4
5335GR	5235GR	—	1¼"	2¼	2½	13/16	#8–1/0
5336GR	5236GR	—	1½"	3¼	2 11/16	13/16	#4–2/0
5337GR	5237GR	—	2"	3 13/16	3 1/16	⅞	#4–2/0
5338GR	5238GR	—	2½"	4 7/16	4⅛	1	#2–4/0
5339GR	5239GR	—	3"	5 3/16	4¼	1	#2–4/0
5340GR	5240GR	—	4"	6⅛	4½	1⅛	#2–4/0
5385GR	5285GR	—	5"	8 9/16	7	1⅞	#2–4/0
5386GR	—	—	6"	8 17/32	8½	2	#2–4/0

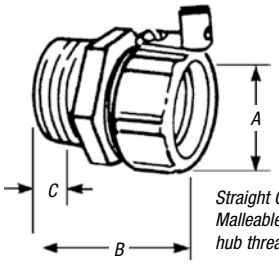


Revolver® Grounding Ring

***Note**: Revolver® Grounding Device available on sizes ⅜"–1" only. To order Revolver® Grounding Device separately, use Catalog Nos. 38GR-TB for ⅜", 12GR-TB for ½", 34GR-TB for ¾" and 1GR-TB for 1".*

90° Angle Grounding Fittings

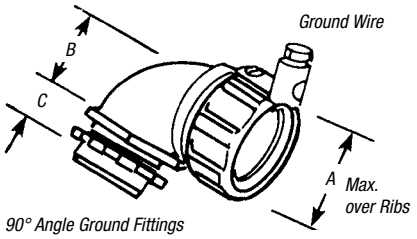
CAT. NO.				DIMENSIONS (IN.)			GROUND WIRE (AWG)
STEEL INSULATED	STEEL NON–INSULATED	ALUMINUM NON–INSULATED	CONDUIT SIZE	A	B	C	
5351GR**	5251GR**	5251ALGR*	⅜"	1 5/32	1¼	9/16	#14–#8
5352GR*	5252GR*	5252ALGR*	½"	1⅜	1 7/16	9/16	#14–#8
5353GR*	5253GR*	5253ALGR*	¾"	1 21/32	1 13/16	9/16	#14–#4
5354GR*	5254GR*	5254ALGR*	1"	1⅞	2 1/16	¾	#14–#4
5355GR*	5255GR	—	1¼"	2¼	2½	13/16	#8–1/0
5356GR	5256GR	—	1½"	3¼	2 15/16	13/16	#4–2/0
5357GR	5257GR	—	2"	3 13/1	3 7/16	⅞	#4–2/0
5358GR	5258GR	—	2½"	4 7/16	8⅞	1	#2–4/0
5359GR	5259GR	—	3"	5 3/16	10¼	1	#2–4/0
5360GR	5260GR	—	4"	6⅛	12⅝	1⅛	#2–4/0



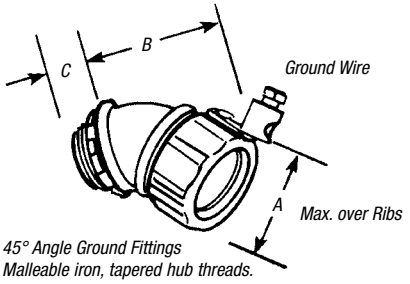
Straight Ground Fittings
Malleable iron, tapered hub threads.

45° Angle Grounding Fittings

CAT. NO.		CONDUIT SIZE	DIMENSIONS (IN.)			GROUND WIRE (AWG)
INSULATED	NON–INSULATED		A	B	C	
5341GR**	5241GR**	⅜"	1 5/32	1 9/16	9/16	#14–#8
5342GR*	5242GR*	½"	1⅜	1⅞	9/16	#14–#8
5343GR*	5243GR*	¾"	1 21/32	2⅛	9/16	#14–#4
5344GR*	5244GR*	1"	1⅞	2¼	¾	#14–#4
5345GR	5245GR	1¼"	2¼	2¾	13/16	#8–1/0
5346GR	5246GR	1½"	3¼	3⅜	13/16	#4–2/0
5347GR	5247GR	2"	3 13/16	3⅞	⅞	#4–2/0
5348GR	5248GR	2½"	4 7/16	4¼	1	#2–4/0
5349GR	5249GR	3"	5 3/16	4¼	1	#2–4/0
5350GR	5250GR	4"	6⅛	4⅝	1⅛	#2–4/0



90° Angle Ground Fittings
Malleable iron tapered hub threads.



45° Angle Ground Fittings
Malleable iron, tapered hub threads.

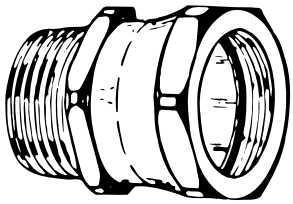
** ⅜"–1" fittings include Revolver® grounding device. For sizes 1¼" and up, fittings are supplied with a copper mechanical lug.*

*** ⅜" conduit fittings have ½" trade size hub. With safe-edge ground cone (through 4") and double bevel sealing ring (through 2").*

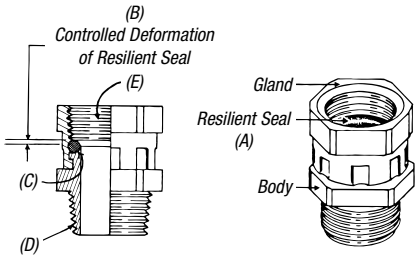
UL Listed liquidtight; and CSA Certified watertight. Suitable for hazardous locations use in Class I, Div. 2; Class II, Div. 1 and 2; Class III, Div. 1 and 2, where general purpose equipment is specifically permitted per NEC®. Available with DURA–PLATE® Finish. UL File No. E 3060 CSA File No. 638

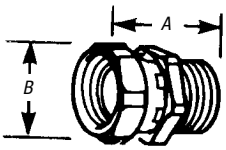
52®/53® Series Liquidtight Fittings and Flexible Metallic Conduits

Liquidtight Union for Threaded Hub



41 Series





Steel, zinc plated and chromated. Ideal for angle fittings where swing clearance is not available.

Application

- To couple threaded end of a fitting or a pipe to a tapped opening in a box or enclosure where rotation of fitting or pipe is limited or restricted

Features

- Design provides high-quality bond between fitting or pipe to the union
- Provided with resilient seal (A)
- Resilient seal subjected to controlled deformation; positive seal and reusability are ensured (B)
- Unique design centralizes throat openings of threaded hub and union (C)
- Provided with taper threaded hub for liquidtight assembly (D)
- Straight pipe threads on gland accept a straight or taper threaded hub on fitting or pipe to be coupled (E)
- Suitable for hazardous location use per NEC® Article 501 Class I, Division 2, Article 502 Class II, Division 1 & 2 and Article III Division 1 & 2

Standard Material/Finish

Gland ..... Steel/Electro Zinc Chromate Coated
Body ..... Steel/Electro Zinc Chromate Coated
O-Ring ..... Buna N/As Molded

Range

Hub (External Thread) ..... ½" & ¾" NPT
Gland (Internal Threads) ..... ½" & ¾" NPS

Listings/Compliances

UL UL File No. E-23018
CSA LR-2884, LR-4484
UL 514B
CSA C22.2 No. 18
NEMA FB1
NFPA 70
Federal Standard A-A-50553
Federal Standard A-A-50552
Federal Standard H-28 (Threads)

***Note**: For additional product information, refer to Thomas & Betts publication 600.1*

CAT. NO.	CONDUIT SIZE	A	B
41-TB	½"	1 29/64"	1"
42-TB	¾"	1 15/16"	1 1/4"

Fittings for liquidtight flexible metal conduit with metric threads of ISO form (BS-4568-SA BS 162).

ISO Metric Thread Liquidtight Fittings*

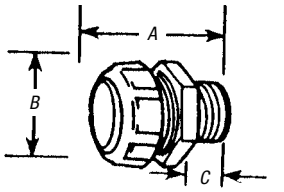
CAT. NO.	FLEXIBLE CONDUIT SIZE	METRIC ISO THREAD	A MM	B MM	C MM
Nylon-insulated straight connectors					
9330	¼"	16	36	21	12
9331	¼"	20	36	21	12
9306	5/16"	16	36	26	12
9360	⅜"	16	40	29	16
9361	⅜"	20	40	29	16
9362	½"	20	42	35	16
9363	¾"	25	45	42	16
9364	1"	32	54	47	23
Nylon-insulated 45° angle connectors					
9340	⅜"	16	27	29	16
9341	⅜"	20	27	29	16
9342	½"	20	27	35	16
9343TB	¾"	25	31	42	16
9344	1"	32	34	47	23

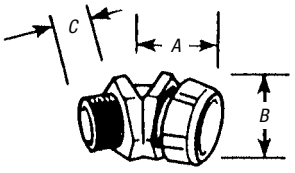
CAT. NO.	FLEXIBLE CONDUIT SIZE	METRIC ISO THREAD	A MM	B MM	C MM
Nylon-insulated 90° angle connectors					
9350	⅜"	16	35	29	16
9351	⅜"	20	35	29	16
9352TB	½"	20	39	35	16
9353TB	¾"	25	43	42	16
9354TB	1"	32	48	47	23

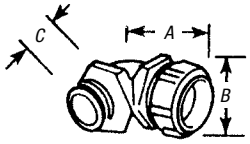
UL Listed Liquidtight. *CSA certified watertight.*

** All items shown on this page are suitable for use in hazardous location where general-purpose equipment is specifically permitted by the NEC; Class I Div. 2, Class II, Div. 1 & 2; Class III, Div. 1 & 2.*

UL File No. E 23018. *CSA File No. 2884*



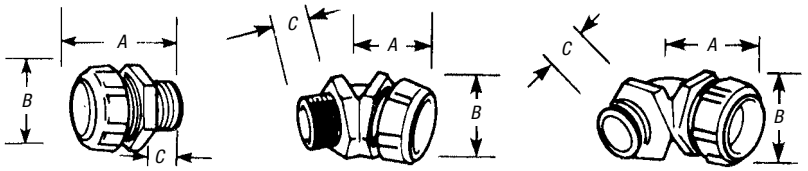




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52®/53® Series Liquidtight Fittings and Flexible Metallic Conduits

Fittings for liquidtight flexible metal conduit with metric threads of PG form (DIN 40430).



PG Metric Thread Liquidtight Fittings*

CAT. NO.	FLEXIBLE CONDUIT SIZE	METRIC PG THREAD	A MM	B MM	C MM
Nylon-insulated straight connectors					
7330	¼"	9	36	21	12
7360	5/16"	9	36	26	12
7361	⅜"†	11	40	29	14
7362	⅜"†	13.5	40	29	14
7363	1½"†	16	41	35	14
7364	¾"†	21	43	42	14
7365	1"†	29	56	47	19
7366	1¼"†	36	67	58	21
7367	1½"	42	72	69	21
7368	2"	48	81	83	21

**All items shown on this page are suitable for use in hazardous location where general-purpose equipment is specifically permitted by the NEC®; Class I Div. 2, Class II, Div. 1 & 2; Class III, Div. 1 & 2.*

†UL Listed as grounding means under NEC 351-7.

UL Listed liquidtight. CSA Certified watertight.

UL File No. E-23018 CSA File No. 2884

CAT. NO.	FLEXIBLE CONDUIT SIZE	METRIC PG THREAD	A MM	B MM	C MM
Nylon-insulated 45° angle connectors					
7341	⅜"†	11	27	29	14
7342	⅜"†	13.5	27	29	14
7343	½"†	16	30	35	14
7344-TB	¾"†	21	34	42	14
7345	1"	29	44	47	19
7346	1¼"†	36	51	58	19
7347	1½"	42	60	69	21
7348-TB	2"	48	73	76	24
Nylon-insulated 90° angle connectors					
7351	⅜"†	11	37	29	14
7352	⅜"†	13.5	37	29	14
7353	½"†	16	40	35	14
7354	¾"†	21	44	42	14
7355	1"†	29	56	47	21
7356	1¼†	36	70	58	21
7357	1½"	42	75	69	21
7358	2"	48	87	83	24

Aluminum mechanical adapter with internal threads to mate with NPT threaded fittings and MS type connectors.

NPT/MS Connector Adapters

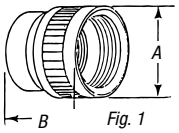


Fig. 1

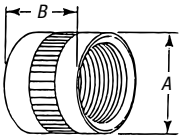


Fig. 2

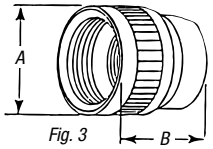


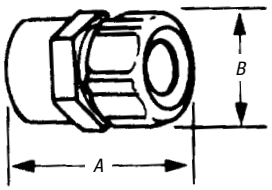
Fig. 3

CAT. NO.	N.P.T. THREAD	AN-MS CONNECTOR SHELL SIZE	THREAD SIZE	STD. PKG.	DIMENSIONS (IN.) A	FIG.	B
MSA05014	½"	14, 14S	¾"–20 UNEF-2B	10	1.000	1	1.175
MSA05016	½"	16, 16S	⅞"–20 UNEF-2B	10	1.000	2	1.175
MSA05018	½"	18	1"–20 UNEF-2B	10	1.125	3	1.175
MSA07516	¾"	16, 16S	⅞"–20 UNEF-2B	10	1.250	1	1.356
MSA07518	¾"	18	1"–20 UNEF-2B	10	1.250	1	1.300
MSA07520	¾"	20, 22	1 3/16"–18 UNEF-2B	10	1.375	3	1.300
MSA10020	1"	20, 22	1 3/16"–18 UNEF-2B	10	1.500	1	1.431
MSA10024	1"	24, 28	1 7/16"–18 UNEF-2B	10	1.625	3	1.313
MSA10032	1"	32	1¾"–18 UNS-2B	10	2.000	3	1.576
MSA10036	1"	36	2"–18 UNS-2B	10	2.250	3	1.738

All items shown on this page are suitable for use in hazardous location where general-purpose equipment is specifically permitted by the NEC; Class I Div. 2; Class II, Div. 1 & 2; Class III, Div. 1 & 2.

Steel T&B® Liquidtight flexible metal and non-metallic fittings with internal threads to accept AN-MS connector shells.

Liquidtight Flexible Metal/ MS Connectors



CAT. NO.	TRADE SIZE	AN-MS CONN. SHELL SIZE	INTERNAL THREAD THREAD SIZE	DIMENSIONS (IN.) A	B
LTA03810	⅜"	10SL, 12, 12S	5/8"–24 UNEF-2B	1 5/32	1
LTA05014	½"	14, 14S	¾"–20 UNEF-2B	1 5/16	1¼
LTA05016	½"	16, 16S	⅞"–20 UNEF-2B	1 5/16	1¼
LTA05018	½"	18	1"–20 UNEF-2B	1 5/16	1¼
LTA07520	¾"	20, 22	1 3/16"–18 UNEF-2B	1 7/16	1½
LTA10020	1"	20, 22	1 3/16"–18 UNEF-2B	1¾	1 23/32
LTA10024	1"	25, 28	1 7/16"–18 UNEF-2B	1¾	1 23/32

UL File No. E 23018 CSA File No. 2884

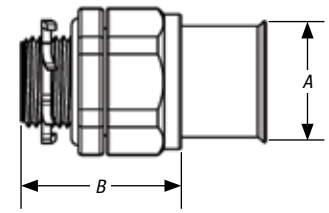
Type A Liquidtight Fittings and Flexible Non-Metallic Conduits

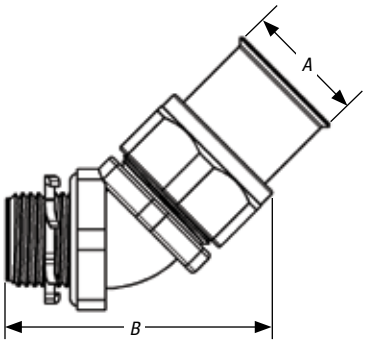
Provides a positive seal against water, oil and dust!

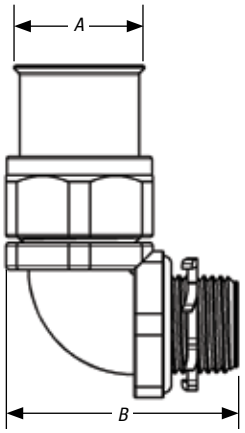
Steel Liquidtight Connectors for Type A Non-Metallic Flexible Conduit



- Steel or malleable iron construction with nylon-insulated throat
- Santoprene® sealing gasket with Type 316 stainless steel retaining ring
- NPT hub threads seal in female threads
- Offers high mechanical pull-out strength
- Supplied with sealing ring and steel locknut
- Available in straight, 45° and 90° in hub sizes from ⅜" to 2"







Straight Steel Liquidtight Connectors for Type A Conduit

CAT. NO.	CONDUIT SIZE	HUB THREAD	DIMENSIONS (IN.) A	B
3720-TB*	⅜"	½ – 14 NPT	1 5/32	2
3721-TB	½"	½ – 14 NPT	1⅜	2⅛
3722-TB	¾"	¾ – 14 NPT	1⅝	2¼
3723	1"	1 – 11½ NPT	1⅞	2½
3724-TB	1¼"	1¼ – 11½ NPT	2⅜	2
3725	1½"	1½ – 11½ NPT	2¾	3⅜
3726	2"	2 – 11½ NPT	3 17/32	3⅝

** Not UL Listed*

UL File No. E 23018

45° Angled Steel Liquidtight Connectors for Type A Conduit

CAT. NO.	CONDUIT SIZE	HUB THREAD	DIMENSIONS (IN.) A	B
3730-TB*	⅜"	½ – 14 NPT	1 5/32	2 13/32
3731-TB	½"	½ – 14 NPT	1⅜	2 9/16
3732	¾"	¾ – 14 NPT	1⅝	3
3733-TB	1"	1 – 11½ NPT	1⅞	3½
3734-TB	1¼"	1¼ – 11½ NPT	2⅜	4⅛
3735-TB	1½"	1½ – 11½ NPT	2¾	4⅞
3736	2"	2 – 11½ NPT	3 17/32	5½

** Not UL Listed*

UL File No. E 23018

90° Angled Steel Liquidtight Connectors for Type A Conduit

CAT. NO.	CONDUIT SIZE	HUB THREAD	DIMENSIONS (IN.) A	B
3740*	⅜"	½ – 14 NPT	1 5/32	1⅝
3741	½"	½ – 14 NPT	1⅜	1¾
3742	¾"	¾ – 14 NPT	1⅝	2¼
3743-TB	1"	1 – 11½ NPT	1⅞	2 9/16
3744-TB	1¼"	1¼ – 11½ NPT	2⅜	3¼
3745	1½"	1½ – 11½ NPT	2¾	3½
3746-TB	2"	2 – 11½ NPT	2 17/32	4⅛

** Not UL Listed*

UL File No. E 23018

Santoprene is a registered trademark of Advanced Elastomer Systems.

Thomas&Betts

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www.tnb.com

Fittings for Liquidtight Flexible Non-Metallic Conduit Type A

Series 6302

Connectors for Liquidtight Flexible Non-Metallic Conduit — Straight Thermoplastic



Series 6322

Connectors for Liquidtight Flexible Non-Metallic Conduit — 90° Thermoplastic



Series 6302SST

Connectors for Liquidtight Flexible Non-Metallic Conduit — Straight Stainless Steel



Application

- To provide a liquidtight, dust-tight connection between flexible, non-metallic conduit and a box or an enclosure

Features

- Serrated design provides high mechanical pull-out strength
- Unique component parts (body/gland) design ensures positive seal between conduit and connector
- Tapered thread hub and furnished Neoprene sealing O-ring provide a liquidtight, dust-tight seal to a box or enclosure
- Smooth insulated body throughout for maximum dielectric strength
- Captive O-ring and reduced number of parts save installation time

Standard Material

Body ..... Thermoplastic or 304 Stainless Steel
Gland ..... Thermoplastic or 304 Stainless Steel
O-Ring ..... Neoprene (6302/6322)
Sealing Gasket ..... 316 Stainless Steel and Santoprene® Thermoplastic Rubber (6302SST)
Locknut ..... Case-Hardened Steel (6302/6322) or 304 Stainless Steel (6302SST)

Standard Finish

Body, Gland & O-Ring ..... As Molded
Locknut ..... Electro Zinc (6302/6322)

Range

Conduit Size ..... ½" thru 1¼"
Hub Size ..... ½" thru 1¼" NPT

Santoprene is a registered trademark of Advanced Elastomer Systems.

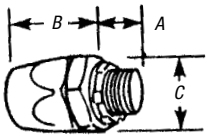
Designed for Type A all-plastic raceways used in dynamic machine tool applications.

Thermoplastic Fittings for Liquidtight Flexible Non-Metallic Conduit Type A

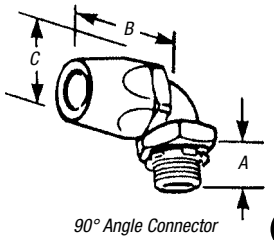
- High-strength thermoplastic construction — even tougher than the raceway itself!
- Chemical resistant — ideal for corrosive environments
- Non-burning, non-dripping thermoplastic material







Straight Connector



90° Angle Connector

CAT. NO.	CONDUIT SIZE	DIMENSIONS (IN.) A	B	C
Straight Connector				
6302	½"	.60	1.68	1.48
6303	¾"	.61	1.85	1.76
6304	1"	.77	1.89	2.10
6305	1¼"	.79	2.30	2.67
90° Angle Connector				
6322	½"	.60	1.56	1.48
6323	¾"	.61	1.74	1.76
6324	1"	.77	1.78	2.10
6325	1¼"	.79	2.13	2.67

Meets Coast Guard CG293

UL File No. E 23018

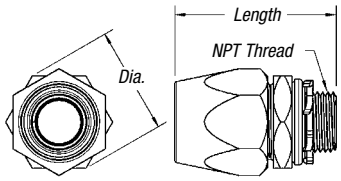
Type A Liquidtight Fittings and Flexible Non-Metallic Conduits

Stainless steel construction for unbeatable strength and corrosion resistance!

Stainless Steel Fittings for Liquidtight Flexible Non-Metallic Conduit Type A

- Type 304 stainless steel body, gland and locknut
- Supplied with Series 5262 Sealing Gasket (see **p. E-10**)
- UL Listed and CSA Certified for use with Type A conduit only





CAT. NO.	CONDUIT SIZE	DIA. (IN.)	LENGTH (IN.)
Straight Connector			
6302SST	½"	1.43	2.10
6303SST	¾"	1.72	2.55
6304SST	1"	2.00	2.60
6305SST	1¼"	2.88	3.10

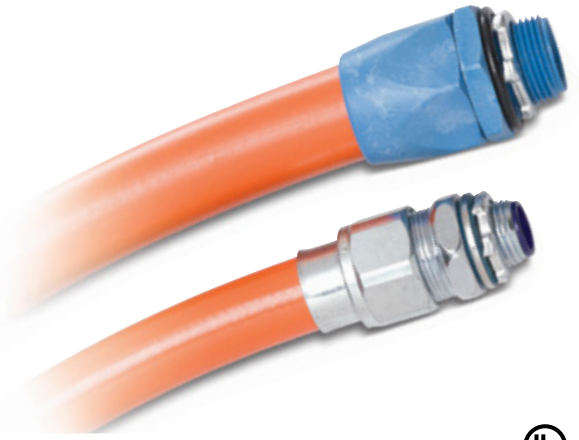
UL File No. E 23018

Ideally suited for continuous flexing applications or vibration.

Type A Non-Metallic Flexible Conduit

- No metal core to fatigue from flexing or vibration
- Smooth, seamless inner core of flexible PVC that is bonded to a covering of flexible PVC. Between these layers is a woven nylon mesh molded for reinforcement
- Available in sizes from ⅜" to 2"
- Working Temperatures: -20° C to 60° C
- Sunlight resistant
- UL Listed (conforms to UL Standard ANSI/UL 1660 Type A) UL file: E95745
- CSA Certified (conforms to CSA 22.2 No. 227.2 Type A)
- Meets NEC® Article 356 (ANSI/NFPA-70) for flexible, liquidtight non-metallic conduit

NEC and National Electrical Code are registered trademarks of the National Fire Protection Association, Inc.



CAT. NO.	SIZE	STD. PKG. QTY.
Type A Flexible, Non-Metallic Conduit		
TYPEA38-250	⅜"	250 ft.
TYPEA50-200	½"	200 ft.
TYPEA75-175	¾"	175 ft.
TYPEA100-100	1"	100 ft.
TYPEA125-100	1¼"	100 ft.
TYPEA150-50	1½"	50 ft.
TYPEA200-50	2"	50 ft.

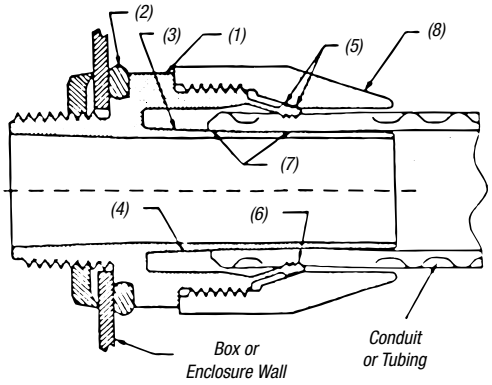
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Specifications — Bullet® Liquidtight Fittings for Liquidtight Flexible Non-Metallic Conduit and Tubing



Suggested Specification:

Where liquidtight flexible non-metallic conduit (UL Type B) or liquidtight flexible non-metallic tubing is terminated to a box or enclosure, the non-metallic connectors used shall be able to be installed without disassembly and provide a positive installation criteria. In the installed condition, the connector must provide a seal meeting watertight requirements of NEMA Type 4 and Type 6 enclosures. The performance of connectors shall be unaffected by exposure to detergents, sanitizers, cutting fluids, wire pulling compounds and oil-base industrial paints. The connector must also be capable of withstanding Marine environment and cold impact simulating a hammer blow. Installed connectors shall be of the elongated gland type as manufactured by Thomas & Betts LT38P series.

Application

A series of nonmetallic connectors designed to provide a liquidtight seal when terminating liquidtight nonmetallic conduit (UL Type B) or liquidtight nonmetallic tubing to a box or enclosure with knockout opening or a threaded hub.

Plastic Bullet® Liquidtight Fittings Features

- Connector assembles to conduit without disassembly and is designed to be installed with a positive installation criteria gland bottoms on body shoulder
- Rugged low-profile non-metallic body and gland construction (1); the connector is equipped with a steel locknut to firmly secure connector to box or an enclosure and a sealing O-Ring
- Captivated sealing O-Ring (2) with predetermined compression for a reliable seal at enclosure
- Connector ferrule designed to accept variations in conduit inside diameter and is tolerant of field conduit cuts (3)
- The profile of ferrule is designed to reduce friction between conduit I.D. and ferrule, (4) enabling conduit to seat properly for an effective seal
- Outer surface of the clamping fingers provided with friction reducing ridges (5) for ease of installation; the inner surface is designed with conduit biting teeth to enhance clamping and sealing action (6)
- Performance of connectors tested to simulate adverse installation conditions
- Provides a double sealing action (7)
- Elongated gland nut profile (8) designed to provide additional strain relief for 90° pull and an easy hand grip
- Performance of connector unaffected by exposure to detergents, cleaners and sanitizers commonly encountered in food processing plants and typical industrial environment; also unaffected by cutting fluids, wiring pulling compounds and marine environment. The connector meets industry standards for cold impact and simulated hammer blow

Standard Material/Finish

Body Gland — Weather-stabilized thermoplastic (black)

O-Ring — Neoprene (black)

Locknut — Steel/electro-zinc plated

Material Temperature Rating — Thermoplastic -40° C to 105° C

Material Flammability Rating – UL 94-V2

Listings/Compliances

UL (File# E23018)

CSA (File# LR52391)

CSA 22.2 #227.2 & CSA 22.2 #227.3

ANSI/UL 514B-1988

Watertight requirements of NEMA Type 4 and NEMA Type 6 enclosures

Federal Standard H28 (NPT threads)

Suitable for hazardous locations — Class I Div. 2; Class II Div. 1 & 2; Groups E, F & G; Class III per NEC®

NEMA 6P

½", ¾" and 1" sizes are approved for direct-burial applications

Type B Liquidtight Fittings and Flexible Non-Metallic Conduits

The BULLET® non-metallic liquidtight fitting — easy to use, built to take it!

Plastic Bullet® Liquidtight Fittings for T&B® LTC Non-Metallic Liquidtight Conduit Type B and T&B® EFC Flexible Tubing



This engineering breakthrough meets the demand for a tough, reusable, non-metallic liquidtight fitting for use with XTRA FLEX® Type B conduit or flexible tubing. The BULLET® non-metallic fitting provides a reliable liquidtight seal that combines high pullout resistance and ease of installation.

Engineered to meet your needs.

The BULLET® non-metallic fitting meets your performance requirements when terminating Type B liquidtight non-metallic conduit or flexible non-metallic tubing to a box or enclosure with knockout opening or threaded hub. Fittings meet the watertight requirements for NEMA Type 4 and Type 6 enclosures and conform to UL514B and CSA No. 22.2 #227.2 specifications.

Ease of installation.

Installations can be performed quickly and easily because BULLET® liquidtight fittings can be installed without disassembly. BULLET® non-metallic fittings are resistant to numerous caustics and solvents.

The BULLET® fitting is economical because it can be used over and over again without sacrificing the quality of the original seal. When used with the XTRA FLEX® raceway system, you can meet most machine or industrial requirements where liquidtight protection is needed.

Corrosion resistant. Built to take it.

The BULLET® liquidtight fitting is manufactured from weather-resistant thermoplastic materials and is suitable for indoor or outdoor corrosive environments. The BULLET® fitting is resistant to detergents, cleaners, oils, sanitizers, paints, cutting fluids and wire pulling compounds — just about any liquid usually found in industrial, plant or marine environments. It also surpasses industry standards for cold impact and simulated hammer blows.

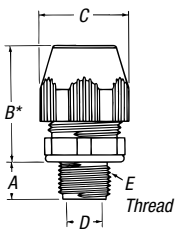


Figure 1 (Straight)

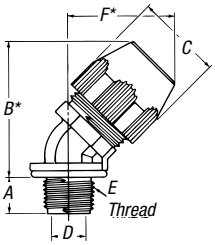


Figure 2 (45 Degree)

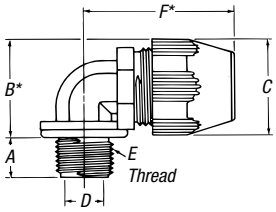


Figure 3 (90 Degree)

- Outside surface has friction-reducing ridges
- Inner surface teeth bite into conduit or tubing to enhance clamping and sealing action
- Fitting ferrule designed to accept variations in conduit sizes and field conduit cuts
- Smooth ferrule profile reduces friction to ensure a tight conduit-to-fitting seal
- Friction-reducing ridges and teeth provide a true double seal and high pullout resistance
- Elongated gland nut offers additional strain relief for 90° pull and easy hand grip
- Rugged low-profile nonmetallic body and gland construction provides space savings
- Captivated sealing O-ring features predetermined compression to provide a reliable seal at enclosure
- Steel locknut firmly secures fitting to box or enclosure

CAT. NO.	FIG.	TRADE SIZE (IN.)	A ±.015 (.040) (IN.) (MM)	*B ±.035 (0.90) (IN.) (MM)	C ±.015 (0.40) ACROSS CORNERS (IN.) (MM)	MIN. THROAT DIA. D (IN.) (MM)	E THREAD NPT (IN.)	F* (IN.) (MM) APPROX.
LT38P	1		.570	1.595 (40.51)	1.354	.417		—
LT438P	2	⅜	(14.48)	2.012 (51.10)	(34.39)	(10.59)	½–14	1.534 (38.95)
LT938P	3			1.380 (35.05)				1.880 (47.75)
LT50P	1		.570	1.636 (41.55)	1.448	.550		—
LT450P	2	½	(14.48)	2.092 (53.14)	(36.78)	(13.97)	½–14	1.590 (40.39)
LT950P	3			1.489 (37.82)				1.986 (50.44)
LT75P	1		.582	1.757 (44.63)	1.740	.740		—
LT475P	2	¾	(14.78)	2.452 (62.28)	(44.20)	(18.80)	¾–14	1.821 (46.25)
LT975P	3			1.790 (45.47)				2.212 (56.18)
LT100P	1		.726	1.923 (48.84)	2.068	.940		—
LT4100P	2	1	(18.44)	2.684 (68.17)	(52.53)	(23.88)	1–11½	2.034 (51.66)
LT9100P	3			2.104 (53.44)				2.508 (63.70)
LT125P	1		.750	2.164 (54.97)	2.494	1.257		—
LT4125P	2	1¼	(19.05)	3.264 (82.91)	(63.35)	(31.93)	1¼–11½	2.385 (60.58)
LT9125P	3			2.564 (65.13)				2.856 (72.54)
LT150P	1		.767	2.353 (59.77)	2.784	1.453		—
LT4150P	2	1½	(19.48)	3.605 (91.57)	(70.71)	(36.91)	1½–11½	2.604 (66.14)
LT9150P	3			2.854 (72.49)				3.144 (79.86)
LT200P	1		.794	2.605 (66.17)	3.362	1.883		—
LT4200P	2	2	(20.17)	4.210 (106.93)	(85.39)	(47.83)	2–11½	3.050 (77.47)
LT9200P	3			3.432 (87.17)				3.675 (93.34)

** After Assembly* *UL File No. E-23018* *CSA File No. 52391*

Thomas&Betts

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Type B Liquidtight Fittings and Flexible Non-Metallic Conduits

Table 1 — Behavior of EMS20-1B.1 IN: Aqueous Solutions of Inorganic Salts at Room Temperature

SALT SOLUTIONS	VISUAL CHANGE	RATINGS*
10% Ammonium Chloride	Unchanged	F
10% Aluminum Chloride	Unchanged	F
10% Sodium Hypochlorite (0.1% Cl_2)	White Coating after 18 Days	G
10% Calcium Chloride	Unchanged	F
10% Chrome Alum	Unchanged	G
10% Ferric Chloride	Unchanged Yellowing	P
5% Potassuim Dichromate	Unchanged Yellowing	P
10% Potassium Nitrate	Unchanged	G
1% Potassium Permanganate	Decomposed	NR
10% Copper Sulfate	Unchanged	G
10% Magnesium Chloride	Unchanged	G
10% Magnanese Sulfate	Unchanged	G
10% Sodium Sulfate	Unchanged	G
10% Sodium Bisulfite	Unchanged	G
5% Mercuric Chloride	Swelled	P
10% Zinc Chloride	Unchanged	F

** These abbreviations are used for the ratings:*

E – Excellent *G – Good* *F – Fair* *P – Poor*
NR – Not Recommended *S – Solvent*

Table 2 — Behavior of EMS20-1B.1 IN: Acids, Bases, Halogens, etc.

REAGENT	TEMP °F	VISUAL CHANGE	RATINGS*
Sulfuric Acid (Conc)	75	Dissolves	S, NR
Sulfuric Acid (Dilute)	75	Partially Dissolves	P, NR
Hydrochloric Acid (Conc)	75	Dissolves	S, NR
Hydrochloric Acid (Dilute)	75	Partially Dissolves	P, NR
Hydrochloric Acid (20–40%)	73	Etched after 1 sec.	P
Phosphoric Acid (Conc)	75	Dissolves	S, NR
Nitric Acid (Conc)	75	Dissolves	S, NR
Acetic Acid (Conc)	75	Partially Dissolves	P, NR
Acetic Acid (Conc)	200	Dissolves	S, NR
Acetic Acid (Dilute)	75	Etched	F, NR
Formic Acid (Conc)	75	Dissolves	S, NR
Formic Acid (Dilute)	75	Partially Dissolves	P, NR
Chlorine	—	Strong Attack	NR
Bromine	—	Strong Attack	NR
Phenol	75	Dissolves	S, NR
O-Chlorophenol	75	Dissolves	S, NR
m-Chlorophenol	75	Dissolves	S, NR
p-Chlorophenol	75	Dissolves	S, NR
Cresol	75	Dissolves	S, NR
Dimethylformamide	75	Strong Attack	NR
gamma-Butyrolactone	75	Strong Attack	NR
Xylenols	75	Dissolves	S, NR
Sodium Hydroxide (1%)	73	Unchanged	E
Sodium Hydroxide (5%)	73	Minimal Effect	E
Sodium Hydroxide (5%)	158	Minimal Effect	E
Sodium Hydroxide (10%)	73	Minimal Effect	E
Sodium Hydroxide (10%)	158	Some “Crazing” after 30 Days	P
Potassium Hydroxide (5%)	73	Minimal Effect	E
Potassium Hydroxide (5%)	158	Minimal Effect	E
Potassium Hydroxide (10%)	73	Minimal Effect	E
Potassium Hydroxide (10%)	158	Some “Crazing” after 30 Days	P
Hydrogen Peroxide (0.5%)	73	Unchanged	G
Hydrogen Peroxide (1%)	73	Brittle after 54 Days	NR
Hydrogen Peroxide (3%)	73	Brittle after 54 Days	NR
Hydrogen Peroxide (10%)	73	Degrades	NR
Hydrogen Peroxide (30%)	73	Degrades	NR

** These abbreviations are used for the ratings:*

E – Excellent *G – Good* *F – Fair* *P – Poor*
NR – Not Recommended *S – Solvent*

Table 3 — Behavior of EMS20-1B.1 IN: Organic Solvents at Room Temperature

REAGENT	VISUAL CHANGE	RATINGS*
Benzyl Alcohol	Coarse Surface after 2 Days	NR
Butyl Alcohol	Temporary Loss of Stiffness	G
Ethyl Alcohol	Temporary Loss of Stiffness	G
Isopropyl Alcohol	Temporary Loss of Stiffness	G
Methyl Alcohol	Temporary Loss of Stiffness	G
Butyl Acetate	Temporary Loss of Stiffness	G
Ethyl Acetate	Unchanged	E
Methyl Acetate	Unchanged	E
Amyl Acetate	Unchanged	E
Ether (Diethyl)	Unchanged	E
Tetrahydrofuran	Unchanged	E
Acetone	Unchanged	E
Benzaldyhyde	Unchanged	E
Cyclohexanone	Unchanged	E
Dichlorethylene	Unchanged	E
Trichlorethylene	Temporary Loss of Stiffness	G
Perchlorethylene	Temporary Loss of Stiffness	G
Dichlormethane	Unchanged	E
Chloroform	Temporary Loss of Stiffness	G
Carbon Tetrachloride	Temporary Loss of Stiffness	G
Carbon Disulfide	Unchanged	E
Pyridine	Unchanged	E
Benzene	Unchanged	E
Monochlorbenzene	Unchanged	E
Toluene	Unchanged	E
Xylene	Unchanged	E
Kerosene	Unchanged	E
Turpentine	Unchanged	E
Tetralin	Unchanged	E
Decalin	Unchanged	E
Gasoline	Unchanged	E
Petroleum	Unchanged	E
Mineral Oil	Unchanged	E
Resorcinol	Dissolves	NR

** These abbreviations are used for the ratings:*

E – Excellent *G – Good* *F – Fair* *P – Poor*
NR – Not Recommended *S – Solvent*

Metallic Bullet® Liquidtight Connectors for T&B LTC Non-Metallic Liquidtight Conduit Type B and T&B EFC Flexible Tubing



CAT. NO.	FIG.	TRADE SIZE (IN.)	A ±.030 (.80) (IN.) (MM)	*B ±.060 (1.50) (IN.) (MM)	C ±.045 (1.15) (IN.) (MM)	D (IN.) (MM)	THREAD NPT (IN.)
LT38M	1	—	1.156	1.500 (38.1)	.562 (14.3)	—	
LT438M	2	⅜	(29.4)	1.962 (49.8)	.562 (14.3)	—	½–14
LT938M	3	—	—	1.312 (33.3)	.625 (15.9)	1.375 (34.9)	—
LT50M	1	—	1.375	1.562 (39.7)	.562 (14.3)	—	—
LT450M	2	½	(34.9)	1.875 (47.6)	.562 (14.3)	—	½–14
LT950M	3	—	—	1.437 (36.5)	.625 (15.9)	1.562 (39.7)	
LT75M	1	—	1.656	1.625 (41.2)	.625 (15.9)	—	—
LT475M	2	¾	(42.1)	2.125 (54.0)	.562 (14.3)	—	¾–14
LT975M	3	—	—	1.750 (44.4)	.625 (15.9)	1.750 (44.4)	
LT100M	1	—	1.875	2.062 (52.4)	.750 (19.0)	—	—
LT4100M	2	1	(47.6)	2.250 (57.1)	.812 (20.6)	—	1–11½
LT9100M	3	—	—	1.937 (49.2)	.812 (20.6)	2.187 (55.5)	
LT125M	1	—	2.375	2.500 (63.5)	.812 (20.6)	—	—
LT4125M	2	1¼	(60.3)	2.750 (69.8)	.812 (20.6)	—	1¼–11½
LT9125M	3	—	—	2.500 (63.5)	.812 (20.6)	2.750 (69.8)	
LT150M	1	—	2.750	2.687 (68.2)	.812 (20.6)	—	—
LT4150M	2	1½	(69.8)	2.750 (69.8)	.812 (20.6)	—	1½–11½
LT9150M	3	—	—	2.812 (71.4)	.812 (20.6)	2.937 (74.6)	
LT200M	1	—	3.468	3.062 (77.8)	.812 (20.6)	—	—
LT4200M	2	2	(88.1)	3.875 (98.4)	.875 (22.2)	—	2–11½
LT9200M	3	—	—	3.500 (88.9)	.875 (22.2)	3.437 (87.3)	—

** After Assembly*

UL File No. E-23018

CSA File No. 52391

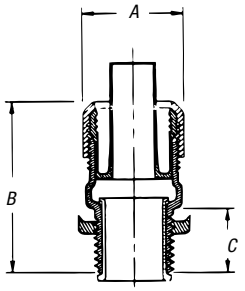


Figure 1

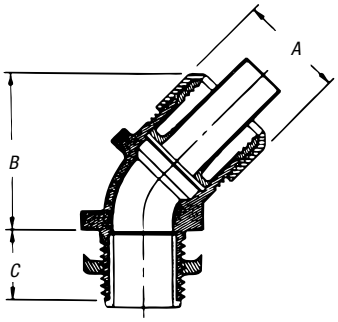


Figure 2

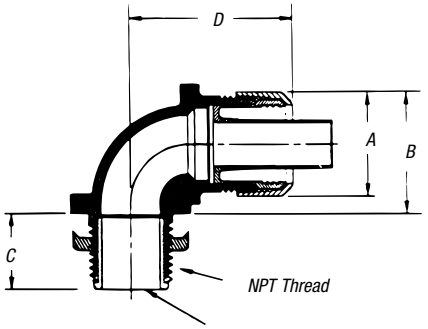


Figure 3

Suggested Specification:

Where liquidtight flexible non-metallic conduit (UL Type B) or liquidtight flexible non-metallic tubing is terminated to a box or enclosure, the metallic connectors used shall be able to be installed without disassembly and provide a positive installation criteria. In the installed condition, the connector must provide a seal, meeting watertight requirements of NEMA Type 4 and Type 6 enclosures with conduit and NEMA Type 4 enclosures with tubing. Installed connectors shall be as manufactured by Thomas & Betts LT38M series.

Material: Body/Gland — Steel/MI
Insert — Nylon

Thomas&Betts

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Type B Liquidtight Fittings and Flexible Non-Metallic Conduits

When you have a conduit application in a liquidtight environment, it's time to load up the T&B Bullet®.

ISO Metric Bullet® Liquidtight Fitting Non-Metallic

Thomas & Betts introduces the ISO Metric Bullet® liquidtight fittings for use with the ⅜", ½" and ¾" XTRA FLEX® EFC and LTC non-metallic liquidtight conduit series.

The T&B Bullet® liquidtight fitting and EFC non-metallic conduit are suited for OEM applications as in the machine tool industry where environments include continuous motion, vibration and exposure to moisture, oil, dirt and dust.

The T&B Bullet® liquidtight fitting and LTC non-metallic conduit are also suitable for construction applications where ISO metric threading and liquidtight systems are installed.

The XTRA FLEX® system offers a lightweight, liquidtight flexible conduit solution for industrial applications. The XTRA FLEX® system enables fast, easy installation and high performance in demanding industrial applications.





CAT. NO.	ANGLE OF FITTING	CONDUIT SIZE	KNOCKOUT SIZE	UNIT PACKAGE	STANDARD PACKAGE	UPC NUMBER
LT38P-ISO20	Straight	⅜"	½"	25	100	786210-66444
LT50P-ISO20	Straight	½"	½"	25	100	786210-66613
LT75P-ISO25	Straight	¾"	¾"	25	50	786210-66443
LT938P-ISO20	90°	⅜"	½"	25	50	786210-66612
LT950P-ISO20	90°	½"	½"	25	50	786210-66640
LT975M-ISO25	90°	¾"	¾"	10	50	786210-66611

**Testing: UL and CSA listed; NEMA 4, 6, 6P; IP 67 when used with LTC conduit or EFC tubing with installed T&B Bullet liquidtight fitting.*

Type B Liquidtight Fittings and Flexible Non-Metallic Conduits

Maximum flexibility for tight applications!

Corrugated Flexible Non-Metallic Tubing





- OEM grade — UL® Recognized
- PVC material
- Black color standard
- Extremely fast installation
- Liquidtight with specified fittings
- Good tensile strength provides excellent pullout protection
- Smooth inner diameter allows easy wire pulling
- Broad operating temperature range: 18° C to +60° C (-2° F to +140° F).
- Flammability Rating VW-1 (Vertical Wire) UL224

CAT. NO.	CONDUIT SIZE	I.D. (IN.) MIN.	I.D. (IN.) MAX.	O.D. (IN.) MIN.	O.D. (IN.) MAX.
EFC025*	¼"	.390	.405	.560	.575
EFC038	⅜"	.484	.504	.690	.710
EFC050	½"	.622	.642	.820	.840
EFC075	¾"	.820	.840	1.030	1.050
EFC100	1"	1.041	1.066	1.290	1.315
EFC125	1¼"	1.380	1.410	1.630	1.660
EFC150	1½"	1.575	1.600	1.865	1.900
EFC200	2"	2.020	2.045	2.340	2.375

** Not CSA certified. All other tubing complies with CSA File No. 067241. Underwriters Recognized (UL File No. 96548). Use with Bullet® Liquidtight Fittings. See technical data next page.*

Recommended industrial applications

- Protection of fiber optic cable
- Installation of instrumentation and control cable
- Indoor/outdoor lighting
- Packaging equipment
- Marine and shipboard wiring

CAT. NO. LTC –	AVAILABLE COLORS COLOR OF CONDUIT
W/O SUFFIX	Black
-1	Orange
-2	Blue

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Type B Liquidtight Fittings and Flexible Non-Metallic Conduits

Now available in reels.

XTRA FLEX® Conduit

The XTRA FLEX® system offers a lightweight, liquidtight flexible conduit solution for demanding applications. The XTRA FLEX® system ensures fast, easy installations and long-lasting, high performance in a variety of environments.

Now, XTRA FLEX® Conduit is available on reels. Large users can save space and reduce waste, while taking advantage of the convenience of stocking bulk in lengths. Utilizing our new coupling design to connect 100-ft. lengths, Thomas & Betts now offers reel lengths up to 1,000 feet.



- Fast installation — even in tight, cramped spaces
- Smooth inner diameter enables easy wire pulling
- Smooth outer jacket — approved for outdoor use, sunlight resistant and oil resistant
- Tested to CSA and UL requirements
- Lightweight and liquidtight
- Marked at 1-foot intervals for fast, easy measuring
- Approved for direct-burial applications

Specifications

- Material: PVC
- Colors Available: Black, Gray
- Temp. Range: -18° C to +105° C (-2° F to +221° F) Black
  -18° C to +80° C (-2° F to +176° F) Gray
- Flammability Rating: UL 1660
- Listings: UL Listed, CSA Certified

Please contact your Thomas & Betts sales representative regarding custom colors and combinations.

XTRA FLEX® Liquidtight Conduit/Reel Lengths

CAT. NO.	SIZE	DESCRIPTION	MIN. I.D.	MAX. I.D	MIN. O.D	MAX. O.D.	REEL LENGTH	MIN. ORDER
LTC038GY-500	⅜"	Gray Type B LT Conduit	.484"	.504"	.690"	.710"	500 ft.	1,500
LTC050GY-500	½"	Gray Type B LT Conduit	.622"	.642"	.820"	.840"	500 ft.	1,500
LTC050-500	½"	Black Type B LT Conduit	.622"	.642"	.820"	.840"	500 ft.	Stock
LTC050GY-1000	½"	Gray Type B LT Conduit	.622"	.642"	.820"	.840"	1,000 ft.	2,000
LTC100GY-500	1"	Gray Type B LT Conduit	1.041"	1.066"	1.290"	1.315"	500 ft.	1,500
LTC100-500	1"	Black Type B LT Conduit	1.041"	1.066"	1.290"	1.315"	500 ft.	1,500

UL Listed, UL File No. 95745

CSA Certified, CSA File No. LL 80349

***Note**: 500-ft. lengths consist of five 100-ft. sections with a coupling between each 100-ft. length.*

Type B Liquidtight Fittings and Flexible Non-Metallic Conduits

Smooth, sunlight- and oil-resistant outer jacket, approved for outdoor use!

Smooth Liquidtight Non-Metallic Conduit Type B





- Industrial grade — UL® Listed/CSA Certified
- PVC material
- Liquidtight non-metallic conduit Type B
- Black color standard
- Fast installation — even in tight, cramped spaces
- Smooth inner diameter enables easy wire pulling
- Tested to CSA and UL® requirements
- Lightweight and liquidtight
- Temperature range of -18° C to +105° C (-2° F to +221° F)
- UL1660 flammability rating
- Marked at 1-ft. intervals for fast, easy measuring and cutting
- Approved for direct-burial applications

Recommended industrial applications

- Machine tools
- Motor hookups
- Food processing equipment
- Extensions from wireways
- Sensor and microswitch wiring in control consoles

Available Colors

LTC – CAT. NO.	COLOR OF CONDUIT	COLOR OF MARKING
W/O SUFFIX	Black	Orange
-1	Orange	Black
-2	Blue	Black

Industrial Grade

CAT. NO.	CONDUIT SIZE	I.D. (IN.) MIN.	I.D. (IN.) MAX.	O.D. (IN.) MIN.	O.D. (IN.) MAX.
LTC038	⅜"	.484	.504	.690	.710
LTC050	½"	.622	.642	.820	.840
LTC075	¾"	.820	.840	1.030	1.050
LTC100-TB	1"	1.041	1.066	1.290	1.315
LTC125-TB	1¼"	1.380	1.410	1.630	1.660
LTC150-TB	1½"	1.575	1.600	1.865	1.900
LTC200	2"	2.020	2.045	2.340	2.375

Commercial Grade

CAT. NO.	CONDUIT SIZE	I.D. (IN.) MIN.	I.D. (IN.) MAX.	O.D. (IN.) MIN.	O.D. (IN.) MAX.
LTC038GY	⅜"	.484	.504	.690	.710
LTC050GY	½"	.622	.642	.820	.840
LTC075GY	¾"	.820	.840	1.030	1.050
LTC100GY	1"	1.041	1.066	1.290	1.315
LTC125GY	1¼"	1.380	1.410	1.630	1.660
LTC150GY	1½"	1.575	1.600	1.865	1.900
LTC200GY	2"	2.020	2.045	2.340	2.375

Rated at 600V

XTRA FLEX® Type B suitable for use in hazardous location (for LTC Series only) where general-purpose equipment is specifically permitted by the NEC®; Class I Div. 2; Class II, Div. 1 & 2; Class III, Div. 1 & 2.

UL Listed, UL File No. E95745

CSA Certified, CSA File No. LL80349

See technical data below.

Use with Bullet® Liquidtight Fittings.

XTRA FLEX® Conduit and Tubing Technical Data*

LTFNMC = Liquidtight flexible non-metallic conduit
LTFNMT = Liquidtight flexible non-metallic tubing

XTRA FLEX® CONDUIT &TUBING	STYLE	COLOR	SIZE RANGE	UL TEMP RATING	CSA TEMP RATING	VOLTAGE RATING	UL OIL RESISTANT	UL OUTDOOR	UL DIRECT BURIAL
LTC038 Series	UL Type B LTFNMC	Black Black	⅜"–2"	105° C Dry 60° C Wet 70° C Oil	75° C–18° C —	600V	Yes	Yes	Yes
LTC038-1, -2 Series	UL Type B LTFNMC	Orange, Blue	½"–1"	105° C Dry 60° C Wet 70° C Oil	— —	600V	Yes	No	Yes
LTC038GY Series	UL Type B LTFNMC	Gray	⅜"–2"	80° C Dry 60° C Wet 70° C Oil	— —	600V	Yes	Yes	Yes
EFC025 Series**	LTFNMT	Black	¼"–2"	105° C	75° C–18° C	300V	Yes	Yes	No
EFC025-1, -2** Series	LTFNMT	Orange, Blue	½"–1"	105° C	—	300V	Yes	No	No

** For a complete test report, contact Customer Service.* *** UL Component Recognized*

Thomas&Betts

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Technical Services
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Type B Liquidtight Fittings and Flexible Non-Metallic Conduits

XTRA FLEX® Non-Metallic Conduit Type B and Flexible Tubing Chemical Resistance

A = SATISFACTORY CHEMICAL		B = BE EXPECTED TO CHANGE CHEMICAL		C = NOT RECOMMENDED CHEMICAL	
Acetate Solvents	C	Cottonseed Oil	B	Lubricating Oils	A
Acetic Acid (10%)	A	Creosote	C	Magnesium Chloride	A
Acetic Acid (Glacial)	B	Cresol	A	Magnesium Hydroxide	A
Acetone	C	Cresylic Acid	C	Magnesium Sulphate	A
Acrylonitrile	A	Cyclohexane	A	Malic Acid	A
Adipic Acid	A	Cyclohexanone	C	Methyl Acetate	C
Alcohol Butyl	A	DDT Weed Killer	A	Methyl Bromide	C
Alcohol Ethyl	A	Detergent Synthetic	A	Methyl Ethyl Ketone	C
Alcohol Isopropyl	A	Developers Photographic	A	Methylene Chloride	C
Alcohol Methyl	A	Dextrin	A	Mineral Oils	A
Aluminum Acetate	A	Dextrose	A	Monochlorobenzene	C
Aluminum Chloride	A	Dibutyle Phthalate	C	Naphtha	B
Aluminum Hydroxide	A	Dichlorobenzene	C	Naphthalene	C
Aluminum Sulfate	A	Diesel Oil	B	Nitric Acid (10%)	A
Aliyl Chloride	C	Diethylene Glycol	A	Nitric Acid (40%)	A
Ammonia (0.88S.G.Aqueous)	A	Diethyl Ether	C	Nitric Acid (70%)	C
Ammonia (Dry Gas)	A	Di-isodecyl Phthalate	C	Nitrobenzene	C
Ammonia (Liquid)	C	Dioctyle Phthalate	C	Nitrogen Fertilizers	A
Ammonium Chloride	A	Emulsifiers	A	Oleic Acid	A
Ammonium Hydroxide	A	Emulsions Photographic	A	Oxalic Acid	A
Animal Oils	A	Ethyl Acetate	C	Palmitic Acid	A
Amyl Acetate	C	Ethylene Dichloride	C	Paraffin	A
Aniline Oils	B	Ethylene Glycol	A	Pentane	B
Aromatic Hydrocarbons	C	Fatty Acid	A	Perchloroethylene	C
Asphalt	C	Ferric Chloride	A	Phenol	B
ASTM Fuel A	B	Ferric Sulphate	A	Phosphoric Acid	A
ASTM Fuel B	C	Ferrous Chloride	A	Pitch	A
ASTM #1 Oil	A	Ferrous Sulphate	A	Potassium Hydroxide	A
ASTM #3 Oil	B	Fixing Solution, Photographic	A	Propane	A
Barium Chloride	A	Fluorine	C	Sea Water	A
Barium Hydroxide	A	Formaldehyde (40%)	C	Sodium Hydroxide (10%)	A
Barium Sulfide	A	Formic Acid (40%)	A	Sodium Hydroxide (50%)	A
Benzene	C	Formic Acid (50%)	B	Sodium Cyanide	A
Benzine	B	Formic Acid (100%)	C	Soybean Oil	A
Bordeaux Mixture	A	Fuel Oil	B	Stearic Acid	A
Borax	A	Glacial Acetic Acid	B	Styrene	C
Boric Acid	A	Glucose	A	Sulphur Dioxide (Dry)	A
Brine	A	Glycerine	A	Sulphur Dioxide (Moist)	B
Bromine Traces	C	Grape Sugar	A	Sulphur Dioxide (Liquid)	C
Butyl Acetate	C	Grease	A	Sulphuric Acid (45%)	A
Calcium Hydroxide	A	Heptane	B	Sulphuric Acid (60%)	B
Calcium Hypochlorite	A	Hexane	B	Sulphuric Acid (98%)	C
Carbonic Acid	B	Hydrobromic Acid	A	Sulphurous Acid (30%)	A
Carbon Dioxide	A	Hydrochloric Acid (10%)	A	Tannic Acid	A
Carbon Disulphite	C	Hydrochloric Acid (40%)	A	Tartaric Acid	A
Carbon Monoxide	A	Hydrofluoric Acid (10%)	A	Tetrahydrofuran	C
Carbon Tetrachloride	C	Hydrofluoric Acid (40%)	B	Toluene	C
Casein	A	Hydrofluoboric Acid	A	Trichlorethylene	C
Chlorine (Dry)	A	Hydrofluosilicic Acid	A	Triethanolamine	A
Chlorine (Wet Gas)	B	Hydrogen Peroxide	A	Tricresyl Phosphate	C
Chlorine (Water)	C	Hydrogen Sulphide	A	Turpentine	B
Chlorobenzene	C	Iso-octan	A	Urea	A
Chlorinated Hydrocarbons	C	Isopropyl Acetate	C	Vinegar	A
Chloroform	C	Kerosene	B	Vinyl Acetate	C
Chromic Acid	A	Ketones	C	Vinyl Chloride	C
Citric Acid	A	Lactic Acid (10%)	A	Water	A
Coal Tar	C	Lactic Acid (100%)	C	Xylene	C
Copper Chloride	A	Lacquer Solvents	B	Zinc Chloride	A
Copper Nitrate	A	Linseed Oil	A	Zinc Sulphate	A
Copper Sulphate	A				

Note: *These chemical resistance ratings are based upon information supplied by the raw material manufacturers. It is intended as a general guideline only. To determine specific suitability, samples should be tested by user under actual conditions. Operating Condition: 70° F.*

Kopr-Shield® Compound

The copper colloidal surface treatment that protects, lubricates and enhances conductivity between all electrical connections.

Kopr-Shield® Compound

Good connections are one of the most important aspects of electrical work. Mechanics know how much downtime is caused when fluids or oils leak into the raceway system or when looking for a weak link in a ground system caused by a high resistance connection. Mechanics also know how much time is spent keeping contacts, switches, lugs and other connectors clean or replacing parts because of "green scourge" buildup. Thomas & Betts has the solution to improve connections made in thousands of electrical and raceway installations made each day by electricians everywhere.

Kopr-Shield® compound is a unique homogenized blend of pure, polished colloidal copper, rust and corrosion inhibitors that simultaneously protects, lubricates and enhances the conductivity of the mating surfaces to which it is applied. Extremely adhesive, Kopr-Shield® compound flows smoothly into uneven contours and voids, making application easy, protection and lubrication complete and positive. A stable compound, it will not settle-out, thin, thicken, harden, or dry out under the most severe environmental conditions.

Kopr-Shield® Compound has excellent temperature characteristics — brushed on at -50° F to 250° F (other compounds either turn solid or run like water at these extremes). Even at 1800° F, Kopr-Shield® remains intact for short terms.

Kopr-Shield® Compound may be used to advantage in all electrical installations. When the environment is hostile to good electrical and mechanical connections, Kopr-Shield® Compound is a must!



Kopr-Shield® by Thomas & Betts meets the requirements of Section 300.6(A) in the 2002 NEC® Code for Protection Against Corrosion: "Where corrosion protection is necessary and the conduit is threaded in the field, the threads shall be coated with an approved electrically conductive, corrosion-resistant compound."

Use Kopr-Shield® Compound for Battery Lugs and Cables

- Prevention of "Green Scourge" corrosion
- Reduction of resistance
- Ease of terminal installation and removal

Use Kopr-Shield® Compound for Raceways

- Lubrication — ease of assembly and disassembly
- Grounding continuity improved — exceeds code requirements

Use Kopr-Shield® Compound for Fuse Clips

- Even heat distribution — elimination of hot spots
- Oxidation prevention — prevents carbon path formation
- Lubrication — easy installation and removal of fuses

Use Kopr-Shield® Compound for Wiping Contacts, Drum Switches and Slip Rings

- Prevention of galling, burning, pitting and discoloration
- Suppression of arching and dissipation of coronas
- Lubrication for ease of operation

CAT. NO.	DESCRIPTION	STD. PKG.	WT. LBS./C
CP8-TB	8-oz. Container with Brush	12	64.58
CP16	16-oz. Container with Brush	12	120.83
CP128	1-Gal. Can	4	952.00

Kopr-Shield is a trademark of Jet Lube, Inc.

NEC and National Electrical Code are registered trademarks of the National Fire Protection Association, Inc.

Thomas&Betts

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Technical Information

UL Recommended Dimensions and Weights of Rigid Metal Conduit

TRADE SIZE (IN.)	THDS. PER IN.	I.D. (IN.)	O.D. (IN.)	WALL THICKNESS (IN.)	A MIN. WT. AT 100' LENGTHS WITH ONE COUPLING ATTACHED (LBS.)
¼	18	.364	.540	.088	38.5
⅜	18	.493	.675	.091	51.5
½	14	.622	.840	.109	79.0
¾	14	.824	1.050	.113	105.0
1	11½	1.049	1.315	.133	153.0
1¼	11½	1.380	1.660	.140	201.0
1½	11½	1.610	1.900	.145	249.0
2	11½	2.067	2.375	.154	332.0
2½	8	2.469	2.875	.203	527.0
3	8	3.068	3.500	.216	682.6
3½	8	3.548	4.000	.226	831.0
4	8	4.026	4.500	.237	972.3
4½	8	4.506	5.000	.247	1,150.0
5	8	5.047	5.563	.258	1,313.6
6	8	6.065	6.625	.280	1,745.3

UL Dimensions for Intermediate Metallic Conduit† — Type I (10-ft. lengths)

TRADE SIZE (IN.)	O.D. (IN.) MIN.	O.D. (IN.) MAX.	WALL THICKNESS (IN.)
½	.810	.820	.070*
¾	1.024	1.034	.075*
1	1.285	1.295	.085*
1¼	1.630	1.645	.085*
1½	1.875	1.890	.090*
2	2.352	2.367	.095*
2½	2.847	2.867	.130**
3	3.466	3.486	.130**
3½	3.961	3.981	.130**
4	4.456	4.476	.130**

** (+.015. -.000)*

*** (+.020. -.000)*

† IMC Threads are the same as Rigid Metal Conduit Threads.

UL Dimensions for Intermediate Metallic Conduit — Type II (10-ft. lengths)

TRADE SIZE (IN.)	O.D. (IN.) MIN.	O.D. (IN.) MAX.	WALL THICKNESS (IN.)
½	.825	.840	.085*
¾	1.035	1.050	.085*
1	1.300	1.315	.108*
1¼	1.645	1.660	.108*
1½	1.885	1.900	.108*
2	2.360	2.375	.108*
2½	2.850	2.875	.155**
3	3.475	3.500	.155**
3½	3.975	4.000	.160**
4	4.475	4.500	.160**

** (+.020. -.000)*

*** (+.025. -.000)*

UL Recommended Dimensions and Weight of Electrical Metallic Tubing (EMT)

TRADE SIZE (IN.)	O.D. (IN.)	I.D.* (IN.)	WALL THICKNESS (IN.)	MIN. ACCEPT WT. FT. (LBS.)
⅜	.577 ± .005	.493	.042	.230
½	.706 ± .005	.622	.042	.285
¾	.922 ± .005	.824	.049	.435
1	1.163 ± .005	1.049	.057	.640
1¼	1.510 ± .005	1.380	.065	.950
1½	1.740 ± .005	1.610	.065	1.100
2	2.197 ± .005	2.067	.065	1.400
2½	2.875 ± .010	2.731	.072	2.050
3	3.500 ± .015	3.356	.072	2.500
3½	4.000 ± .020	3.834	.083	3.250
4	4.500 ± .020	4.334	.083	3.700

** Not a requirement — included for information only.*

Technical Information

Knockout (Sliphole) Sizes for Electrical Conduits and Connectors

TRADE SIZE (IN.)	KNOCKOUT DIAMETER		
	NOM.	MIN.	MAX.
¼	.575	.559	.605
⅜	.718	.703	.734
½	.875	.859	.906
¾	1.109	1.094	1.141
1	1.375	1.359	1.406
1¼	1.734	1.719	1.766
1½	1.984	1.958	2.000
2	2.469	2.433	2.500
2½	2.969	2.938	3.000
3	3.594	3.563	3.625
3½	4.125	4.063	4.156
4	4.641	4.563	4.672
4½	5.109	5.063	5.166
5	5.719	5.625	5.750
6	6.813	6.700	6.844

Sizes ¼" thru 1¼" are per UL 514.

Sizes ½" thru 6" per proposed revision to NEMA Engineering Bulletin No. 71, Aug. 1976.

UL Recommended Diameters for Flexible Metal Conduit (Greenfield)

TRADE SIZE (IN.)	MAX. O.D. (IN.)	O.D. (IN.)	
		MIN.	MAX.
5/16	.510	.312	.393
⅜	.610	.375	.645
½	.920	.625	.835
¾	1.105	.812	—
1	1.380	1.000	—
1¼	1.630	1.250	—
1½	1.950	1.500	—
2	2.450	2.000	—
2½	3.060	3.500	—
3	3.560	3.000	—
3½	4.060	3.500	—
4	4.560	4.000	—

UL Recommended Diameters for Liquidtight Flexible Metal Conduit

TRADE SIZE (IN.)	I.D. (IN.)		O.D. (IN.)	
	MIN.	MAX.	MIN.	MAX.
⅜	.484	.504	.690	.710
½	.622	.642	.820	.840
¾	.820	.840	1.030	1.050
1	1.041	1.066	1.290	1.315
1¼	1.380	1.410	1.630	1.660
1½	1.575	1.600	1.865	1.900
2	2.020	2.045	2.340	2.375
2½	2.480	2.505	2.840	2.875
3	3.070	3.100	3.460	3.500
3½	3.500	3.540	3.960	4.000
4	4.000	4.040	4.460	4.500

Diameter of Liquidtight Non-Metallic Flexible Conduit

TRADE SIZE (IN.)	I.D. (IN.)		O.D. (IN.)	
	MIN.	MAX.	MIN.	MAX.
⅜	.485	.505	.755	.775
½	.620	.640	.910	.930
¾	.815	.835	1.150	1.170
1	1.030	1.055	1.415	1.440
1¼	1.370	1.395	1.800	1.825
1½	1.585	1.620	2.045	2.080
2	2.045	2.080	2.605	2.640

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T&B® Rigid Fittings

In this section...



T&B® Rigid Fittings

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Overview

The Complete Product Line

Since the turn of the century, Thomas & Betts has been a recognized leader in electrical fittings. Industry standards such as Chase® Nipples and Erickson® Couplings were introduced by Thomas & Betts and are still registered trademarks. This leadership continues. Here's why...





Innovative Designs

The real test of product design of electrical fittings lies in two areas: Job-suited installation and life of the job reliability. Thomas & Betts Fittings provide both because we listen. We listen to problems and suggestions from the field. Most of the products in this section result from the good suggestions of knowledgeable electrical people. Many were customer specials to solve particular installation and performance problems. You can benefit from their experience.

Approvals and Listings

Electrical raceways require accessory fittings that provide the mechanical strength, ground continuity and environmental integrity of the system. As new raceways have been introduced, Thomas & Betts engineers have designed fittings that meet the requirements of the National Electrical Code® as well as the listing requirements of the Underwriter's Laboratories and the Canadian Standards Association. You can use Thomas & Betts Fittings with confidence.

Note: *In the United States, boxes and fittings are not listed or marked for use in Class I Division 2 locations. See NEC® 501.10(B) for the wiring methods allowed in these areas.*

High-Performance Products

Quality and performance result when engineering design skills are combined with the manufacturing technologies required to produce them. The Thomas & Betts Fittings in this section are produced from many materials and by many manufacturing methods, each carefully selected for its end use suitability. This combination gives you the reliable performance you expect from Thomas & Betts Raceway Fittings.



Lower Installed Cost

It is a function of purchase cost, availability, installation advantage and performance. Lower installed cost comes in every carton of Thomas & Betts Raceway Fittings.

NEC and National Electrical Code are registered trademarks of the National Fire Protection Association, Inc.

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Overview

DURA-PLATE® Finish — Corrosion-Resistant Finish Protects Fittings in Harsh Environments



DURA-PLATE® Corrosion-Resistant Fittings have a T&B plating process that provides excellent corrosion resistance on threaded steel and malleable iron fittings for use in harsh environments.

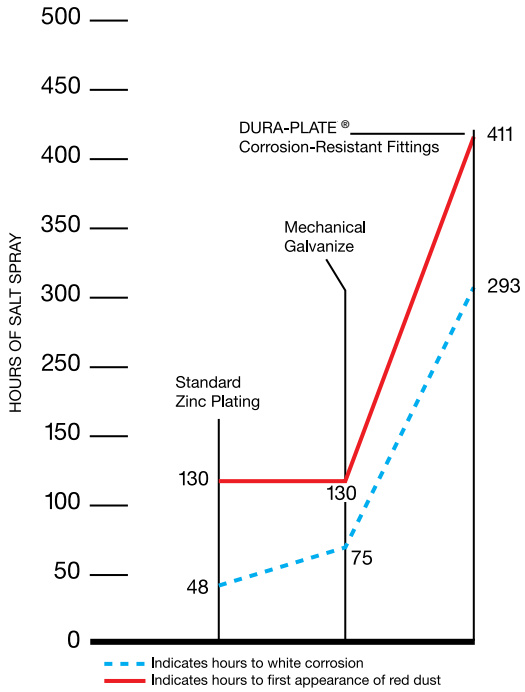
DURA-PLATE® Corrosion-Resistant Fittings utilize an electro-plating process that ensures a uniform thickness of protective material over the entire part. Conventional hot dip coatings deposit an uncontrolled buildup of material on the part, especially in threaded areas. This excess buildup must be removed to enable mating parts to function.

The process of removing this buildup in the threads in turn damages the coating and compromises the effectiveness of the protection.

An additional drawback of hot dip coating is that the lower ductility of the alloyed interface layer that is formed during the hot dip process can cause spalling if the item is deformed after coating.

In addition to the uniformity of the coating, the distinctive gold color of the plating enables immediate recognition that the part has been prepared for exposure to harsh environments and confirms the extra protection by visual inspection.

DURA-PLATE® Corrosion-Resistant Fittings have been subjected to salt spray tests conducted according to ASTM Specification B-117. The results of Corrosion-Resistant Fittings tests, along with galvanized parts, appears below:





Ordering Information

- Add the prefix "040-" to the standard catalog number — for example: a 5332 with DURA-PLATE® Corrosion-Resistant Fittings protection would be ordered as "040-5332"
- Check for catalog numbers in stock
- Allow 6–8 weeks for delivery on nonstock items
- Add 30% to price of standard item
- Minimum order is standard package quantity

Locknuts



140 Series
141AL Series



106 Series

Application

- To connect externally threaded conduit or connector to a threadless opening in a box or enclosure
- To effectively bond conduit or connector to box or enclosure

Features

- Hardened steel/malleable iron/copper-free aluminum construction
- Tightens without deformation
- Locknuts specially designed to:
  - (i) Provide extended reach for clamping on thin boxes and enclosures
  - (ii) Cut through protective coating on box and enclosure, thereby ensuring ground continuity
  - (iii) Permit tightening from outside
  - (iv) Prevent loosening under vibration
- 106 Series provided with a hardened cone-point screw

Standard Material

140 Series & 106 Series

⅜" thru 2" steel (hardened) 2½" thru 6"
Malleable Iron
All screws steel

141AL Series

All copper-free aluminum

Standard Finish

All steel and malleable iron locknuts, including electro zinc-plated bonding screws and chromate coated all-aluminum locknut, degreased

Range

⅜" through 6" conduit (All threads straight pipe [NPS]) (140 Series)
½" through 4" conduit (106 Series & 141AL Series)

Listings/Compliances

UL (UL File No. E-23018)
CSA [catalog numbers 108, 109, 110 and 111. All 140 Series except catalog number 140.] (LR-2884, LR-4484)
UL 514B
CSA C22.2 No. 18
NEMA FB1
NFPA 70
Federal Specification replaced by A-A-50553
Federal Standard H-28 (Threads)

Case Hardened Locknuts

Case hardened locknuts make fittings faster and easier to install. Case hardened locknuts do not slip or turn, thereby protecting the biting edge. Case hardened locknuts bite through paint into the enclosure, providing excellent continuity of ground (typical T&B/Thomas & Betts fitting with case hardened locknuts successfully passed minimum fault current of 10,000 amps RMS). Case hardened locknuts, when assembled in the intended manner, will not vibrate loose, thereby ensuring excellent ground continuity.

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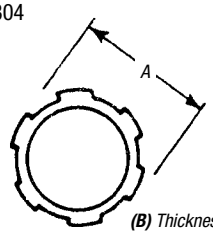
Bushings, Nipples, Locknuts and Plugs

Available in your choice of steel/malleable iron, aluminum or stainless steel.

Locknuts

- Steel from ¼" to 2", malleable iron from 2½" to 6"
- Aluminum 3003 from ½" to 6" or Type 304 stainless steel from ½" to 2"





CAT. NO.				DIMENSIONS (IN.)	
STL./M.I.	ALUM.	ST. STL.	SIZE (IN.)	A	B
139*	—	—	¼	¾	9/64
140*	—	—	⅜	15/16	9/64
141**	141AL	141-SST	½	17/64	5/32
142**	142AL	142-SST	¾	1⅜	3/16
143	143AL	143-SST	1	1 11/16	13/64
144	144AL	144-SST	1¼	2 5/32	13/64
145	145AL	145-SST	1½	2½	13/64
146	146AL	146-SST	2	3	7/32
147	147AL	—	2½	3 9/16	13/32
148	148AL	—	3	4 3/16	13/32
149	149AL	—	3½	4 13/16	15/32
150	150AL	—	4	5 5/16	15/32
151	151AL	—	4½	5 15/16	17/32
152	152AL	—	5	6½	17/32
153	153AL	—	6	7¾	19/32

**Hex shape*

***Case hardened locknuts*

Aluminum locknuts comply with federal standard of copper-free aluminum; less than .5% copper.

Available with DURA-PLATE® Finish.

UL File E-23018

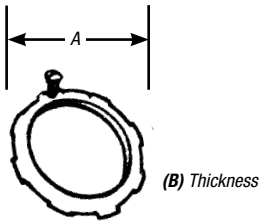
CSA File No. 2884

Ensures positive bonding of conduit to box and prevents loosening due to vibration!

Bonding Locknuts

- Steel or malleable iron (steel through 2")
- Can be used anywhere an ordinary locknut is installed
- Also can be used for Service Entrance applications in conformance with code
- T&B rigid conduit and EMT (thinwall) fittings comply with Federal Specification A-A-50553





CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A	B
106†	½	1⅜	.125
107†	¾	1⅝	.140
108	1	1 15/16	.170
109	1¼	2 5/32	.170
110	1½	2½	.170
111	2	3	.187
112†	2½	3 13/32	.375
113†	3	4 13/16	.375
114†	3½	4 29/32	.438
115†	4	5 7/32	.438

† Not CSA certified.

Available with DURA-PLATE® Finish.

UL File No. E-3060

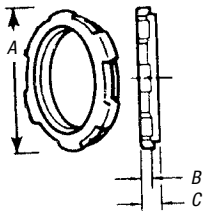
CSA File No. 638

Provides positive seal against water and oil.

Sealing Locknuts

- For use with rigid and intermediate metal conduits or fittings
- Provides watertight or raintight seal at all enclosures





Molded Santoprene Seal
Color: Blue

CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A	B	C
141SL	½	1.140	⅛	¼
142SL	¾	1.420	5/32	9/32
143SL	1	1.770	11/64	9/32
144SL	1¼	2.281	11/64	5/16
145SL	1½	2.598	11/64	9/32
146SL	2	3.175	3/16	7/64

UL File No. E-23018

CSA File No. 2884

Bushings, Nipples, Locknuts and Plugs

Perfect for grounding old work or new!

Bonding & Grounding Wedges

- Provides grounding without a jumper except in concentric knockouts
- When jumper is required, it fits under set screw in grounding wedge
- Update existing installations to meet code requirements for bonding (NEC® Article 250, Part V) without disconnecting wiring
- For use on new wiring, just loosen bushing, position wedge and tighten bushing and bonding screw

Application

- To effectively bond terminating fitting or conduit to a box or enclosure

Features

- Sizes ¾" thru 6" equipped with an additional bonding screw to install bonding jumper where required
- Can be added to an existing installation without disconnecting conductors

Standard Material/Finish

½" size Steel/Electro Zinc Plated

¾" thru 6" size Bronze/Tin Plated

Range

½" thru 6" conduit

Listings/Compliances

UL File #E3060

CSA File #638

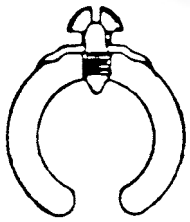
UL 467

CSA C22.2 No. 41

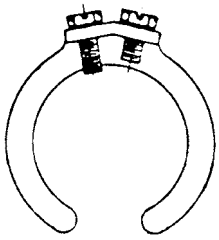
NFPA-70

Federal Specification A-A-50552





Series 3650



Series 3651

Grounding Wedges

CAT. NO.	SIZE
3650	½"
3651	¾"
3652	1"
3653	1¼"
3654	1½"
3655	2"
3656	2½"
3657	3"
3658	3½"
3659	4"
3661	5"
3662	6"

UL File No. E-3060

Sealing material resists oil, coolants and hydraulic fluids as well as water!

Liquidtight Sealing Gasket

The 5262 Series Sealing Gasket includes a stainless steel retaining ring to prevent elongation of the Santoprene® gasket, ensuring a superior seal.

Application

- When used with an externally threaded connector, provides a tight seal against oil, fumes or moisture at the knockout opening

Features

- Design locks resilient sealing material in steel
- Steel retainer protects seal from extruding out under torque and limits compression to an optimum predetermined value; provides high quality seal
- Resilient material flows and seals rough surfaces
- NEMA 3R, 4, 6 and 13

Standard Material

Retainer: 316 Stainless Steel

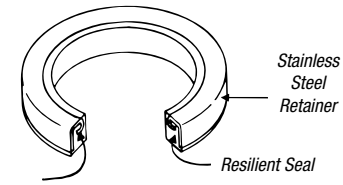
Sealing Material: Santoprene® Thermoplastic Rubber

Range

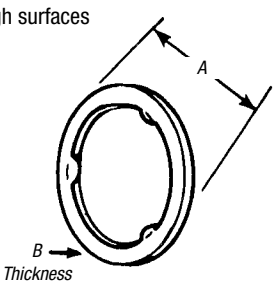
¼" thru 4" Hub Size



5262 Series Sealing Gasket



Resilient Sealing Material Locked in Steel Retainer



Thickness

CAT. NO.	CONDUIT SIZE	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. PKG. QTY.
5262	½"	1.16	.18	50
5263	¾"	1.49	.19	25
5264	1"	1.75	.19	25
5265	1¼"	2.15	.22	5
5266	1½"	2.42	.23	5
5267	2"	2.92	.23	5
5268	2½"	3.44	.23	5
5269	3"	4.08	.23	5
5270	4"	5.29	.31	5

UL File No. E 13938 CSA File No. 2884

Santoprene is a registered trademark of Advanced Elastomer Systems.

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Threaded Insulated Grounding Bushing

Application

- For quick installation of bonding jumper to multiple metal conduits (Rigid and IMC)
- Designed to bush conductors and prevent insulation damage

Features

- Ease of installation, lay in lug design
- Cast malleable iron body designed to lock insulator in place within body, reducing common assembly problem resulting in dislodging of insulator
- Insulator rated for 150° C/302° F application
- Look for the unique T&B blue color, ensuring the highest quality fitting

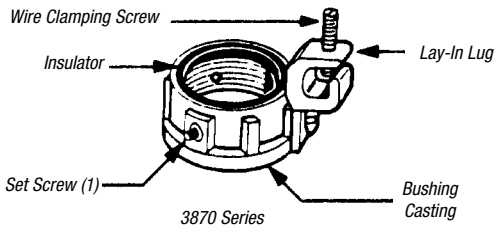
Standard Material/Finish

Body: Electro zinc plated

Lay-In Lug: Aluminum/tin plated

Insulator: Thermoplastic 150° C/302° F Application with 94V-0 flammability





3870 Series

CAT. NO.	CONDUIT SIZE	BUSHING DIA.	THROAT DIA.	LUG LENGTH	SWING RADIUS	BUSHING HEIGHT	WIRE RANGE AWG CU/AL
3870-TB	½"	1.125	.560	1.310	1.212	.657	#14–#4
3861	½"	1.125	.560	1.675	1.402	.657	#8–2/0
3871-TB	¾"	1.420	.742	1.310	1.360	.660	#14–#4
3862	¾"	1.420	.742	1.675	1.550	.660	#8–2/0
3872	1"	1.770	.944	1.310	1.535	.735	#14–#4
3882	1"	1.770	.944	1.675	1.725	.735	#8–2/0
3873	1¼"	2.190	1.242	1.310	1.745	.735	#14–#4
3883	1¼"	2.190	1.242	1.675	1.935	.735	#8–2/0
3874	1½"	2.468	1.449	1.310	1.884	.770	#14–#4
3884	1½"	2.468	1.449	1.675	2.074	.770	#8–2/0
3875	2"	3.031	1.860	1.310	2.165	.770	#14–#4
3889	2"	3.031	1.860	1.675	2.355	.770	#8–2/0
3876	2½"	3.516	2.222	1.310	2.408	.940	#14–#4
3886	2½"	3.516	2.222	1.675	2.598	.940	#8–2/0
3993	2½"	3.516	2.222	2.230	2.928	.940	#6–4/0
3877	3"	4.234	2.761	1.310	2.767	.975	#14–#4
3887	3"	4.234	2.761	1.675	2.957	.975	#8–2/0
3994	3"	4.234	2.761	2.230	3.287	.975	#6–4/0
3878	3½"	4.781	3.193	1.310	3.040	.975	#14–#4
3863	3½"	4.781	3.193	1.675	3.230	.975	#8–2/0
3995	3½"	4.781	3.193	2.230	3.560	.975	#6–4/0
3879	4"	5.328	3.623	1.310	3.314	.980	#14–#4
3864	4"	5.328	3.623	1.675	3.504	.980	#8–2/0
3996	4"	5.328	3.623	2.230	3.834	.980	#6–4/0
3880	5"	6.328	4.542	1.310	3.814	.985	#14–#4
3865	5"	6.328	4.542	1.675	4.000	.985	#8–2/0
3998	5"	6.328	4.542	2.230	4.334	.985	#6–4/0
3881	6"	7.406	5.458	1.310	4.353	1.200	#14–#4
3866	6"	7.406	5.458	1.675	4.543	1.200	#8–2/0
3999	6"	7.406	5.458	2.230	4.875	1.200	#6–4/0

Temperature rating 150° C

Meets Coast Guard Regulation CG293

Available with DURA-PLATE® Finish.

Bushings, Nipples, Locknuts and Plugs

Innovative design makes installation quicker, easier.

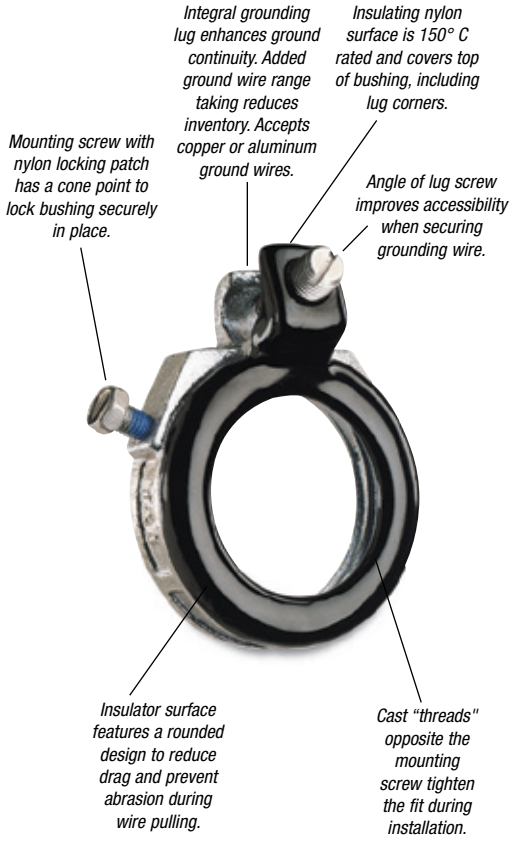
Blackjack® Grounding Bushing

The Blackjack® Grounding Bushing never has to be threaded onto a conduit. It is simply placed in position on either a threaded or non-threaded rigid or IMC conduit, with the grounding lug in perfect position to accept the grounding wire — even in tight installations.

It's as simple as one, two, three!

Compare the installation with conventional bushings that must be threaded onto the conduit. In tight areas, you may have to remove the grounding lug, keep up with the loose parts and then reattach the lug. Then you still have to twist and turn the bushing to get the lug in position to accept the grounding wire.

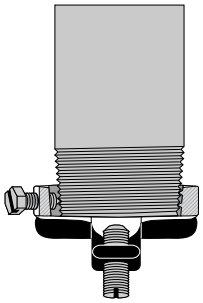
The Blackjack bushing does away with these needless delays for good, making it the ideal grounding bushing — and the only logical choice for small spaces, corners and multiple conduit runs. And, because the grounding lug is an integral part of the bushing, it's designed not to fall off or get lost.



Innovative design improves performance.

The Blackjack® bushing provides superior ground continuity.

The design of the Blackjack bushing has an integral, cast-on grounding lug for better ground continuity. This means that the Blackjack bushing stands up to intense loads.



Secure grip forms lasting bond.

The Blackjack bushing's cone-point mounting screw bites securely into both threaded and non-threaded rigid conduits. And the Blackjack bushing's nylon locking patch is designed to prevent the screw from loosening due to vibration.

Reduce inventory.

Because the Blackjack Grounding Bushing is designed for threaded and non-threaded conduits, and the ground lugs are designed to handle an extended range, the number of parts in inventory is reduced by up to two-thirds without losing any application coverage.



Lug Screw:

#14–#4: Slotted

#14–2/0: Slotted

#6–4/0: Internal Hex Drive

Standard Material/Finish

Body: Malleable Iron or Aluminum

Mounting Screw: (½"–2") Stainless Steel, (2½"–6") Brass

Lug Screw: Stainless Steel

Finish: Zinc Plated

Range

Conduit: ½" thru 6" threaded or threadless rigid/IMC

Wire Range: #14 AWG to 4/0 AWG Cu/Al

Listings/Compliances

UL File #E3060

CSA File #LR2884

UL 514B & UL 467

CSA C22.2 No. 18 & CSA C22.2 No. 41



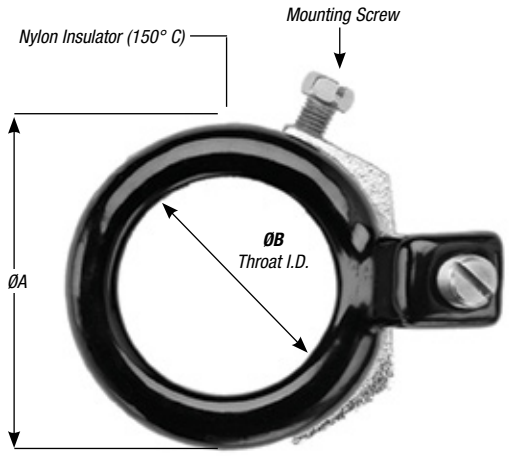
Thomas&Betts

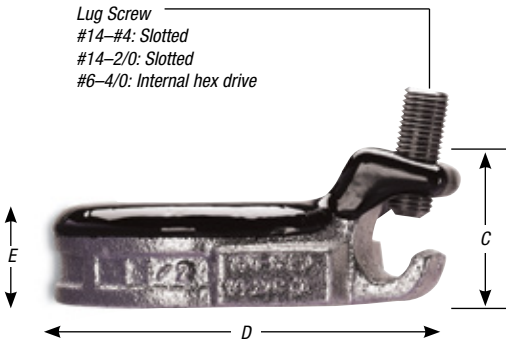
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Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

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Bushings, Nipples, Locknuts and Plugs





For Threaded and Threadless Rigid and IMC Conduit

Blackjack® Grounding Bushings

CAT. NO.								
ZINC PLATED MALLEABLE IRON	ALUMINUM	CONDUIT SIZE	ØA MAX.	ØB MIN. THROAT I.D.	C MAX.	D MAX.	E MAX.	WIRE RANGE
BG050-14-20	BGA050-14-20	½"	1.251	.569	1.181	2.134	.696	#14–2/0
BG050-14-4	BGA050-14-4	½"	1.251	.569	1.027	1.940	.696	#14–#4
BG075-14-20	BGA075-14-20	¾"	1.533	.772	1.221	2.414	.696	#14–2/0
BG075-14-4	BGA075-14-4	¾"	1.533	.772	1.030	2.168	.696	#14–#4
BG100-14-20	BGA100-14-20	1"	1.783	.993	1.181	2.581	.696	#14–2/0
BG100-14-4	BGA100-14-4	1"	1.783	.993	1.027	2.368	.696	#14–#4
BG125-14-20	BGA125-14-20	1¼"	2.220	1.319	1.181	2.987	.759	#14–2/0
BG150-14-20	BGA150-14-20	1½"	2.470	1.553	1.181	3.236	.696	#14–2/0
BG200-14-20	BGA200-14-20	2"	2.830	2.010	1.181	3.766	.696	#14–2/0
BG250-14-20	BGA250-14-20	2½"	3.418	2.412	1.181	4.341	.978	#14–2/0
BG250-6-40	BGA250-6-40	2½"	3.418	2.412	1.524	4.526	.978	#6–4/0
BG300-14-20	BGA300-14-20	3"	4.042	3.022	1.181	4.966	.978	#14–2/0
BG300-6-40	BGA300-6-40	3"	4.042	3.022	1.524	5.139	.978	#6–4/0
BG350-14-20	BGA350-14-20	3½"	4.542	3.491	1.181	5.467	.978	#14–2/0
BG350-6-40	BGA350-6-40	3½"	4.542	3.491	1.524	5.639	.978	#6–4/0
BG400-14-20	BGA400-14-20	4"	5.042	3.975	1.181	5.966	.978	#14–2/0
BG400-6-40	BGA400-6-40	4"	5.042	3.975	1.524	6.139	.978	#6–4/0
BG500-14-20	BGA500-14-20	5"	6.136	4.991	1.181	7.045	.978	#14–2/0
BG500-6-40	BGA500-6-40	5"	6.136	4.991	1.524	7.207	.978	#6–4/0
BG600-14-20	BGA600-14-20	6"	7.199	6.009	1.181	8.087	.978	#14–2/0
BG600-6-40	BGA600-6-40	6"	7.199	6.009	1.524	8.409	.978	#6–4/0

Suggested Specifications: Insulated grounding and bonding bushing (Series BG050-BG600)

Where code requires bonding and grounding of single or multiple metal conduits, or positive bonding and grounding of metal conduit to the box, enclosure or auxiliary gutter, the end of the conduit shall be equipped with an insulated metallic grounding and bonding bushing series BG050-14-20 as manufactured by Thomas & Betts.

Grounding and bonding bushings used shall be approved for the purpose and
(i) Shall be of malleable iron/steel/aluminum construction adequately protected against corrosion.

(ii) Bushing insulator shall be listed or certified for 150° C/302° F application with a flammability rating of 94V-O. Insulator must be positively locked in place.

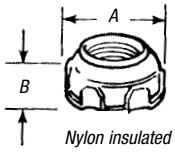
Bushings, Nipples, Locknuts and Plugs

Meets and surpasses NEC® requirements!

Insulated Throat Fittings



- Steel or malleable iron (steel through 1½")
- Exceeds NEC 373-6C requirements for protection of ungrounded connectors at entrance to raceways, pull boxes and junctions
- Recognizable by distinctive trademarked blue insulating liner in throat
- Reduces wire pulling effort by as much as 50%
- Temperature rating of 105° C
- Look for the unique T&B blue color, ensuring the highest quality fitting



Nylon insulated metallic bushings

CAT. NO.			DIMENSIONS (IN.)	
STL. OR M.I.	ALUM.	SIZE	A	B
1222	1222AL	½"	1 1/32	29/64
1223	1223AL	¾"	1 9/32	31/64
1224	1224AL	1"	1 19/32	11/32
1225	1225AL	1¼"	1 15/16	21/32
1226	1226AL	1½"	2 3/16	23/32
1227	1227AL	2"	2 11/16	7/8
1228	1228AL	2½"	3 3/16	1/32
1229	1229AL	3"	3 27/32	5/16
1230	1230AL	3½"	4 7/16	1 1/16
1231	1231AL	4"	4 7/8	1 3/32
1232†	1232AL†	4½"	—	—
586	586AL	5"	5 31/32	1 9/32
587	587AL	6"	7 3/16	1 11/32

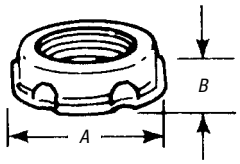
† *Not CSA Certified*

Catalog series 1222 thru 1232, 586 and 587 are available in aluminum. Add suffix AL to Cat. No. The aluminum series fittings are not CSA certified.

Locknut-type base improves bonding and resists loosening under vibration.

Metallic Bushings

- Aluminum, steel or malleable iron (steel through 1½")
- Smoothly rounded shoulder covers end of conduit
- Broad flange covers knockout hole
- High ribs for easy tightening with fingers or with wrench
- ½" to 1½" sizes, formed in steel, feature extra-smooth shoulders



CAT. NO.			DIMENSIONS (IN.)	
STL. OR M.I.	ALUM.	SIZE	A	B
122	122AL	½"	1 1/32	13/32
123	123AL*	¾"	1¼	7/16
124	124AL**	1"	1 5/16	½
125-TB	125AL	1¼"	1 29/32	9/16
126	126AL	1½"	2 5/32	19/32
127	127AL	2"	2 21/32	5/8
128	128AL	2½"	3 3/16	¾
129	129AL	3"	3 27/32	13/16
130-TB	130AL	3½"	4 3/8	15/16
131-TB	131AL	4"	4 15/16	1
132-TB	—	4½"	5 7/16	1 5/64
133-TB	133AL	5"	6	1 3/16
134-TB	134AL	6"	7¼	1¼

* *Not UL Listed or CSA Certified*

** *Not CSA Certified*

Available with DURA-PLATE® Finish.

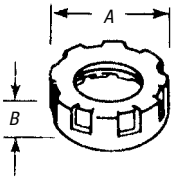
UL File No. E-23018

CSA File No. 2884

Perfect threads for easy thread-on!

Plastic Insulating Bushings





All Plastic Insulating Bushings

- Impact-resistant plastic insulation
- Ribbed for easy, secure gripping
- UL Listed 105° C

CAT. NO.	SIZE	DIMENSIONS (IN.) A	B
222-TB	½"	1 1/16	3/8
223-TB	¾"	1 9/32	13/32
224	1"	1 5/16	9/16
225-TB	1¼"	1 29/32	9/16
226	1½"	2 7/32	9/16
227	2"	2 25/32	5/8
228-TB	2½"	3 3/8	¾
229-TB	3"	4 1/16	¾
230-TB	3½"	4 5/8	7/8
231	4"	5 1/8	7/8
232	4½"	5 11/16	1
233	5"	6 5/16	1
234	6"	7 7/16	1

UL Rated flame retardant 94V-1

Thomas&Betts

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

www.tnb.com

Bushings, Nipples, Locknuts and Plugs

For threadless rigid conduit and intermediate metal conduit.

Insulating Bushing

Application

- When assembled to the end of a threadless conduit, provides a well-rounded insulating surface over which conductors may be pulled or on which conductors may bear while in service

Features

- Designed to be popped onto conduit end
- Fast, easy installation without screws
- High-impact thermoplastic construction

Standard Material

High-impact thermoplastic listed for 105° C (221° F) application

Flammability Classification 94 V-1

Standard Finish

As molded

Range

½" through 4" conduit

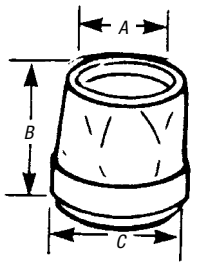
Listings/Compliances

UL (UL File No. E-13938)

CSA (LR-2884, LR-4484)

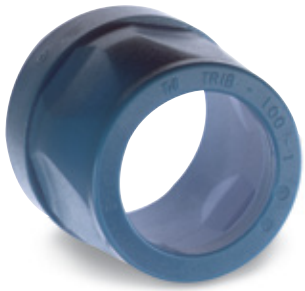
UL 514B

NFPA 70





TRIB-75

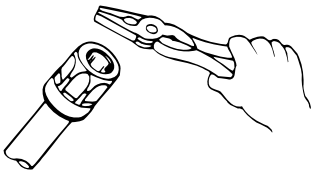


TRIB-100



TRIB-150

1. Cut conduit end squarely. Remove sharp edges and burrs on inside and outside diameters by reaming or filing.
2. Slip the pop-on bushing over the end of the conduit.
3. Using the flat surface of any standard utility tool such as an electrician's pliers (or a hammer with a block of wood for the larger sizes), strike the bushing on its top surface using a series of light blows until the end of the conduit rests against the bushing throat and conduit stop.



CAT. NO.	SIZE	DIMENSIONS (IN.) A	B	C
TRIB-50	½"	19/32	1 9/32	1 1/16
TRIB-75	¾"	25/32	1 25/64	1 1/4
TRIB-100	1"	1	1 1/2	1 9/16
TRIB-125	1 1/4	1 5/16	1 5/8	1 59/64
TRIB-150	1 1/2"	1 17/32	1 21/32	2 11/64
TRIB-200	2"	1 31/32	1 13/16	2 11/16
TRIB-250	2 1/2"	2 23/64	2	3 1/4
TRIB-300	3"	2 59/64	2 7/32	3 23/32
TRIB-350	3 1/2"	3 3/8	2 5/16	4 29/64
TRIB-400	4"	3 27/32	2 13/32	5

I.M.C. sizes ½" thru 4"

UL Rated flame retardant 94V-1

UL File No. E-13938

CSA File No. 2884

Bushings, Nipples, Locknuts and Plugs

Provides smooth, rounded insulation surface for easy wire pulling!

Knockout Bushings

- Quickly snaps into outlet box, switch box or other enclosure left vacant by wiring modifications or maintenance changes
- High-impact polycarbonate, one-piece construction
- Easily installed by hand
- UL Listed 105° C

Application

- To provide smooth, rounded knockout openings in metal boxes or enclosures

Features

- One-piece construction designed to snap in place
- High-impact strength, self extinguishing, non-dripping (per UL 94) polycarbonate construction

Standard Material

Polycarbonate rated for 105° C (221° F) application

Standard Finish

As molded

Range

.875" through 2.469" nominal diameter knockout opening (½" through 2" trade size knockouts)

Wall thickness of box or enclosure

.095" max. up to 1" trade size

.140" max. 1¼" through 2" trade size

Listings/Compliances

UL (UL File No. E-3803)

CSA (LR-589,LR-4484)

UL 514B

CSA C22.2 No. 18

NFPA 70-1999 (ANSI)





3210 Series

CAT. NO.	FOR USE IN KO SIZE*	DIMENSION (IN.) B
3210	.875	.360
3211	1.109	.360
3212	1.375	.360
3213	1.734	.400
3214	1.984	.520
3215	2.469	.520

** Per UL and NEMA standards. Refer to Knockout Plugs table on **next page.***

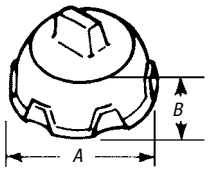
Oxygen index >28° *UL 94V-1*

UL File No. E-3803 *CSA File No. 589*

Makes a workman-like seal against grit, plaster and mischief!

Capped Bushings

- Removable with pliers
- ½" through 1¼" sizes in steel
- 1½" and 2" sizes in malleable iron





CAT. NO.	SIZE	DIMENSIONS (IN.) A	B
1460	½"	1 1/32	13/32
1461	¾"	1¼	7/16
1462	1"	1 9/16	½
1463	1¼"	1 29/32	9/16
1464	1½"	2 5/32	19/32
1465	2"	2 21/32	⅝

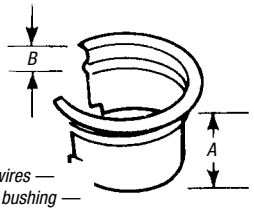
UL File No. E-23018 *CSA File No. 2884*

Snaps into a regular bushing to make a UL Listed insulated bushing!

INSULINER® Sleeves

- Converts ordinary bushing to code-approved insulated bushing without disturbing wiring
- For use with standard rigid conduit, EMT (thinwall conduit) or any standard bushed outlet
- Especially suited for use with flexible metallic conduit
- High-dielectric nylon material, rated 105° C





Slip over wires — insert into bushing — snaps into place

CAT. NO.	SIZE	DIMENSIONS (IN.) A	B
422	½"	⅝	.025
423	¾"	11/16	.025
424	1"	⅞	.025
425	1¼"	1	.030
426	1½"	1	.030
427	2"	1⅛	.030
428	2½"	1¼	.040
429	3"	1½	.040
430	3½"	1 25/32	.055
431	4"	2 1/32	.055
433	5"	2½	.070
434	6"	2½	.070

Oxygen index >28° *UL File No. E-23018* *CSA File No. 589*

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Bushings, Nipples, Locknuts and Plugs

Made from flame-retardant, non-dripping thermoplastic, UL rated 105° C!

Knockout Plugs



1451 Series

Application

- To plug unused knockout openings in a box or enclosure

Features

- One-piece construction designed to snap in place
- High impact strength self-extinguishing non-dripping (per UL 94) thermoplastic construction

Standard Material

Thermoplastic rated for 105° C (221° F) application

Standard Finish

As molded

Range

.875" through 2.469" Nominal Diameter

Knockout opening (½" through 2" trade size knockouts)

Wall thickness of box or enclosure

.095" max. up to 1" trade size

.140" max. through 2" trade size

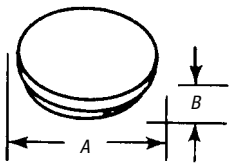
Listings/Compliances

UL (UL File No. E13938)

CSA (LR589)

UL 514B

NFPA 70



105° C rated by UL. Made from flame retardant, non-dripping thermoplastic.

CAT. NO.	SIZE	DIMENSION (IN.) A	B
1451	½"	1.060	.400
1452	¾"	1.300	.400
1453	1"	1.590	.400
1454	1¼"	1.860	.450
1455	1½"	2.240	.570
1456	2"	2.740	.570

Wall thickness of electrical box .095 max.
Meets Coast Guard Regulation CB293.
UL File No. E-13938 CSA File No. 4484

Eliminates need for separate capped bushing or steel penny and bushing!



Push-Penny® Plugs

Application

- To plug open end of conduit or connector in order to prevent ingress of trash, dirt or moisture during construction and remodeling

Features

- Wide range of applications; can be used with rigid metal conduit, intermediate metal conduit, electrical metallic tubing, all connnectors and all bushings
- Designed to stand up to normal handling and is functionally unaffected by moisture
- Economically seal out grout and plaster from any fitting or raceway conforming to CSA dimensional tolerances
- Just push into place
- Pressure holds plug fast against internal surface of fitting or raceway
- Made of flexible plastic

Standard Material

Polyethylene

Standard Finish

As molded

Listings/Compliances

CSA (LR2884, LR4484)

UL 514B

CSA C22.2 No. 18

NFPA 70

NEMA FB1

CAT. NO.	SIZE
1470	½"
1471	¾"
1472	1"
1473	1¼"
1474	1½"
1475	2"
1476*	2½"
1477*	3"
1478*	3½"
1479*	4"

**Not CSA Certified.*
CSA File No. 2884
UL not applicable.

Made to fit any bushing!

Steel Pennies

- Used under a bushing to seal end of conduit during construction
- Completely salvageable



CAT. NO.	SIZE
815-TB	½"
816	¾"
817	1"
818	1¼"
819	1½"
820	2"

CAT. NO.	SIZE
821	2½"
822	3"
824	3½"
823	4"

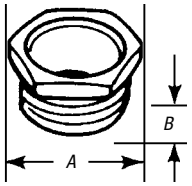
UL not applicable.
CSA File No. 2884

Bushings, Nipples, Locknuts and Plugs

Bush holes in metal boxes or enclosures!

CHASE® Nipples





- ⅜" and ½" sizes in steel
- ¾" to 6" sizes in malleable iron
- ½" to 4" sizes in copper-free aluminum

CAT. NO.			DIMENSIONS (IN.)	
STL. OR M.I.	ALUM.	SIZE	A	B
841TB	—	⅜"	15/16	7/16
842TB	842ALTB†	½"	1 9/16	43/64
843TB	843ALTB	¾"	1⅜	19/32
844	844AL†	1"	1 11/16	3/64
845	845AL†	1¼"	2 1/32	25/32
846	846AL	1½"	2⅜	13/16
847	847AL	2"	2 15/16	31/32
848	848AL	2½"	3 3/16	1 1/16
849	849AL	3"	4⅜	1¼
850	850AL	3½"	5⅛	1 5/16
851	851AL	4"	5⅛	1 5/16
853	—	5"	6½	1 5/16
854	—	6"	7⅝	1⅜

† *Not UL Listed*

Available with DURA-PLATE® Finish.

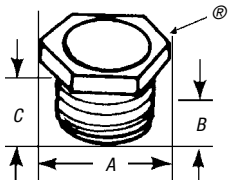
UL File No. E-23018

CSA File No. 2884

Nylon insulator offers extra protection!

CHASE® Nipples — Nylon-Insulated





- ⅜" and ½" sizes in steel
- ¾" to 6" sizes in malleable iron
- ½" to 6" sizes in copper-free aluminum
- Look for the unique T&B blue color ensuring the highest quality fitting available

		DIMENSIONS (IN.)		
CAT. NO.	SIZE	A	B	C
1942	½"	1 9/64	7/16	19/32
1943	¾"	1⅜	17/32	23/32
1944	1"	1 11/16	21/32	⅞
1945	1¼"	2 1/32	25/32	1 1/32
1946	1½"	2⅜	13/16	1 3/32
1947	2"	2 15/16	31/32	1 11/32
1948	2½"	3 3/16	1 1/16	1 7/16
1949	3"	4⅜	1 3/16	1 19/32
1950	3½"	5⅛	1 5/16	1 25/32
1951	4"	5⅛	1 5/16	1 13/16
1953	5"	6⅜	1 5/16	1 13/16
1954	6"	7⅝	1⅜	1⅞

UL File No. E-23018

CSA File No. 2884

Thomas&Betts

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800.816.7809
Fax: 901.252.1354

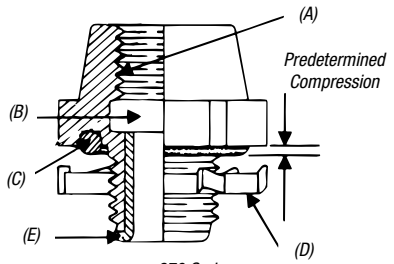
Technical Services
Tel: 888.862.3289

www.tnb.com

Hubs and Bulkhead Fittings

For threaded rigid metal conduit/IMC/PVC-coated rigid metal conduit.

Threaded Hubs (Bullet® Hubs)



370 Series
370AL Series

Application

- To connect threaded metal conduit (ferrous rigid/non-ferrous rigid/PVC coated/or intermediate metal) to a threadless opening in a box or enclosure in outdoors or indoor location exposed to continuous or intermittent moisture
- To positively bond conduit to box or enclosure

Features

- Rugged steel/malleable iron/copper-free aluminum construction
- Tapered internal threads for water-tight/dust-tight union (A)
- Threads relieved to prevent bottoming of conduit, ensuring sound assembly (B)
- Recessed sealing ring at box end; sealing ring captivated (C)
- Hardened steel/malleable iron/copper-free aluminum locknuts designed to provide high-quality ground continuity; extended reach of locknut permits clamping on thin boxes and enclosures (D)
- Insulated throat, insulates conductors, prevents abrasion and thinning of conductor insulation, reduces wire pull effort (E)
- Suitable for hazardous location use per following:
  - (i) Class I Division 2, Class II Division 1 & 2, Class III Division 1 & 2 per NEC® 501.10(B), 502.40(A) and (B) and 503.16(A) and (B)
  - (ii) Class II locations & Class III locations per CEC 18-202; 18-252; 18-302; 18-352

National Electrical Code® states that, "Where practical, dissimilar metals in contact anywhere in the system shall be avoided to eliminate the possibility of galvanic action." The only exceptions, aluminum fittings and enclosures, are permitted to be used with steel conduit.

Joint Industrial Council (JIC) Electrical Standards also forbid dissimilar metals in contact for the same reason and require that the fittings for metal conduit be of malleable iron or ductile iron and have impact strength comparable to that of the conduit.

Copper-Free Aluminum

Copper free aluminum castings for fittings have a maximum of .4% copper. The most detrimental effect of higher percentage of copper on aluminum base alloy is its decrease in corrosion resistance.

Standard Material

	370-401 Series	370AL
Body:	½" thru 1" Steel 1¼" thru 6" Malleable Iron	All Copper-Free Aluminum
Locknut:	½" thru 2" Steel (hardened) 2½" thru 6" Malleable Iron	½" thru 2" Steel (hardened) 2½" thru 4" Copper-Free Aluminum
Screws:	Steel (hardened)	
O-Ring:	Buna N	
Insulator:	Nylon	
Coating:	PVC	

Standard Finish

	370-401 Series	370AL
Hub:	Electro Zinc Plated Chromate Coated	As Cast
Locknuts:	All Ferrous Locknuts Electro Zinc Plated and Chromate Coated	
Screws:	All Electro Zinc Plated and Chromate Coated	

Range

370 Series: ½" thru 6" Conduit

370AL & 401 Series:
½" thru 4" Conduit
All hub threads — straight pipe
All female threads — taper pipe (NPT)

Listing/Compliances

UL (UL File No: E-23018)
CSA (LR-637, LR-23086)
UL 514B
CSA C22.2 No. 18
NFPA 70
NEMA FB-1
JIC EGP1; JIC EMP 1
Federal Specification A-A-50553
Federal Standard H-28 (Threads)

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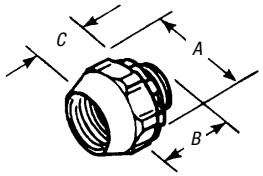
Hubs and Bulkhead Fittings

UL Listed rain tight and CSA Certified watertight and dust tight.

Steel/Malleable Iron and Aluminum Bullet® Hub Connectors*†

- Available in steel/malleable iron (steel through 1") with nylon-insulated throat — with or without Series 106 bonding locknut
- Also available in aluminum without insulated throat
- When used with neoprene O-ring, provides watertight threaded hub on enclosures
- UL Listed 105° C
- Look for the unique T&B blue color ensuring the highest quality fitting





CAT. NO.				DIMENSIONS (IN.)			
STEEL/M.I.	ALUM.**	STEEL/M.I. W/LOCKNUT	HUB SIZE (IN.)	A	B	C	MAX. WALL THICKNESS (IN.)
370	**370AL**	**401**	½"	1⅜	1¼	¾	5/16
371	**371AL**	**402**	¾	1⅝	1¼	¾	5/16
372	**372AL**	**403**	1"	2³⁄₃₂	1⅜	⅞	5/16
373	**373AL**	**404-TB**	1⅛"	2⁹⁄₁₆	1⅝	1	5/16
374	**374AL**	**405**	1½"	3³⁄₃₂	1⅝	1	5/16
375	**375AL**	**406-TB**	2"	3⅝	1⅝	1	5/16
376	—	**407**	2½"	4⅛	1⅞	1⅛	⅜
377	—	**408**	3"	5	2½	1½	½
378	—	**409**	3½"	5⁹⁄₁₆	2½	1½	½
379	—	**410-TB**	4"	6³⁄₁₆	2½	1½	½
381	—	—	5"	8	3⅛		½
382	—	—	6"	9³⁄₁₆	3⅛		½

** Suitable for hazardous locations use in Class I, Div. 2; Class II, Div. 2; Class III, Div. 1 and 2 where general purpose equipment is specifically permitted per NEC Section 500-2(a).*

*** Aluminum not available with insulated throat.*

† UL Listed rain tight and CSA Certified watertight and dust tight

Available with DURA-PLATE® finish.

UL File No. E-23018

For Stl.: CSA File No. 2284

For AL.: CSA File No. 0637

Spacing Chart for Bullet® Hubs

	CENTER-TO-CENTER SPACING CONDUIT SIZES												MIN. SPACE FROM CENTER OF BULLET® HUB TO WALL OF BOX	KO DIAMETERS (MIN.)
	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6		
½	1⁷⁄₁₆	1⅝	1¾	2⅛	2⅜	2⅝	2⅞	3⁵⁄₁₆	3½	3⅞	4⅞	5⁵⁄₁₆	¾	⅞
¾	—	1¾	1⅞	2¼	2½	2¾	3	3½	3¾	4⅛	4¹³⁄₁₆	5½	⅞	1⅛
1	—	—	2	2⅜	2⅝	2⅞	3⅛	3⅜	3⅞	4¼	4¹⁵⁄₁₆	5¹¹⁄₁₆	1⅛	1⅜
1¼	—	—	—	2¹¹⁄₁₆	2¹⁵⁄₁₆	3¼	3½	4	4¼	4½	5⁵⁄₁₆	5¾	1⅜	1¾
1½	—	—	—	—	3⅛	3½	3¾	4⅛	4⅜	4¾	7⁷⁄₁₆	6⁹⁄₁₆	1⅝	2
2	—	—	—	—	—	3¾	4	4½	4¾	5	5¾	6½	1⅞	2½
2½	—	—	—	—	—	—	4¼	4¾	5	5⅜	6	6¾	2⅛	3
3	—	—	—	—	—	—	—	5⅛	5⅜	5¾	6⅜	7⅛	2⅝	3⅝
3½	—	—	—	—	—	—	—	—	5⅝	6	6¾	7½	2⅞	4⅛
4	—	—	—	—	—	—	—	—	—	6¼	7⅛	7⅞	3¼	4⅝
5	—	—	—	—	—	—	—	—	—	—	8	8¾	4	5½
6	—	—	—	—	—	—	—	—	—	—	8¾	9½	4¾	6½

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Hubs and Bulkhead Fittings

T&B® Hub



Never before has a single hub fit like this one. Designed for unequalled performance. The innovative engineering of the T&B® Hub will, quite simply, raise your performance expectations for threaded hubs. Look for the distinctive blue color to ensure the quality of a Thomas & Betts fitting.

1. Sealing Ring and Groove with innovative profile outperforms standard O-ring design. Sealing ring is captivated in place before installation and resists buckling or slipping during installation. The seal groove is designed for optimum compression of the sealing ring. The sealing ring is designed to provide a complete 360° seal, even when the conduit is not perpendicular with the enclosure. (See Figure 1)
2. Locknut Design with peripheral slots and a hexagonal/angled spline spaced every 30° enables easy application of torque with wrench or hammer and screwdriver. (See Figures 2 & 3)
3. Sharper and Deeper Teeth on locknut and body designed for a more penetrating bite for improved bonding to the enclosure.
4. Hexagonal/Splined Body Design for fast, easy installation with wrench or hammer and screwdriver.
5. Precision Machined Tapered Threads designed to create watertight union.
6. Insulated Throat molded from 105° C rated thermoplastic with a flammability rating of 94 V-O.

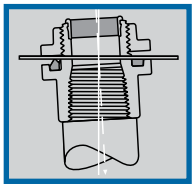


Fig. 1

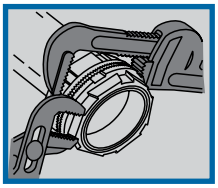


Fig. 2

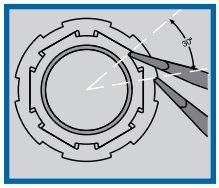


Fig. 3

CAT. NO.	A TRADE SIZE	A DIA.	B	C	D MAX. PANEL THICKNESS	E THROAT DIA.
H050-TB	½	1 7/16	1 9/16	7/8	3/16	19/32
H075-TB	¾	1 7/16	1 19/32	29/32	3/16	25/32
H100-TB	1	2	1 13/16	1 1/16	¼	1
H125-TB	1¼	2 3/8	1 7/8	1 1/16	¼	1 5/16
H150-TB	1½	2¾	1 7/8	1 1/16	¼	1 17/32
H200-TB	2	3¼	1 15/16	1 5/32	¼	1 31/32
H250-TB	2½	3¾	2 9/16	1 9/16	¼	2 13/32
H300-TB	3	4⅜	2 7/16	1 19/32	¼	2 31/32
H350-TB	3½	5	2 23/32	1⅝	¼	3 13/32
H400-TB	4	5½	2 23/32	1⅝	¼	3⅞
H500-TB	5	6⅞	3 1/32	1 15/16	¼	4 15/16
H600-TB	6	7 11/16	3 5/32	2	5/16	6

Material – Hub and Locknut: Zinc or copper-free aluminum

Insulating Throat: Thermoplastic temp. rating – 105° C
Flammability Rating – 94V-0

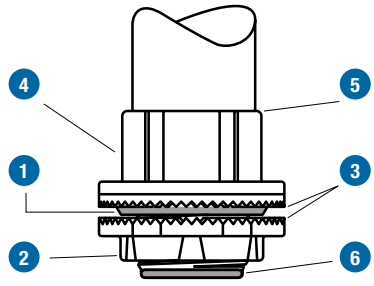
Sealing Ring: Nitrile (BUNA "N")

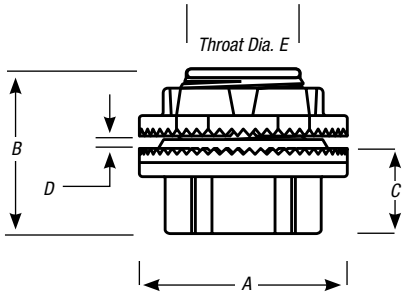
For Aluminum Hubs, add suffix A (i.e., H050A). For Chrome-Plated Hubs, add suffix CP (i.e., H050CP). For 316 Stainless Steel Hubs, add suffix GRSST (i.e., H050GRSST). (½" through 2" only.) Meets NEMA sealing requirements for NEMA 3R, 4 & 13 enclosures. CP and SST hubs are also rated NEMA 4X and 12.

UL Listed per NEC® 501.10(B). CSA Certified for hazardous locations Class II Groups E, F, G, Class III

UL File No. E-23018 *CSA File No. 4484*

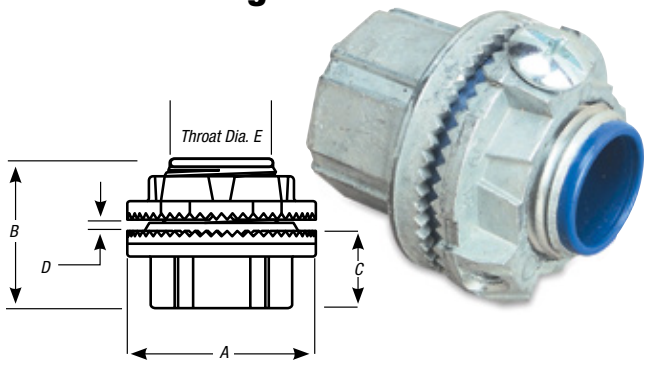
Chrome-Plated Hubs (suffix-"CP"s) are rated NEMA 4X.





Hubs and Bulkhead Fittings

T&B® Grounding Hub



CAT. NO.	TRADE SIZE	A DIA.	B	C	D MAX. PANEL THICKNESS	E THROAT DIA.
H050GR-TB	½	1 7/16	1 9/16	7/8	3/16	1 9/32
H075GR-TB	¾	1 7/16	1 19/32	29/32	3/16	25/32
H100GR-TB	1	2	1 13/16	1 1/16	1/4	1
H125GR-TB	1¼	2 3/8	1 7/8	1 1/16	1/4	1 5/16
H150GR-TB	1½	2 3/4	1 7/8	1 1/16	1/4	1 17/32
H200GR-TB	2	3 1/4	1 15/16	1 5/32	1/4	1 31/32
H250GR-TB	2½	3 3/4	2 9/16	1 9/16	1/4	2 13/32
H300GR-TB	3	4 3/8	2 7/16	1 19/32	1/4	2 31/32
H350GR-TB	3½	5	2 23/32	1 5/8	1/4	3 13/32
H400GR-TB	4	5 1/2	2 23/32	1 5/8	1/4	3 7/8
H500GR-TB	5	6 7/8	3 1/32	1 15/16	1/4	4 15/16
H600GR-TB	6	7 11/16	3 5/32	2	5/16	6

Material – Hub and Locknut: Zinc or copper-free aluminum
Insulating Throat: Thermoplastic temp. rating – 105° C
Flammability Rating – 94V-0
Sealing Ring: Nitrile (BUNA "N")

For Aluminum Hubs, add suffix A (i.e., H050A). For Chrome-Plated Hubs, add suffix CP (i.e., H050CP). For 316 Stainless Steel Hubs, add suffix GRSST (i.e., H050GRSST). (½" through 2" only.) Meets NEMA sealing requirements for NEMA 3R, 4 & 13 enclosures.

UL Listed and CSA Certified. CSA Certified for hazardous locations Class II and Class III locations.

UL File No. E-23018
CSA File No. 4484

Chrome-Plated Hubs (suffix-"CP") are rated NEMA 4X.

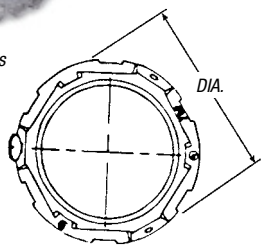
T&B Hub Centerline Spacing Chart

CONDUIT TRADE SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"	5"	6"
½"	1 9/16											
¾"	1 43/64	1 25/32										
1"	1 27/32	1 61/64	2 1/8									
1¼"	2 1/32	2 3/64	2 5/16	2 1/2								
1½"	2 7/32	2 21/64	2 1/2	2 11/16	2 7/8							
2"	2 15/32	2 37/64	2 3/4	2 15/16	3 1/8	3 3/8						
2½"	2 23/32	2 53/64	3	3 3/16	3 3/8	3 5/8	3 7/8					
3"	3 1/32	3 3/64	3 5/16	3 1/2	3 11/16	3 15/16	4 3/16	4 1/2				
3½"	3 11/32	3 21/64	3 5/8	3 13/16	4	4 1/4	4 1/2	4 13/16	5 1/8			
4"	3 19/32	3 45/64	3 7/8	4 1/16	4 1/4	4 1/2	4 3/4	5 1/16	5 3/8	5 5/8		
5"	4 9/32	3 25/64	4 9/16	4 3/4	4 15/16	5 3/16	5 7/16	5 3/4	6 1/16	6 5/16	7	
6"	4 11/16	4 51/64	4 31/32	5 5/32	5 11/32	5 19/32	5 27/32	6 5/32	6 15/32	6 23/32	7 13/32	7 13/16
Nearest Obstruction to Center of Hub	27/32	61/64	1 1/8	1 5/16	1 1/2	1 3/4	2	2 5/16	2 5/8	2 7/8	2 9/16	3 31/32

T&B® Grounding and Bonding Locknut



Grounding Locknut for Hubs



CAT. NO.	TRADE SIZE	DIA.	HEIGHT	GROUND SCREW	MAX. CONDUCTOR SIZE
L050GR-TB	½	1½	13/32	#10-32 x ¼"	#10
L075GR-TB	¾	1 11/16	13/32	#10-32 x ¼"	#10
L100GR-TB	1	2	13/32	#10-32 x ¼"	#10
L125GR-TB	1¼	2 3/8	15/32	¼-20 x ¼"	#10
L150GR-TB	1½	2¾	15/32	¼-20 x 5/16"	#8
L200GR-TB	2	3¼	15/32	¼-20 x 5/16"	#8
L250GR-TB	2½	3¾	1 1/16	¼-20 x 5/16"	#6
L300GR-TB	3	4 3/8	23/32	¼-20 x 5/16"	#6
L350GR-TB	3½	5	23/32	¼-20 x 5/16"	#6
L400GR-TB	4	5½	23/32	¼-20 x 5/16"	#4
L500GR-TB	5	6 7/8	23/32	3/8-16 x 3/8"	#2
L600GR-TB	6	7 11/16	23/32	3/8-16 x 3/8"	#1

Material – Locknut: Zinc or copper-free aluminum *UL File No. E-3060*
For Aluminum Locknuts, add suffix A. (i.e., L050GRA). *CSA File No. 4484*
For Chrome-Plated Locknuts, add suffix CP. (i.e., L050CP). For 316 Stainless Steel Locknuts, add suffix SST (½" through 2" only.) For Locknut with Lay In Lug, add suffix GRL.

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Hubs and Bulkhead Fittings

Raintight for Rigid or Intermediate Metal Conduit (IMC)

Chase® Threaded Conduit Hubs

Applications

- A fitting for connecting junction box to junction box, or junction box to the conduit system. The resulting connection maintaining ground continuity is raintight.
- Suitable for use where the system is normally hosed down (NEMA 4) for cleaning.

Features

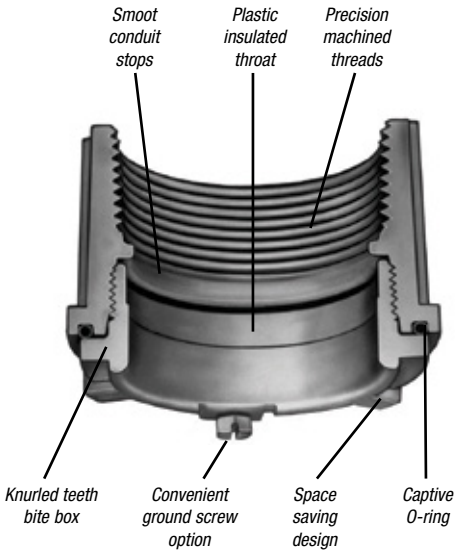
- Plastic insulated throat, precision cast and machined surfaces permit safer wire pulling.
- Chase® design provides maximum space for wiring in the box. Locking nipple sits flush in the enclosure.
- Captive O-ring fits snugly in groove preventing loss and fumbling with parts.
- Knurled inner face of locking nipple provides 360 degrees of locking and bites through box wall to ensure grounding.
- Locking nipple has tightening lugs on two planes for easier assembly in hard to reach field conditions.
- Grounding hubs have a ground screw located within the enclosure providing a tamper-proof ground for device.
- Locking nipple design permits replacement of the box without disassembling the installation.



HT, HTZ



HTGZ



Standard Materials

HTZ Series: Certified die cast zinc alloy ZAMAK 3

HT Series: Die cast aluminum alloy A360 with less than .004 copper content (copper-free)

O-ring: Buna N

Insulating Sleeves: Plastic

Standard Finish

Aluminum lacquer finish

Listings/Compliances

UL Listed

CSA Certified

Suitable for use in Wet Locations

NEMA 4

Hubs and Bulkhead Fittings

CHASE® Hub with Insulated Throat



HTZ

CAT. NO.	HUB SIZE	STD. PKG.	WT. LBS. APP. PER 100
HTZ1	½"	25	26
HTZ2	¾"	25	32
HTZ3	1"	25	45
HTZ4	1¼"	10	58
HTZ5	1½"	10	74
HTZ6	2"	10	93
HTZ7	2½"	5	202
HTZ8	3"	2	250
HTZ9*	3½"	2	300
HTZ10*	4"	2	360

Made to order item. Consult factory for lead time and minimum quantities.

CHASE® Hub with Insulated Throat and Ground Screw



HTGZ

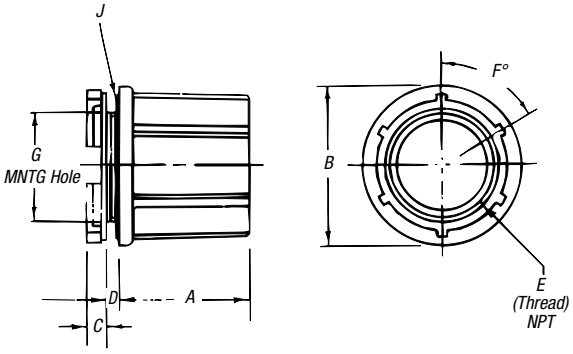
CAT. NO.	HUB SIZE	STD. PKG.	WT. LBS. APP. PER 100
HTGZ1	½"	25	22
HTGZ2	¾"	25	34
HTGZ3	1"	25	44
HTGZ4	1¼"	10	61
HTGZ5	1½"	10	75
HTGZ6	2"	10	95
HTGZ7	2½"	5	204
HTGZ8	3"	2	265
HTGZ9	3½"	2	270
HTGZ10	4"	2	360

CHASE® Aluminum Hub with Insulated Throat



HT

CAT. NO.	HUB SIZE	STD. PKG.	WT. LBS. APP. PER 100
HT1	½"	25	12
HT2	¾"	25	14
HT3	1"	25	20
HT4	1¼"	10	27
HT5	1½"	10	32
HT6	2"	10	44
HT7	2½"	5	85
HT8	3"	2	120
HT9	3½"	2	138
HT10	4"	2	155



HTZ, HTGZ and HT Dimensions

HUB SIZE	A	B	C	PANEL WIDTH D	E	F	MIN. G	MAX. H	O-RING SIZE J
½"	1 3/8	1 13/32	1/4	3/16	½–14	60	21/32	59/64	214
¾"	1 3/8	1 21/32	1/4	3/16	¾–14	60	1 3/32	1 11/64	218
1"	1 19/32	1 7/8	1/4	3/16	1–11½	60	1 5/16	1 22/32	222
1¼"	1 23/32	2 5/16	1/4	1/4	1¼–11½	60	1 43/64	1 51/64	225
1½"	1 3/4	2 5/8	1/4	1/4	1½–11½	60	1 29/32	2 13/64	227
2"	1 25/32	3 5/32	1/4	1/4	2–11½	60	2 3/8	2 21/32	231
2½"	2 1/4	2 45/64	3/8	1/4	2½–8	45	2 7/8	3 5/32	236
3"	2 21/64	4 5/16	3/8	1/4	3–8	45	3 1/2	3 49/64	241
3½"	2 23/64	4 13/16	3/8	1/4	3½–8	45	4	4 7/16	245
4"	2 3/8	5 5/16	3/8	1/4	4–8	45	4 1/2	4 63/64	248

Thomas&Betts

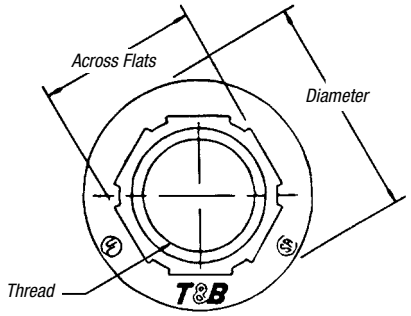
United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

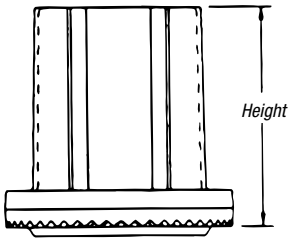
Technical Services
Tel: 888.862.3289

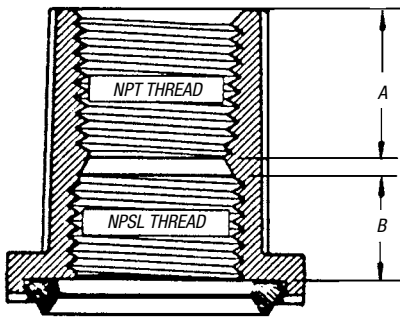
www.tnb.com

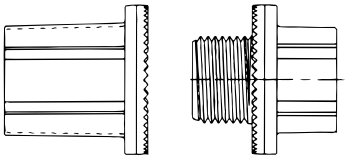
Hubs and Bulkhead Fittings

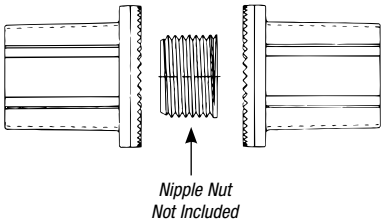
T&B® Bulkhead Fittings

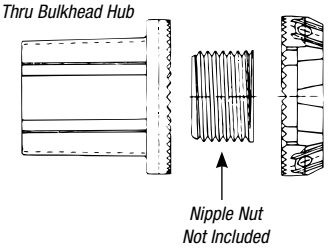












CAT. NO.	TRADE SIZE (IN.)
Bulkhead Fitting	
H050BHD	½
H075BHD	¾
H100BHD	1
H125BHD	1¼
H150BHD	1½
H200BHD	2
H250BHD	2½
H300BHD	3
H350BHD	3½
H400BHD	4
H500BHD	5
H600BHD	6
Thru Bulkhead Fitting	
H050TBF	½
H075TBF	¾
H100TBF	1
H125TBF	1¼
H150TBF	1½
H200TBF	2
Thru Bulkhead Hub	
H050TBH	½
H075TBH	¾
H100TBH	1
H125TBH	1¼
H150TBH	1½
H200TBH	2

TRADE SIZE	THREAD	HEIGHT	DIAMETER	ACROSS FLATS	A (IN.)	B (IN.)
½"	½"–14"	1 13/32"	1 7/16"	1"	¾	½
¾"	¾"–14"	1 15/32"	1 11/16"	1¼"	25/32	17/32
1"	1"–11½"	1 11/16"	2"	1 17/32"	29/32	19/32
1¼"	1¼"–11½"	1 25/32"	2 3/8"	1 27/32"	29/32	21/32
1½"	1½"–11½"	1 13/16"	2¾"	1⅞"	29/32	21/32
2"	2"–11½"	1 27/32"	3¼"	2⅝"	15/16	21/32
2½"	2½"–8"	2 9/32"	3¾"	3⅛"	1 7/32	⅞
3"	3"–8"	2 9/16"	4⅜"	3 25/32"	1 3/16	29/32
3½"	3½"–8"	2 9/16"	5"	4 9/32"	1⅜	⅞
4"	4"–8"	2 9/16"	5½"	4 27/32"	1⅜	⅞
5"	5"-8"	2 23/32"	6 5/8"	5 29/32"	1 15/32	⅞
6"	6"–8"	3"	7 11/16"	7 1/32"	1½	31/32

Material — Hub, Body and Locknut: Zinc or copper-free aluminum

Insulating Throat: Thermoplastic temp. rating – 105° C, Flammability Rating – 94V-0

Sealing Ring: Nitrile (BUNA "N")

For Aluminum Bulkheads, add suffix A.

For Chrome-Plated Bulkheads, add suffix CP.

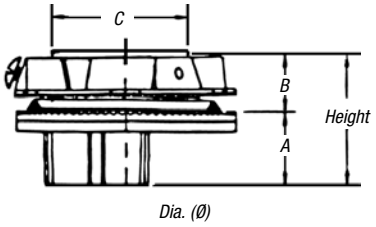
Meets NEMA sealing requirements for NEMA 3R, 4 & 13 enclosures.

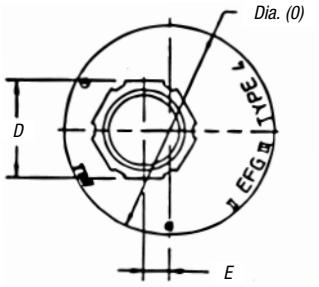
UL File No. E-3060

CSA File No. 4484

Hubs and Bulkhead Fittings

Offset Reducers



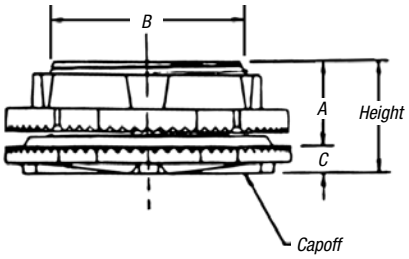


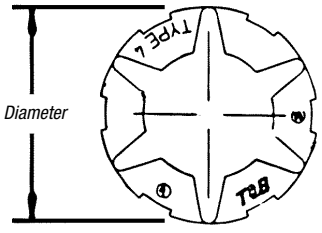
CAT. NO.	TRADE SIZE	HEIGHT	DIA. (Ø)	(IN.) A DIA.	B	C	D	E
H150-TB0750RGR	1½"–¾"	1 21/32"	2¾	15/16	23/32	1 29/32	1 9/32	11/32
H150-TB1000RGR	1 9/32"–1"	1 25/32"	2¾	1 1/16	23/32	1 29/32	1 9/16	7/32
H150-TB1250RGR	1 9/32"–1¼"	1 25/32"	2¾	1 1/16	23/32	1 29/32	1⅞	1/32
H250-TB2000RGR	2½"–2"	2⅛"	3¾	1 3/16	15/16	2 29/32	2 21/32	3/32

Material — Offset Reducer and Locknut: Zinc or copper-free aluminum
Insulating Throat: Thermoplastic Temp. Rating – 105° C, Flammability Rating – 94V-0
Sealing Ring: Nitrile (BUNA "N")

For Aluminum Offset Reducer, add suffix A.
For Chrome-Plated Offset Reducer, add suffix CP.
Meets NEMA sealing requirements for NEMA 3R, 4 & 13 enclosures.
CSA Certified for hazardous locations Class II Groups E.F.G. Class III.
UL File No. E-3060
CSA File No. 4484

Capoffs





CAT. NO.	TRADE SIZE	HEIGHT	(IN.) DIAMETER	A	B	C
H050CAP	½"	1 13/32"	1 7/16	19/32	27/32	3/16
H075CAP	¾"	1 15/32"	1 11/16	19/32	1 1/16	3/16
H100CAP	1"	1 11/16"	2	11/16	1 3/16	¼
H125CAP	1¼"	1 25/32"	2⅜	23/32	1 21/32	¼
H150CAP	1½"	1 13/16"	2¾	23/32	1 29/32	¼
H200CAP	2"	1 27/32"	3¼	23/32	2⅜	¼
H250CAP	2½"	2 9/32"	3¾	⅞	2 29/32	¼
H300CAP	3"	2 9/16"	4⅜	⅞	3 1/32	11/32
H350CAP	3½"	2 9/16"	5	29/32	4 1/32	11/32
H400CAP	4"	2 9/16"	5½	29/32	4½	11/32
H500CAP	5"	2 23/32"	6⅝	29/32	5 9/16	11/32
H600CAP	6"	3"	7⅝	31/32	6⅝	11/32

Material — Capoff and Locknut: Zinc or copper-free aluminum
Insulating Throat: Thermoplastic temp. rating – 105° C, Flammability Rating – 94V-0
Sealing Ring: Nitrile (BUNA "N")

For Aluminum Capoff, add suffix A.
For Chrome-Plated Capoff, add suffix CP.
Meets NEMA sealing requirements for NEMA 3R, 4 & 13 enclosures.
CSA Certified for hazardous locations Class II Groups E.F.G. Class III.
UL File No. E-3060
CSA File No. 4484

Thomas&Betts
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Fax: 901.252.1354
Technical Services
Tel: 888.862.3289
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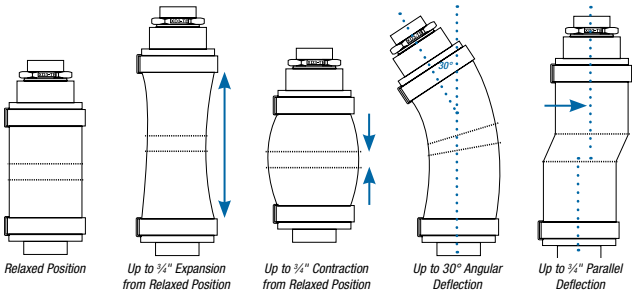
Couplings and Accessories

Watertight, flexible connections support movement and thermal expansion!

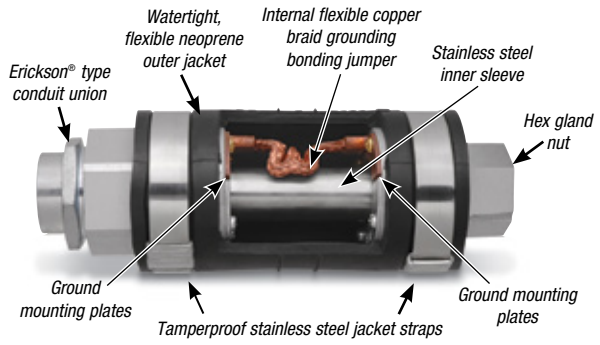
XD Expansion/Deflection Coupling

Use the T&B XD Expansion/Deflection Coupling to join two conduit runs in applications where movement in any direction is required. The coupling provides a flexible, watertight connection, accommodating axial or parallel movement of up to ¾" and angular movement of up to 30° from normal.





- Ideal for use in bridges, tunnels, interbuilding walkways, docks and piers, wastewater and water treatment facilities and other applications in which conduit runs are subject to movement due to external forces or temperature changes
- Suitable for use indoors, outdoors, direct buried or embedded in concrete
- Watertight, flexible neoprene outer jacket, zinc-plated and acrylic-painted hubs and stainless steel tamperproof straps ensure superior corrosion resistance — ideal for use in harsh environments
- Copper ground mounting plates and grounding bonding jumper both entirely enclosed to safeguard against theft
- Includes an Erickson® type conduit union for faster, easier installation to reduce labor costs
- Durable stainless steel inner sleeve provides a constant, smooth inner diameter in any position to ease wire pulling and protect wire insulation from damage
- NPT threaded hubs fit standard threaded rigid metal conduit
- Can also be used with rigid PVC conduit with the use of standard adapters (not supplied)



Listings/Compliances

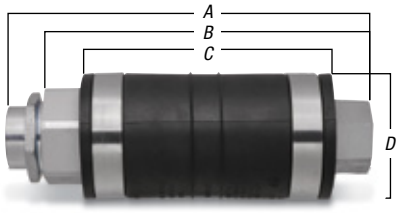
UL® Listed to UL 514B and CSA Certified to C22.2 No. 18.3
Suitable for Wet Locations (hub sizes 1"–6")

Watertight — NEMA 4

NEC® Article 250.98 and 300.4(A) compliant

Standard Materials/Finish

Hub	Ductile cast iron, zinc-plated and aluminum acrylic painted
Inner Sleeve	Stainless steel
Internal Grounding Bonding Jumper	Flexible copper braid
Ground Mounting Plates	Copper
Hub Rings	Zinc-plated steel
Outer Jacket	Molded neoprene (natural black)
Jacket Straps	Stainless steel

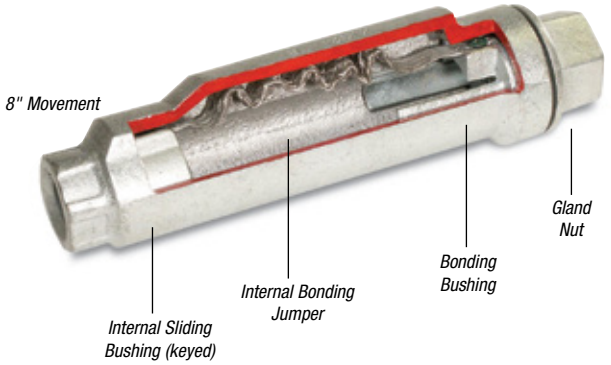


CAT. NO.	HUB SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D
XD3-TB	1	9 13/16	8 15/32	6 7/16	3 11/32
XD4-TB	1 1/4	9 3/16	8 3/8	6 7/8	3 3/8
XD5-TB	1 1/2	9 1/4	8 7/32	6 3/4	4 5/32
XD6-TB	2	9 3/4	8 21/32	7 1/4	4 11/16
XD7-TB	2 1/2	11 3/4	11 3/8	9 1/2	4 7/8
XD8-TB	3	10 1/2	9 21/32	7 21/32	5 15/16
XD9-TB	3 1/2	10 9/16	9 3/4	7 3/4	6 5/8
XD010-TB	4	13 3/16	11 27/32	8 7/8	7 9/32
XD012-TB	5	14	12 15/16	11	8 9/32
XD014-TB	6	14 5/16	13 3/8	11 1/2	9 19/32

Couplings and Accessories

No disassembly required!

XJG Conduit Expansion Coupling





Slide the fitting onto the conduit until it stops at the internal sliding bushing. Tighten and you're ready. No parts to reassemble!



With a wrench, tighten the gland nut to compress the Teflon packing, creating a raintight seal around the conduit.

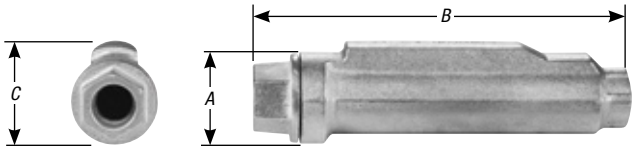


Thread the next length of conduit into the other end of the fitting and tighten. You're done!

Suggested Specifications for Expansion Fittings for Rigid Steel or Intermediate Metal Conduit

Where raceways require expansion fittings to compensate for thermal expansion and contraction and where expansion fittings and telescoping sections of metal raceway shall be made electrically continuous by bonding jumpers or other means:

- The fitting will be constructed from malleable or ductile iron with exterior and interior zinc plating for corrosion protection.
- The fitting shall be constructed so that disassembly is not required during installation.
- The fitting shall be raintight after installation.
- The fitting shall have an internal bonding jumper constructed of a tinned copper braid, sized to meet UL fault current test requirements and comply with bonding requirements — NEC® Article 250.98
- External bonding jumper shall not be required to comply with NEC® requirements
- Accepted Manufacturers: Thomas & Betts XJG-TB Series



XJG-TB Conduit Expansion Coupling for Rigid and Intermediate Metal Conduit

CAT NO.	SIZE	MOVEMENT	A DIAMETER IN.	B LENGTH IN.	C HEIGHT IN.
XJG24-TB	¾"	4"	2.43	10.00	2.75
XJG28-TB	¾"	8"	2.43	14.00	2.75
XJG34-TB	1"	4"	2.67	10.00	2.99
XJG38-TB	1"	8"	2.67	14.00	2.99
XJG44-TB	1¼"	4"	3.36	10.56	3.68
XJG48-TB	1¼"	8"	3.36	14.56	3.68
XJG54-TB	1½"	4"	3.36	10.56	3.68
XJG58-TB	1½"	8"	3.36	14.56	3.68
XJG64-TB	2"	4"	3.86	11.25	4.18
XJG68-TB	2"	8"	3.86	15.25	4.18
XJG74-TB	2½"	4"	4.96	12.12	5.25
XJG78-TB	2½"	8"	4.96	16.12	5.25
XJG84-TB	3"	4"	4.96	12.12	5.25
XJG88-TB	3"	8"	4.96	16.12	5.25
XJG94-TB	3½"	4"	6.37	12.87	6.75
XJG98-TB	3½"	8"	6.37	16.87	6.75
XJG104-TB	4"	4"	6.37	12.87	6.75
XJG108-TB	4"	8"	6.37	16.87	6.75
XJG1208-TB	5"	8"	7.99	18.87	8.56

Please consult Technical Services for special orders and availability of products not shown in this list.

Thomas&Betts

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

www.tnb.com

Couplings and Accessories



XJG24-EMT

Features

- Fast and easy installation — no disassembly required
- No external grounding strap needed — internal bonding jumper is protected from tampering and the environment
- Exceeds code requirements for long conduit runs to permit linear movement

Standard Materials/Finish

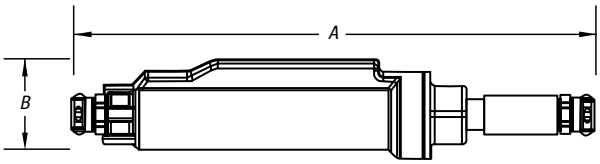
Body ..... Ductile Iron, available PVC Coated
Internal Bonding Jumper ..... Tinned Copper Braid
Exterior and Interior Finish ..... Zinc Plating, Aluminum Acrylic Paint
Packing ..... PTFE/Synthetic Fiber Material

Lisings/Compliances

UL File E23018, Std. 514B, Suitable for Wet Locations
CSA File LR2884, Std. C22.2 No. 18
NEC® 250.98

XJG24-EMT

Note: *XJG-EMT Couplings are not raintight and are for use in dry locations only. They are UL Listed for use with aluminum EMT.*



XJG-EMT Conduit Expansion Coupling for EMT

CAT NO.	SIZE	MOVEMENT	A LENGTH (IN.)	B HEIGHT (IN.)
XJG24-EMT	¾"	4"	17.39	2.75
XJG28-EMT	¾"	8"	21.39	2.75
XJG34-EMT	1"	4"	17.42	2.99
XJG38-EMT	1"	8"	21.42	2.99
XJG44-EMT	1¼"	4"	18.27	3.46
XJG48-EMT	1¼"	8"	22.27	3.46
XJG54-EMT	1½"	4"	18.69	3.68
XJG58-EMT	1½"	8"	22.69	3.68
XJG64-EMT	2"	4"	19.04	4.18
XJG68-EMT	2"	8"	23.04	4.18
XJG74-EMT	2½"	4"	23.23	4.52
XJG78-EMT	2½"	8"	27.23	4.52
XJG84-EMT	3"	4"	24.09	5.25
XJG88-EMT	3"	8"	28.09	5.25
XJG94-EMT	3½"	4"	28.70	6.00
XJG98-EMT	3½"	8"	28.70	6.00
XJG104-EMT	4"	4"	29.30	6.75
XJG108-EMT	4"	8"	29.30	6.75

Threadless Connector/Coupling

(For Threadless Rigid Metal Conduit and Intermediate Metal Conduit)



8123 Series



8130 Series



8120 Series

Application

- To connect and effectively bond threadless rigid metal conduit/intermediate metal conduit to a box or enclosure, or to couple ends of threadless conduit

Features

- Steel/Malleable Iron construction
- Case-hardened ring bites into conduit for high-quality continuity and grip
- Nylon insulator firmly secured in place protects conductors and reduces wire pulling effort by as much as 50%; prevents thread damage in handling
- Case-hardened steel locknut or malleable iron locknut designed to provide a positive bond
- Suitable for concrete-tight application
- Capable of carrying ground fault currents up to 10,000 amps RMS (½" through 1½" size) and 20,000 amps RMS (2" and above sizes) for a duration of current three cycles

Standard Material

Nut, Gland ..... ½" to 1" Steel – 1¼" to 4" Malleable Iron
Body ..... All Malleable Iron
Ring ..... Steel (case hardened)
Insulator ..... Nylon
Locknut ..... ½" thru 2" Steel (hardened) 2" thru 4" Malleable Iron

Standard Finish

Electro Zinc Plated & Chromate Coated

Range

8123 & 8120 Series ..... ½" through 4" Size Conduit
8130 Series ..... ½" through 2" Size Conduit
All hub threads ..... Straight Pipe (NPS)

Listings/Compliances

UL 514B
CSA C22.2 No. 18
NFPA 70
NEMA FB1
Federal Specification A-A-50553
Federal Standard H-28 (Threads)
UL (UL File No: E-23018)
CSA (LR-2884, LR-4484)

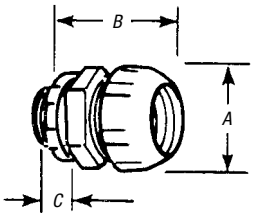
Couplings and Accessories

Split steel ring with diagonal serrations grips conduit and bites in for positive ground!

Threadless Connectors — Nylon Insulated

- Makes a permanent connection
- Eliminates need for cutting a thread on conduit
- Insulation helps ensure continuity of service by protecting the conductor at the critical point — the connector bushing
- Malleable iron construction
- Look for the unique T&B blue color, ensuring the highest quality fitting





CAT. NO.		CONDUIT SIZE	DIMENSIONS (IN.)		
NYLON INSUL.	NON-INSUL.		A	B	C
8123	8121	½"	1 7/32	1 11/16	½
8223	8221	¾"	1 17/32	1¾	½
8323	8321	1"	1 29/32	2	9/16
8423	8421	1¼"	2⅜	2 7/16	11/16
8523	8521	1½"	2 11/16	2⅝	¾
8623	8621	2"	3¼	2 13/16	27/32
8723-TB	8721	2½"	4⅛	3 13/16	1⅛
8823	8821	3"	4⅞	4	1 7/32
8853	8851	3½"	5½	4⅛	1⅛
8973	8971	4"	6 1/32	4⅞	1⅛

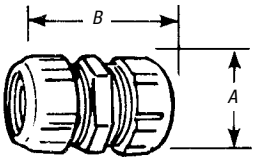
Available with DURA-PLATE® Finish. UL File No. E-23018 CSA File No. 2884

Just tighten with a wrench to make a UL Listed and CSA Certified concrete-tight connection!

Threadless Couplings

- Eliminates need for conduit threading
- Malleable iron construction





CAT. NO.	SIZE	DIMENSIONS (IN.) A	B
8120	½"	1 9/32	2
8220	¾"	1 19/32	2 5/16
8320	1"	1⅞	2 11/16
8420	1¼"	2⅜	2 13/16
8520	1½"	2⅝	3⅜
8620	2"	3¼	3 13/16
8720	2½"	3 15/16	5⅜
8820	3"	4 11/16	5½
8850	3½"	5 3/16	5½
8970	4"	5 11/16	5½

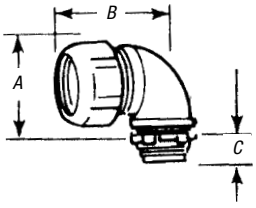
Available with DURA-PLATE® Finish. UL File No. E-23018 CSA File No. 2884

Ideal for entering enclosure or conduit body at right angles!

Threadless Short Elbows — Nylon Insulated

- Eliminates need to thread conduit
- As with straight couplings, makes a concrete-tight connection
- Malleable iron construction





CAT. NO.	SIZE	DIMENSIONS (IN.) A	B	C
8130	½"	1 11/32	1½	½
8131	¾"	1⅝	1¾	9/16
8132	1"	1⅞	1 15/16	11/16

Available with DURA-PLATE® Finish. UL File No. E-23018 CSA File No. 2884

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Couplings and Accessories

Set-Screw Connector/Coupling

(For Threadless Rigid Metal Conduit and Intermediate Metal Conduit)



8125 Series



8124 Series

Application

- To connect and effectively bond threadless rigid metal conduit or intermediate metal conduit to a box or enclosure or to couple ends of threadless conduit

Features

- Thickwall steel or malleable iron body
- Hardened hex head cup point screw to provide high-quality bond
- Screw captivated, will not vibrate loose
- Nylon insulated throat meets and exceeds all code requirements for bushing:
  - (i) Prevents thinning of insulation
  - (ii) Reduces installation effort
  - (iii) Prevents first thread damage
- Coupling provided with positive center stop
- Suitable for concrete-tight application
- Capable of carrying ground fault currents up to 10,000 amps RMS (½" through 1½" size) and 20,000 amps RMS (2" and above sizes)

Standard Material

Body	½" thru 2" Steel
	2½" thru 4" Malleable Iron
Locknut	½" thru 2" Steel (hardened)
	2½" thru 4" Malleable Iron
Screw	Steel (hardened)
Insulator	Nylon

Standard Finish

Electro Zinc Plated & Chromate Coated

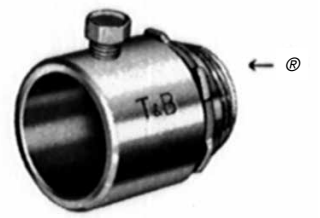
Listings/Compliances

UL (UL File No: E-23018)
CSA (LR-2884, LR-4484)
UL 514B
CSA C22.2 No. 18
NFPA 70
NEMA FB1
Federal Specification A-A-50553
Federal Standard H-28 (Threads)

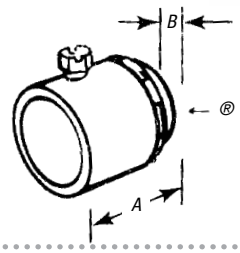
Eliminates the need for conduit threading!

Insulated Set-Screw Connector

- Captive hex head screws tighten down onto conduit for positive holding strength and ground
- Furnished with insulated throats to reduce wire-pulling effort by as much as 50%
- Approved concrete-tight



8125 Series



CAT. NO.	CONDUIT SIZE	DIMENSIONS (IN.) A	B
8125	½"	1⅜	13/32
8225	¾"	1½	7/16
8325	1"	1⅜16	35/64
8425	1¼"	2	⅝
8525	1½"	2⅝16	⅝
8625-TB	2"	2⅞16	11/16
8725-TB	2½"	3⅜	1
8825	3"	3⅞16	1
8855	3½"	3⅜	1⅛16
8975	4"	4⅜16	1⅛

Sizes ½"–2" made of steel. Sizes 2½"–4" are malleable iron.

Available with DURA-PLATE® Finish.

UL File No. E-23018 CSA File No. 2884

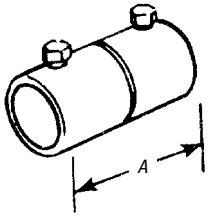
No need to thread conduit ends when joining rigid conduit!

Set-Screw Coupling

- Captive hex head screws provide positive holding strength and ground continuity
- Approved concrete-tight



8124 Series



CAT. NO.	CONDUIT SIZE	DIMENSION (IN.) A
8124	½"	2½
8224	¾"	2⅛16
8324-TB	1"	2⅞32
8424	1¼"	3
8524	1½"	3⅜
8624	2"	3⅝
8724	2½"	3⅞
8824-TB	3"	4¼
8854	3½"	4⅝16
8974	4"	5⅜

Sizes ½"–2" made of steel; sizes 2½"–4" are malleable iron.

Available with DURA-PLATE® Finish.

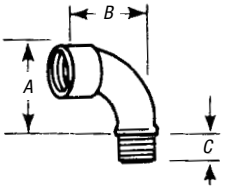
UL File No. E-23018 CSA File No. 2884

Couplings and Accessories

Smoothly rounded shoulders protect conductor insulation!

Bushed Elbows

- Non-insulated
- Malleable iron construction



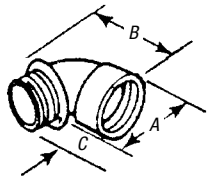
CAT. NO.	SIZE	DIMENSIONS (IN.) A	B	C
460-TB	½"	1⅛	1 13/16	⅝
461TB	¾"	1½	2¼	⅝
462	1"	1 13/16	2 11/16	¾
463	1¼"	2¼	3⅛	¾

Available with DURA-PLATE® Finish. UL File No. E 23018. CSA File No. 2884

Integral insulation ensures a smooth bushing in every fitting!

Short Elbows — Nylon Insulated

- Malleable iron construction



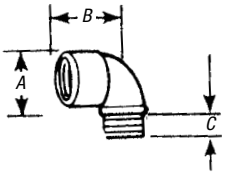
CAT. NO.	SIZE	DIMENSIONS (IN.) A	B	C
4290	½"	1 7/32	1¼	½
4291	¾"	1 7/16	1 5/16	9/16
4292	1"	1 23/32	1 9/16	11/16
4293	1¼"	2 7/32	2 1/16	13/16
4294	1½"	2 15/32	2 3/16	13/16
4295	2"	3	2 9/16	13/16

Available with DURA-PLATE® Finish. Not UL or CSA.

For non-insulated applications.

Short Elbows

- Malleable iron construction

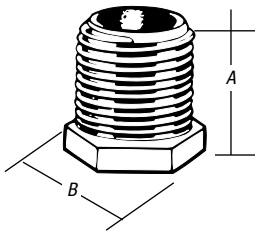


CAT. NO.	SIZE	DIMENSIONS (IN.) A	B	C
4250	½"	1 5/16	1¼	7/16
4251	¾"	1 17/32	1 5/16	½
4252	1"	1 13/16	1 9/16	⅝
4253	1¼"	2 9/32	2 1/16	11/16
4254	1½"	2 9/16	2 3/16	11/16
4255	2"	3 3/32	2 9/16	11/16

Available with DURA-PLATE® Finish. U.L. File #E-23018 CSA File No. 589

Conduit Nipples

- Die-cast zinc
- 1" long



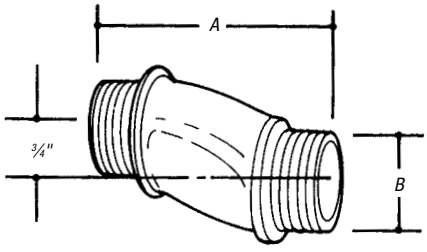
CAT. NO.	SIZE	A	B
HA-211	½"	1"	15/16"
HA-212	¾"	1"	1 3/16"
HA-213	1"	1"	1 7/16"

UL File No. E-1275 ½" & ¾" only

Offset Nipples

- Die-cast zinc





CAT. NO.	SIZE	A	B
HO-221	½"	2.60"	1.00"
HO-222	¾"	2.62"	1.32"
HO-223	1"	2.68"	1.51"
HO-224	1¼"	2.85"	1.85"
HO-225	1½"	2.88"	2.08"
HO-226	2"	3.19"	2.71"

¾" offset

UL File No. E-1275

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Couplings and Accessories

Threaded Erickson® Three-Piece Coupling

(For Threaded Rigid Metal Conduit and Intermediate Metal Conduit)



674 Series
675AL Series

Application

- To couple and effectively bond threaded ends of rigid metal conduit/intermediate metal conduit where neither length of conduit can be rotated

Features

- Malleable iron/steel/copper-free aluminum construction
- Free fitting threads ensure easy assembly
- Permits conduit coupling without rotating either conduit
- Provides rigid in-line coupling with high-quality grounding; will not loosen under vibration
- Suitable for concrete-tight application
- Capable of carrying ground fault currents up to 10,000 amps RMS (½" through 1½" size) and up to 20,000 amps RMS (2" and above) (duration of fault current three cycles) (674 series tested)

Standard Material

674 Series

Bushing & Case ..... Malleable Iron

Ring ..... Steel & Malleable Iron

675AL Series

Bushing & Case ..... Aluminum

Ring ..... Aluminum

Standard Finish

674 Series: Electro Zinc Plated & Chromate Coated

675AL Series: Degreased

Range

⅜" thru 6" Conduit (malleable iron)

½" thru 6" Conduit (aluminum)

All straight pipe threads (NPS)

Listings/Compliances

UL 514B

CSA C22.2 No. 18

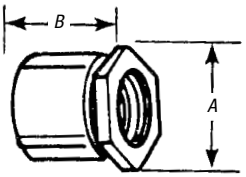
NEMA FB1

NFPA 70-1999 (ANSI)

Federal Specification A-A-50553

Federal Standard H-28 (Threads)

With an ERICKSON® coupling, a conduit run may be completed when neither conduit can be turned. A conduit run may also be broken without taking down the whole run. Conduit joined with ERICKSON® Couplings is rigid and in line and vibration will not loosen the connections. Malleable iron.



CAT. NO.	ALUM.* CAT. NO.	SIZE	DIMENSIONS (IN.) A	B
674	—	⅜"	1⅛	1⅛
675	675AL	½"	1 15/32	1¼
676	676AL	¾"	1 9/16	1 13/32
677	677AL	1"	1 29/32	1⅝
678	678AL	1¼"	2⅜	1 13/16
679	679AL	1½"	2⅝	1 31/32
680TB	680AL	2"	3 3/32	2 7/32
681	681AL	2½"	3 31/32	2 11/16
682	682AL	3"	4 7/16	2 29/32
683	683AL	3½"	5	3
684	684AL	4"	5½	3 3/16
685	685AL	4½"	6¼	3 15/32
686	686AL	5"	6 25/32	3¾
687	687AL	6"	8	4 1/32

**Copper-Free Aluminum*

UL Listed and CSA Certified concrete-tight.

UL File No. E-23018

CSA File No. 2884

Split Couplings

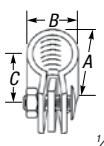
- Ideal for retrofit installations or in tight areas
- Fast installation
- Neoprene gasket provides a concrete-tight seal
- Joins threaded conduit even when the conduit can't rotate
- Approved for direct burial

Specifications

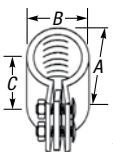
- Material: Malleable Iron
- Gasket: Neoprene
- Plating: Zinc Plated
- Standards: UL Standard 514B, NEMA FB-1



T&B's Split Coupling is a simple method to join threaded conduits in retrofits or in snug areas. Available in ½" to 6".



½" and ¾" furnished with one screw



1" and 6" furnished with two screws

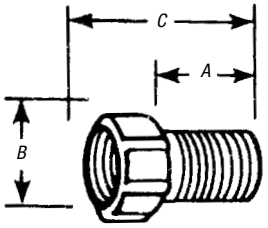
CAT. NO.	TRADE SIZE	DIMENSIONS (IN.) A	B	C	WEIGHT PER 100
SPCP50	½"	2	1¼	1¼	34.4
SPCP75	¾"	2 5/16	1½	1¼	39.4
SPCP100	1"	2⅝	1 13/16	1⅝	60.0
SPCP125	1¼"	3 1/16	2 3/16	1⅝	75.0
SPCP150	1½"	3 5/16	2 7/16	1 15/16	112.5
SPCP200	2"	3 13/16	2⅞	2	112.5
SPCP250	2½"	4⅝	3 9/16	3 1/16	275.0
SPCP300	3"	5 5/16	4⅛	3⅜	300.0
SPCP350	3½"	6 1/16	4 13/16	3¼	425.0
SPCP400	4"	6 9/16	5⅜	3 7/16	500.0
SPCP500	5"	8 1/16	6 9/16	3⅜	900.0
SPCP600	6"	9¼	7⅞	4 3/16	1,300.0

Couplings and Accessories

The ideal solution for applications requiring longer thread length!

Panel Connector Extensions

- Will combine with any fitting with a male thread
- Male thread of panel connector extension is 1" long
- Malleable iron construction



CAT. NO.	SIZE	DIMENSIONS (IN.) A	B	C
1440	½"	1¼	1³⁄₃₂	1⅞
1441	¾"	1⅜	1¹¹⁄₃₂	2
1442	1"	1¼	1¹⁹⁄₃₂	1¹⁵⁄₁₆
1443	1¼"	1¼	1¹⁵⁄₁₆	1⁵⁄₁₆

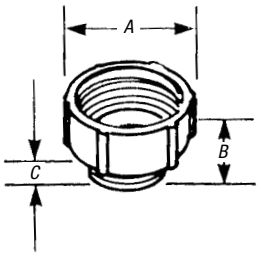
UL File No. E-23018

CSA File No. 2884

Adapt an outlet hole to the next larger size of conduit!

Male Enlargers*





- Built-in bushing covers rough ends of conduit
- Malleable iron construction

CAT. NO.	SIZE	DIMENSIONS (IN.) A	B	C
1245	½" to ¾"	1¹³⁄₃₂	1¹⁄₁₆	½
1246	¾" to 1"	1¹¹⁄₁₆	1¼	¹⁵⁄₃₂
1244	1" to 1¼"	2¹⁄₁₆	1¹¹⁄₃₂	½
1247	1¼" to 1½"	2⁵⁄₁₆	1⅜	⁹⁄₁₆

** All items shown in this chart are suitable for use in hazardous locations where general purpose equipment is specifically permitted by the NEC; Class I, Div. 2; Class II, Div. 1 & 2; Class III, Div. 1 & 2, NEC 501-4(b); 502-4(a)(b); 503-3(a)(b).*
Available with DURA-PLATE® Finish.

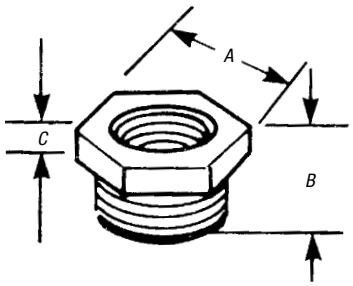
UL File No. E-23018

CSA File No. 2884

Adapt any outlet to the next smaller size of conduit!

Female Reducers*

- Hex shoulder for easy wrench tightening
- Malleable iron construction



CAT. NO.	SIZE	DIMENSIONS (IN.) A	B	C
1250-TB	¾" to ½"	1⅛	⅝	³⁄₁₆
1261	1" to ½"	1⁷⁄₁₆	²¹⁄₃₂	³⁄₁₆
1251	1" to ¾"	1⅜	¹¹⁄₁₆	³⁄₁₆
1262	1¼" to ½"	1¹³⁄₁₆	²³⁄₃₂	³⁄₁₆
1263	1¼" to ¾"	1¹³⁄₁₆	²³⁄₃₂	³⁄₁₆
1252	1¼" to 1"	1¾	²⁵⁄₃₂	⁷⁄₃₂
1253	1½" to 1¼"	2	¹³⁄₁₆	¼
1254	2" to 1½"	2⅜	1³⁄₁₆	⁹⁄₃₂
1255	2½" to 2"	3	1¼	⅜
1256	3" to 2½"	3⅝	1½	½
1257	3½" to 3"	4⅛	1⁹⁄₁₆	½
1258	4" to 3½"	4⅝	1⁹⁄₁₆	½

** All items shown in this chart are suitable for use in hazardous locations where general purpose equipment is specifically permitted by the NEC; Class I, Div. 2; Class II, Div. 1 & 2; Class III, Div. 1 & 2, NEC 501-4(b); 502-4(a) (b); 503-3(a) (b).*

Available with DURA-PLATE® Finish. UL File No. E-23018 CSA File No. 2884

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Couplings and Accessories

Stainless Steel Pipe Straps



- Higher degree of corrosion resistance than traditional zinc-plated or hot-dipped galvanized straps
- One and two-hole straps for EMT sizes ½" through 2"
- One and two-hole straps for Rigid and IMC size ½" through 4"
- 303 stainless steel

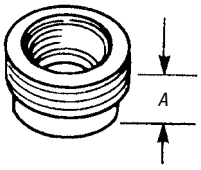
Thomas & Betts offers stainless steel pipe straps to support and securely fasten rigid, IMC and EMT conduit. One- and two-hole stainless steel straps are ideal for industrial applications such as petro-chemical plants, manufacturing plants, pulp and paper mills, food processing, power plants, refineries and mining operations. Stainless steel pipe straps are also useful in commercial applications in schools, hospitals, office buildings, airports, casinos and stadiums.

CAT. NO.	TRADE SIZE	WT. PER 100	HOLE DIA.	STD. PKG.
One-Hole EMT Straps				
TS101-SS	½"	2.21	¼"	25
TS102-SS	¾"	2.49	¼"	25
TS103-SS	1"	3.31	¼"	25
TS104-SS	1¼"	3.64	11/16"	10
TS105-SS	1½"	3.87	11/16"	5
TS106-SS	2"	4.03	11/16"	5
One-Hole Rigid/IMC Straps				
HS100-SS	⅜"	2.00	9/32"	20
HS101-SS	½"	2.21	9/32"	20
HS102-SS	¾"	2.49	9/32"	20
HS103-SS	1"	3.48	9/32"	20
HS104-SS	1¼"	3.76	11/32"	10
HS105-SS	1½"	18.22	13/32"	10
HS106-SS	2"	19.69	13/32"	5
HS107-SS	2½"	67.21	15/32"	5
HS108-SS	3"	76.45	17/32"	5
HS110-SS	4"	80.18	17/32"	5

CAT. NO.	TRADE SIZE	WT. PER 100	HOLE DIA.	STD. PKG.
Two-Hole EMT Straps				
TS901-SS	½"	2.21	¼"	25
TS902-SS	¾"	3.31	¼"	25
TS903-SS	1"	3.87	¼"	25
TS904-SS	1¼"	7.54	11/16"	10
TS905-SS	1½"	12.21	11/16"	5
TS906-SS	2"	18.23	11/16"	5
Two-Hole Rigid/IMC Straps				
HS901-SS	½"	2.49	9/32"	20
HS902-SS	¾"	3.64	9/32"	20
HS903-SS	1"	4.15	9/32"	20
HS904-SS	1¼"	8.17	11/32"	10
HS905-SS	1½"	17.50	13/32"	10
HS906-SS	2"	21.37	13/32"	5
HS907-SS	2½"	21.54	15/32"	5
HS908-SS	3"	25.72	17/32"	5
HS909-SS	3½"	27.27	17/32"	5
HS910-SS	4"	31.70	17/32"	5

Reduces threaded opening in conduit bodies or any female threaded fitting!

Threaded Reducers



- Smooth, built-in bushing completely covers rough ends of conduit
- Malleable iron or steel construction (steel through 606, also 614 and 615)

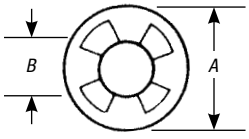
CAT. NO.			DIMENSION (IN.)
STL. OR MI	ALUM.	SIZE	A
600TB	**600ALTB**	½" to ⅜"	9/16
601TB	**601ALTB**	¾" to ½"	9/16
602TB	**602ALTB**	1" to ½"	⅝
603TB	**603ALTB**	1" to ¾"	⅝
604TB	**604ALTB**	1¼" to ½"	13/16
605TB	**605AL**	1¼" to ¾"	⅝
606TB	**606AL**	1¼" to 1"	15/16
607	**607AL**	1½" to ½"	13/16
608	**608AL**	1½" to ¾"	13/16
609	**609AL**	1½" to 1"	15/16
610	**610AL**	1½" to 1¼"	¾
611TB	**611AL**	2" to ½"	15/16
612	**612AL**	2" to ¾"	15/16
613	**613AL**	2" to 1"	15/16
614TB	**614AL**	2" to 1¼"	15/16
615TB	**615AL**	2" to 1½"	⅞

UL File No. E-23018

CSA File No. 2884

Reduce knockout hole in outlet box!

Reducing Washers



- Used in pairs
- Interlock to form a rib that centers washers and conduit in knockout
- Galvanized steel construction

CAT. NO.	SIZE	DIMENSIONS (IN.) A	B
3700	¾" to ⅜"	1⅜	45/64
3701	¾" to ½"	1⅜	⅞
3702	1" to ⅜"	1⅝	45/64
3703	1" to ½"	1⅝	⅞
3704	1" to ¾"	1⅝	1 3/32
3705-TB	1¼" to ⅜"	2	45/64
3706	1¼" to ½"	2	⅞
3707	1¼" to ¾"	2	1 3/32
3708	1¼" to 1"	2	1 23/64
3709	1½" to ⅜"	2¼	45/64
3710	1½" to ½"	2¼	⅞
3711	1½" to ¾"	2¼	1 3/32
3712	1½" to 1"	2¼	1 23/64
3713	1½" to 1¼"	2¼	1 23/32
3714	2" to ½"	2¾	⅞
3715-TB	2" to ¾"	2¾	1 3/32
3716	2" to 1"	2¾	1 23/64
3717	2" to 1¼"	2¾	1 23/32
3718	2" to 1½"	2¾	1 31/32

UL File No. E-13938

CSA File No. 2884

Couplings and Accessories

For rigid metal conduit and intermediate metal conduit

Conduit Straps

1275 Series
1276AL Series

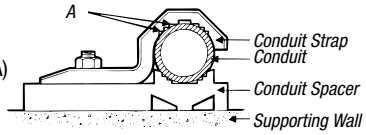


Application

- To support and securely fasten rigid metal conduit and intermediate metal to the supporting surface

Features

- Rugged malleable iron/copper-free aluminum construction — snugly fits on the conduit
- Designed to prevent accumulation of moisture and start of corrosion on vertical run of conduit (A)
- Galvanized finish 1275 Series
- Copper-free aluminum 1276AL Series



Standard Material

1275 Series.....Malleable Iron
1276AL Series.....All copper-free aluminum

Standard Finish

1275 Series.....electro-galvanized
1276AL Series ....As Cast Galvanized

Range

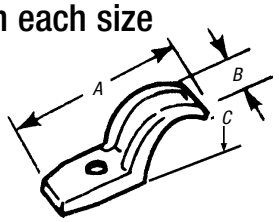
1275 Series.....⅜" through 6" conduit
1276AL Series.....⅜" through 4" conduit

Listings/Compliances

CSA (LR-2884, LR-4484)
CSA C22.2 No. 18
NFPA 70

Designed for snug fit on each size of conduit!

Pipe Straps — Malleable Iron or Aluminum



- High reinforcing ribs on each side increase strength and reduce weight
- Available in malleable iron with electro-galvanized finish or in copper-free aluminum

CAT. NO.						
MAL. IRON	ALUM.	SIZE	A	B	C	SCREW SIZE
1275†	1275AL	⅜"	1⅞"	11/16"	¾"	#12
1276†	1276AL†	½"	2 5/32"	21/32"	1 1/32"	¼"
1277†	1277AL†	¾"	2 9/16"	11/16"	1 7/32"	¼"
1278†	1278AL†	1"	3"	¾"	1 17/32"	¼"
1279†	1279AL†	1¼"	3¾"	13/16"	1⅞"	5/16"
1280†	1280AL	1½"	4 3/16"	15/16"	2⅛"	⅜"
1281	1281AL	2"	5 3/16"	1⅛"	2 17/64"	7/16"
1282*	1282AL	2½"	5 15/16"	1½"	2¾"	½"
1283*	1283AL	3"	6 11/16"	1⅝"	3 11/32"	½"
1284	1284AL	3½"	7 19/32"	1¾"	3 29/32"	⅝"
1285*	1285AL	4"	8 5/16"	1⅞"	4 13/32"	⅝"
1286	—	4½"	9 3/16"	1 15/16"	4 15/16"	⅝"
1287	—	5"	9 15/16"	2"	5 5/32"	⅝"
1288	—	6"	11½"	2 7/16"	6 17/32"	⅝"

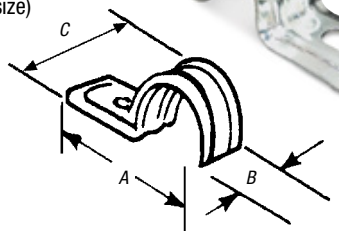
**May be used with EMT of same size.*
† Not snap-on type.
UL not applicable.
CSA File No. 2884

Elongated bolt hole makes alignment easy, even when mounting-surface holes are off center!

Pipe Straps — Steel



- Snap-on design (except for ⅜" size)
- Rugged steel construction

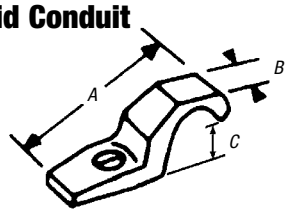


CAT. NO.	CONDUIT SIZE	A	B	C	SCREW SIZE
1210TB†	⅜"	1 15/32	¾	11/16	¼"
1211TB	½"	2	¾	15/16	¼"
1212TB	¾"	2 5/16	3¾	1"	¼"
1213TB	1"	3 13/16	¾	1 17/64	¼"
1214TB	1¼"	2 31/32	1 9/16	1 9/16	⅜"
1215TB	1½"	3 23/32	1 13/16	1 13/16	⅜"
1216TB	2"	4 1/16	2 5/16	2 5/16	⅜"

† Not snap-on type. *UL not applicable.* *CSA File No. 2884*

PVC coating offers high corrosion resistance!

PVC-Coated Straps for Rigid Conduit



- Designed to fit each size of conduit snugly
- High reinforcing ribs on each side increase strength and reduce weight
- Malleable iron construction

CAT. NO.	SIZE	BOLT SIZE	DIMENSIONS (IN.)		
			A	B	C
1275CR	⅜"	¼"	1⅞	11/16	¾
1276CR	½"	¼"	2 5/32	21/32	1 1/32
1277CR	¾"	¼"	2 9/16	11/16	1 7/32
1278CR	1"	¼"	3	¾	1 17/32
1279CR	1¼"	⅜"	3¾	13/16	1⅞
1280CR	1½"	⅜"	4 3/16	15/16	2⅛
1281CR	2"	½"	5 3/16	1⅛	2 17/64

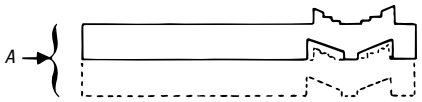
UL not applicable.

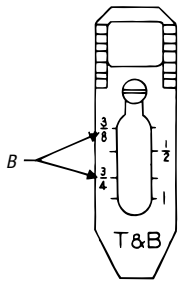
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Couplings and Accessories

Conduit Spacers

(For Rigid Metal Conduit, Intermediate Metal Conduit and Electrical Metallic Tubing)







1350



1351–1354

Application

- Provides mounting surface for conduit where installation requires air space between conduit and supporting surface

Features

- Prevents conduit rusting from wall condensation
- Spacers can be stacked one atop the other, facilitating installation and eliminating expensive conduit offsetting (A)
- Designed to cover wide range; marked with accurate size marking for proper positioning (B)
- Electro-zinc plated finish on 1350 Series
- Copper-free aluminum alloy, 1350AL Series

Standard Material

1350 Series.....Malleable Iron

1350AL Series.....Copper-free aluminum

Standard Finish

1350 Series.....Electro-zinc plated

1350AL Series .....As Cast

Range

½" through 6" conduit

Listings/Compliances

CSA (LR-2884, LR-4484, LR-4484)

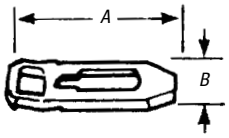
CSA C22.2 No. 18

NFPA 70

Eliminates the need for costly offset-bending conduit and the possibility of corrosive moisture traps when conduit is mounted directly to a surface!

Pipe Spacers

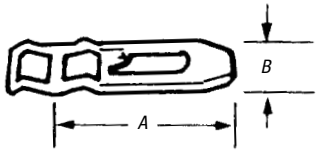
- Used with T&B conduit straps to provide space between conduit and mounting surface
- Premountable and stackable to eliminate offsetting
- Malleable iron construction with electro-zinc plated finish



CAT. NO.				DIMENSIONS (IN.)	
MAL. IRON	ALUM.	SIZE	SCREW SIZE	A	B
1350	1350AL	½", ¾", 1"	#7	3	⅞
1351	1351AL	1¼"-1½"-2"	#12	5	1 3/16
1352	1352AL	2½"-3"	#12	9 5/16	1¾
1353	1353AL	3½"-4"	#14	7 5/16	2
1354	—	4½"-5"-6"	#16	10 5/16	2 5/16

Conforms to NEC® Sect. 300-5-c. UL not applicable. CSA File Nos. 2884 and 4484.

Prevents conduit rusting from wall condensation!



Pipe Spacers — PVC Coated

- Eliminates the need for offset-bending of conduit
- Can be stacked for offsets on wall or into outlet box
- Corrosion-resistant, PVC-coated malleable iron construction

CAT. NO.	CONDUIT SIZE	SCREW SIZE	DIMENSIONS (IN.) A	B
1350CR	½"-¾"-1"	#7	3	⅞
1351CR	1¼"-1½"-2"	#12	5	⅜

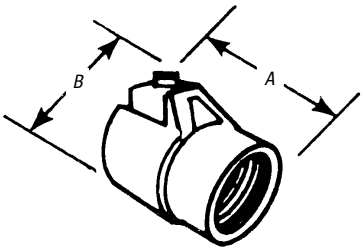
UL not applicable. Conforms to NEC Sect. 300-5-c.

Couplings and Accessories

One-piece fitting couples armored cable or flexible conduit to threaded rigid conduit!

TITE-BITE® Combination Couplings — Armored Cable for Threaded Rigid

- Tite-Bite® wedge holds conduit securely with a double grip
- When used with a Chase® nipple, this fitting will connect flexible conduit to outlet boxes, enabling more wiring space in the box than the usual connector
- UL® Listed as a grounding means under NEC® 350-5
- Malleable iron construction



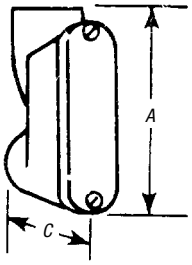
CAT. NO.	SIZE	DIMENSIONS (IN.) A	B
440	½"	1⅝	1²⁷⁄₃₂
441	¾"	1¾	2⅛
442	1"	2	2¹⁷⁄₃₂

UL File No. E-23018
CSA File No. 2884

Mount flat against wall, eliminating the need to offset conduit!

Entrance Ells

- Designed for a straight pull in either direction
- Smooth surface
- Make it easy to pull heavy wires without damage to insulation
- Made of copper-free aluminum



CAT. NO.	CONDUIT SIZE	DIMENSIONS (IN.) A	C
1490	½"	3	1¹⁹⁄₃₂
1491	¾"	3⅜	1⅞
1492	1"	4¼	2²³⁄₆₄
1493	1¼"	5³¹⁄₆₄	2¹³⁄₁₆
1494	1½"	6¼	2⅞
1495	2"	6¾	3⅜

UL File No. E-23018. *CSA File Nos. 2884 and 589*

Adjustable design fits a wide range of flange sizes!

Adjustable Beam Clamps

- Includes bolts
- Steel construction



CAT. NO.	DESCRIPTION
700TB	Fits Flange 2¾"–7⅜"
701	Fits Flange 7"–12"
703	Special Bolt and (3) Nuts

CSA File No. 2884.

Fits any flange, tapered or straight, up to ⅝" thick!

Conduit Supports

- For use with standard rigid conduit, EMT or IMC
- Broad hook holds conduit at any desired angle
- Malleable iron construction



CAT. NO.	SIZE
690TB	½"
691TB	¾"
692TB	1"
693TB	1¼"

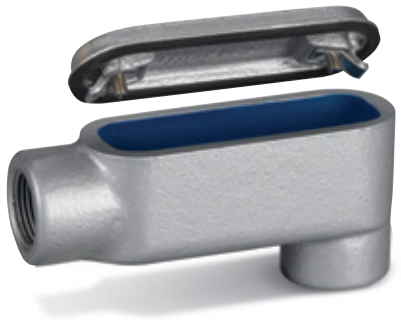
CSA File No. 2884

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Conduit Bodies and Covers

T&B® Conduit Fittings for Ordinary and Hazardous Locations

Thomas & Betts offers a broad range of conduit bodies, conduit boxes, conduit fittings, unions, sealing fittings, drains and cable fittings for both ordinary and hazardous locations. Complete information on applications, features, materials, finishes, size range and certifications is provided in the following pages.













Conduit Bodies (for ordinary locations)

For raceway systems to provide pull outlets, 90° bends, splices, taps, mounting outlets, etc.

Form 7 Sand Cast Iron BlueKote®	For neat, compact installation of rigid threaded conduit.
Form 7 Sand Cast Aluminum	For neat, compact installation of aluminum threaded conduit.
Form 8 Sand Cast Iron BlueKote®	For heavier conductors using rigid threaded conduit.
Series 35	For economy installations of rigid threaded conduit.
Stainless Steel	For superior corrosion protection.
Mogul Conduit Fittings	For larger conduits, spacious, accessible wiring chambers.

NOTE: For information on Red•Dot® Die-Cast Aluminum Coduit Bodies for rigid conduit and EMT applications, see pages E-554–E-599.

Cast Device Boxes (for ordinary locations)

For raceway systems to accommodate wiring devices, serve as pull boxes and provide entrances for taps and splices.

FS/FD Single- and Double-Gang Cast Device Boxes

Cast Conduit Outlet Boxes (for hazardous locations)

Round cast outlet boxes used with rigid conduit to serve as pull and splice boxes, easy access to wiring, act as a housing for instruments, apparatus, etc.

GUA Conduit Outlet Bodies

Reducers, Plugs, Unions (for ordinary and hazardous locations)

Includes reducers for connecting conduit of dissimilar dimensions, plugs for unused conduit openings and hubs and unions for threaded conduit systems.

RE, PLG REC Reducers, Plugs and Adapters, UNY/UNF Unions

Sealing Fittings and Drains (for ordinary and hazardous locations)

Cast fittings used with rigid conduit to seal sections from passage of vapors, flame or gases or explosions. Drains provide ventilation as a breather and as a drain in moist locations.

EYS/EYD Sealing Fittings & ECD Drains

Cable Fittings (for ordinary and hazardous locations)

For armored, metal clad, jacketed or unjacketed and unarmored cables through a bulkhead or enclosure in ordinary or hazardous areas.

Conduit Bodies and Covers

Conduit Outlet Bodies

Application

Conduit Bodies are installed in conduit systems to:

- Connect conduit sections
- Act as pull outlets when conductors are being installed
- Provide easy access for splices in branch conductors
- Make 90° bends in conduit runs
- Act as mounting outlets for wiring devices and lighting fixtures
- Provide access to conductors for maintenance and future system changes

Features

- Standard features include tapered (NPT) threads and integral bushings to protect wire insulation
- T&B Form 7 bodies and covers are interchangeable with other manufacturers' Form 7 bodies and covers
- T&B Form 8 bodies and covers are interchangeable with other manufacturers' Form 8 bodies and covers
- T&B Form 7 and Form 8 cast iron bodies feature BlueKote® internal coating for easier wire pulling
- T&B Series 35 bodies and covers are interchangeable with other manufacturers' 35/5 Series iron and steel bodies and covers
- Form 7 sand cast aluminum is made with a special aluminum alloy, providing superior corrosion resistance as cast; no protective coatings needed
- Special sand cast aluminum alloy makes these conduit bodies ideal for use in food and beverage, pharmaceutical, chemical processing and other corrosive environments
- All Form 7 and Form 8 covers include gaskets

Materials

Form 7, Form 8 and Series 35 Iron Conduit Bodies ..... Sand-cast class 30 gray iron alloy

Stainless Steel Conduit Bodies..... Type 316 stainless steel

Form 7 aluminum ..... Sand-cast CorroStall™ aluminum alloy

Covers..... Sand-cast gray iron alloy and stamped sheet steel with steel-stainless steel screws

Stainless Steel Covers..... Cast and stamped Type 316 stainless steel with stainless steel screws

Gaskets..... Neoprene

Aluminum Covers..... Sand-cast CorroStall™ aluminum alloy or sheet aluminum with stainless steel screws, aluminum clips and stainless steel and Neoprene O-ring washer

Finish

Form 7, Form 8 and Series 35 Iron Conduit Bodies ..... Zinc-plating with aluminum acrylic coating

Form 7 and Form 8 Iron Bodies..... Internal PTFE-based BlueKote® coating

Covers..... Gray iron zinc-plating with aluminum acrylic coating, and stamped steel zinc-plating with clear chromate coating; Form 7 and Form 8 covers include Neoprene gasket

Stainless Steel Bodies and Covers ..... Polished

Aluminum Bodies and Covers..... As cast

Listings/Compliances

UL Standard: 514A, 514B

Fed. Spec: W-C-586D

CSA Standard: C22.2 No. 18





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Conduit Bodies and Covers

Conduit Bodies Quick Reference

	SHAPE	TYPE	HUB SIZE (IN.) ½	¾	1	1¼	1½	2	2½	3	3½	4	SEE PAGE
	LB	BlueKote® Form 7	LB17	LB27	LB37	LB47	LB57	LB67	LB77	LB87	LB97	LB107	E-71
		BlueKote® Form 8*	LB18	LB28	LB38	LB448	LB58	LB68	LB78	LB888	LB98	LB108	E-71
		Series 35	LB50M	LB75M-TB	LB100M	LB125M	LB150M	LB200M	LB250M	LB300M	LB350M	LB400M	E-71
		Sand Cast Aluminum Form 7	LB17SA	LB27SA	LB37SA	LB47SA	LB57SA	LB67SA	LB77SA	LB87SA	LB97SA	LB107SA	E-76
		Stainless Steel Form 8	LB18SST	LB28SST	LB38SST	LB48SST	LB58SST	LB68SST	(with covers, gaskets and screws)				E-69
	LU	BlueKote® Form 7	LU17	LU27	LU37	LU47	LU57	LU67	—	—	—	—	E-71
		Stainless Steel Form 8	LU18SST	LU28SST	LU38SST	LU48SST	LU58SST	LU68SST	(with covers, gaskets and screws)				E-69
		Sand Cast Aluminum Form 7	LU17SA	LU27SA	LU37SA	LU47SA	LU57SA	LU67SA	—	—	—	—	E-77
	T	BlueKote® Form 7	T17	T27	T37	T47	T57	T67	T77	T87	T97	T107	E-71
		BlueKote® Form 8*	T18	T28	T38-TB	T448	T58	T68	T78	T88-TB	—	—	E-71
		Series 35	T50M	T75M	T100M	T125M	T150M	T200M	T250M	T300M	T350M	T400M	E-72
		Sand Cast Aluminum Form 7	T17SA	T27SA	T37SA	T47SA	T57SA	T67SA	T77SA	T87SA	T97SA	T107SA	E-77
		Stainless Steel Form 8	T18SST	T28SST	T38SST	T48SST	T58SST	T68SST	(with covers, gaskets and screws)				E-69
	C	BlueKote® Form 7	C17	C27	C37	C47	C57	C67	C77-TB	C87	—	—	E-72
		BlueKote® Form 8*	C18	C28	C38	C448	C58-TB	C68	C78	C88	—	—	E-72
		Series 35	C50M	C75M-TB	C100M	C125M	C150M	C200M	C250M-TB	C300M	C350M	C400M	E-72
		Sand Cast Aluminum Form 7	C17SA	C27SA	C37SA	C47SA	C57SA	C67SA	—	—	—	—	E-76
	LL	BlueKote® Form 7	LL17	LL27	LL37	LL47	LL57	LL67	LL77	LL87	LL97	LL107	E-72
		BlueKote® Form 8*	LL18	LL28	LL38	LL448	LL58	LL68	LL78	LL888	—	—	E-73
		Series 35	LL50M	LL75M	LL100M	LL125M	LL150M	LL200M	LL250M	LL300M	LL350M	LL400M	E-73
		Sand Cast Aluminum Form 7	LL17SA	LL27SA	LL37SA	LL47SA	LL57SA	LL67SA	—	—	—	—	E-76
	LR	BlueKote® Form 7	LR17	LR27	LR37	LR47	LR57	LR67	LR77	LR87	LR97	LR107	E-73
		BlueKote® Form 8*	LR18	LR28	LR38	LR448	LR58	LR68	LR78	LR888	—	—	E-73
		Series 35	LR50M	LR75M	LR100M	LR125M	LR150M	LR200M	LR250M	LR300M	LR350M-TB	LR400M	E-73
		Sand Cast Aluminum Form 7	LR17SA	LR27SA	LR37SA	LR47SA	LR57SA	LR67SA	—	—	—	—	E-76
	L	BlueKote® Form 7	L17-TB	L27-TB	L37-TB	L47-TB	L57-TB	L67-TB	—	—	—	—	E-74
	TB	BlueKote® Form 7	TB17-TB	TB27	TB37	TB47	TB57	TB67	—	—	—	—	E-74
		BlueKote® Form 8*	TB18	TB28	TB38	TB448	TB58	TB68	—	—	—	—	E-74
		Series 35	TB50M	TB75M	TB100M	TB125M	TB150M	TB200M	—	—	—	—	E-75
		Sand Cast Aluminum Form 7	TB17SA	TB27SA	TB37SA	TB47SA	TB57SA	TB67SA	—	—	—	—	E-77
		Stainless Steel Form 8	TB18SST	TB28SST	TB38SST	TB48SST	TB58SST	TB68SST	(with covers, gaskets and screws)				E-69
	X	BlueKote® Form 7	X17	X27	X37	X47	X57	X67	—	—	—	—	E-75
		BlueKote® Form 8*	X18	X28	X38	X448	X58	X68	—	—	—	—	E-75
		Series 35	X50M	X75M	X100M	X125M	X150M	X200M	—	—	—	—	E-75
		Sand Cast Aluminum Form 7	X17SA	X27SA	X37SA	X47SA	X57SA	X67SA	—	—	—	—	E-77
	E	BlueKote® Form 7	E17	E27	E37	—	—	—	—	—	—	—	E-75
	TA	BlueKote® Form 7	TA17	TA27	TA37	TA47	TA57	TA67	—	—	—	—	E-74

** ½" through 1¼" have (2) mounting holes; 1½" through 4" have (4) mounting holes*

Conduit Bodies and Covers

Replacement Covers and Gaskets

	SHAPE	HUB SIZE (IN.) ½	¾	1	1¼	1½	2	2½	3	3½	4
 **Stamped**	Form 7 Steel*	170S	270S	370S	470S	570S	670S	870S	870S	970S	970S
	Form 8 Steel*	180	280	380	480	580	680STB	880	880	980	980
	Form 7 Aluminum*	170SA	270SA	370SA	470SA	570SA	670SA	870SA	870SA	970SA	970SA
	Series 35	K50S	K75S	K100S	K125S	K125S	K200S	K250S	K250S	K350S	K350S
	** Form 7 and Form 8 covers include gasket.*										
 **Sand Cast**	Form 7 Iron*	170F	270F	370F	470F	570F	670F	870F	870F	970F	970F
	Form 8 Iron*	180F	280F	380F	480F	580F	680F	880F	880F	980F	980F
	Form 7 Aluminum*	170FSA	270FSA	370FSA	470FSA	570FSA	670FSA	870FSA	870FSA	970FSA	970FSA
	Series 35	K50M	K75M	K100M	K125M	K125M	K200M	K250M	K250M	K350M	K350M
	** Form 7 and Form 8 covers include gasket.*										
 **Gasket**	Form 7*	GASK 571	GASK 572	GASK 573	GASK 574	GASK 575	GASK 576	GASK 578	GASK 578	GASK 579	GASK 579
	Form 8*	GASK 581N	GASK 582N	GASK 583N	GASK 584N	GASK 585N	GASK 586N	GASK 588N	GASK 588N	GASK 589N	GASK 589N
	Series 35	GK50N	GK75N	GK100N	GK125-150N	GK125-150N	GK200N	GK250-300N	GK250-300N	GK350-400N	GK350-400N
	** For ordering purposes, please use GASK in the catalog number (Example: GASK 571).*										

Thomas&Betts

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

www.tnb.com

Conduit Bodies and Covers

Each conduit outlet body ships complete with gasket, cover and screws.

Type 316 Stainless Steel Form 8 Conduit Outlet Bodies

NEW!



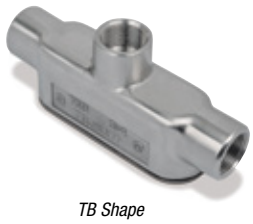
LU® Shape



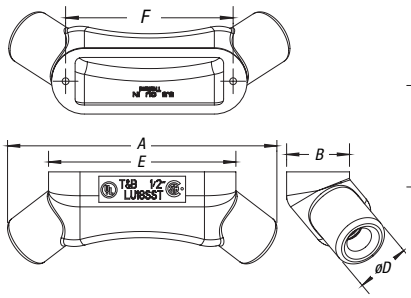
LB Shape



T Shape

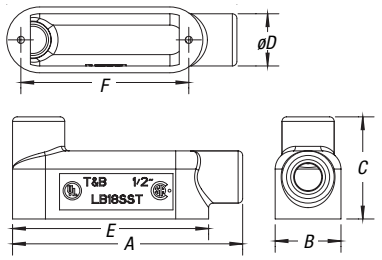


TB Shape



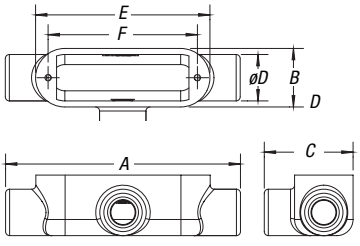
LU® Form 8 Conduit Bodies with Covers

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	CU. IN.
LU18SST	½"	6.210	1.450	3.825	1.125	4.320	3.700	5.5
LU28SST	¾"	6.981	1.645	4.245	1.500	4.921	4.300	8.5
LU38SST	1"	8.261	1.850	5.050	1.700	5.625	5.000	14.5
LU48SST	1¼"	9.923	2.200	5.975	2.200	6.730	5.810	26.5
LU58SST	1½"	11.549	2.813	7.000	2.450	7.938	7.125	45.0
LU68SST	2"	13.989	3.820	8.500	2.900	9.797	9.125	116.5



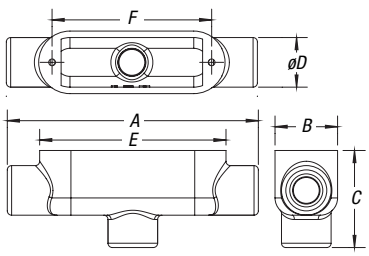
LB Form 8 Conduit Bodies with Covers

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	CU. IN.
LB18SST	½"	5.070	1.450	2.250	1.150	4.320	3.700	5.8
LB28SST	¾"	5.671	1.645	2.530	1.400	4.921	4.300	8.0
LB38SST	1"	6.563	1.850	2.913	1.750	5.625	5.000	13.0
LB48SST	1¼"	7.734	2.200	3.315	2.200	6.730	5.810	23.0
LB58SST	1½"	8.992	2.813	3.800	2.450	7.938	7.125	44.0
LB68SST	2"	11.000	3.820	4.810	2.900	9.797	9.125	88.0



T Form 8 Conduit Bodies with Covers

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	CU. IN.
T18SST	½"	5.820	1.450	2.200	1.150	4.320	3.700	5.5
T28SST	¾"	6.420	1.645	2.395	1.400	4.921	4.300	9.0
T38SST	1"	7.500	1.850	2.850	1.750	5.625	5.000	13.5
T48SST	1¼"	8.738	2.200	2.950	2.200	6.730	5.810	24.0
T58SST	1½"	10.046	2.813	3.867	2.450	7.938	7.125	45.0
T68SST	2"	12.204	3.820	5.070	2.900	9.797	9.125	88.0



TB Form 8 Conduit Bodies with Covers

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	CU. IN.
TB18SST	½"	5.820	1.450	2.250	1.150	4.320	3.700	5.5
TB28SST	¾"	6.420	1.645	2.530	1.400	4.921	4.300	9.0
TB38SST	1"	7.500	1.850	2.975	1.750	5.625	5.000	13.5
TB48SST	1¼"	8.484	2.200	3.319	2.200	6.730	5.810	24.0
TB58SST	1½"	10.046	2.813	3.854	2.450	7.938	7.125	45.0
TB68SST	2"	12.129	3.820	4.810	2.900	9.797	9.125	88.0

Conduit Bodies and Covers

Form 7 body, gasket and cover — one number!

Pre-Assembled Form 7 BlueKote® Conduit Bodies, Gaskets and Covers



Now you can order a conduit body, gasket and cover, pre-assembled, using one catalog number. T&B's pre-assembled cast conduit bodies help reduce transactions, eliminate the need for additional stocking bins and provide an easy inventory reduction. You'll also have less hassle with managing small parts in the truck or crib. Best of all, you can be absolutely confident that the right parts are in your hands when you need them.

T&B® Conduit Bodies and Covers Feature:

- BlueKote internal finish for faster, easier wire pulling
- Epoxy external finish for superior corrosion resistance
- Tapered NPT threads and integral bushings to protect wire insulation
- Bodies are designed with a flat back for more cubic inch capacity. The flat back also keeps the body more stable during installation, requiring fewer conduit straps
- T&B Form 7 bodies and covers are interchangeable with Crouse-Hinds and Appleton's Form 7 bodies and covers

Specifications

- Bodies: Class 30 gray iron alloy
- Covers: Stamped steel with stainless steel screws
- Gaskets: Neoprene
- Finish: Conduit Bodies: Zinc-plating with acrylic epoxy coating and internal PTFE-based BlueKote coating
- Covers: Stamped steel zinc-plating with a clear chromate coating
- Compliances: UL Standard: 514A, 514B Fed. Spec:W-C-586D
- CSA Standard: C22.2 No. 18

Crouse-Hinds is a trademark of Cooper Industries, Inc. Appleton is a trademark of the EGS Electrical Group, a joint venture of Emerson and SPX Corp.

Note: *BlueKote is registered for conduit bodies but is not registered for a finish or a coating.*

T&B® Pre-Assembled Bodies, Gaskets and Covers

CAT. NO.	TRADE SIZE	PRE-ASSEMBLED PRODUCTS
C17CG-TB	½"	C17 Body, Cover & Gasket
C27CG-TB	¾"	C27 Body, Cover & Gasket
C37CG-TB	1"	C37 Body, Cover & Gasket
C47CG-TB	1¼"	C47 Body, Cover & Gasket
C57CG-TB	1½"	C57 Body, Cover & Gasket
C67CG-TB	2"	C67 Body, Cover & Gasket
LB17CG-TB	½"	LB17 Body, Cover & Gasket
LB27CG-TB	¾"	LB27 Body, Cover & Gasket
LB37CG-TB	1"	LB37 Body, Cover & Gasket
LB47CG-TB	1¼"	LB47 Body, Cover & Gasket
LB57CG-TB	1½"	LB57 Body, Cover & Gasket
LB67CG-TB	2"	LB67 Body, Cover & Gasket
LL17CG-TB	½"	LL17 Body, Cover & Gasket
LL27CG-TB	¾"	LL27 Body, Cover & Gasket
LL37CG-TB	1"	LL37 Body, Cover & Gasket
LL47CG-TB	1¼"	LL47 Body, Cover & Gasket
LL57CG-TB	1½"	LL57 Body, Cover & Gasket
LL67CG-TB	2"	LL67 Body, Cover & Gasket
LR17CG-TB	½"	LR17 Body, Cover & Gasket
LR27CG-TB	¾"	LR27 Body, Cover & Gasket
LR37CG-TB	1"	LR37 Body, Cover & Gasket
LR47CG-TB	1¼"	LR47 Body, Cover & Gasket
LR57CG-TB	1½"	LR57 Body, Cover & Gasket
LR67CG-TB	2"	LR67 Body, Cover & Gasket
T17CG-TB	½"	T17 Body, Cover & Gasket
T27CG-TB	¾"	T27 Body, Cover & Gasket
T37CG-TB	1"	T37 Body, Cover & Gasket
T47CG-TB	1¼"	T47 Body, Cover & Gasket
T57CG-TB	1½"	T57 Body, Cover & Gasket
T67CG-TB	2"	T67 Body, Cover & Gasket
TB17CG-TB	½"	TB17 Body, Cover & Gasket
TB27CG-TB	¾"	TB27 Body, Cover & Gasket
TB37CG-TB	1"	TB37 Body, Cover & Gasket
TB47CG-TB	1¼"	TB47 Body, Cover & Gasket
TB57CG-TB	1½"	TB57 Body, Cover & Gasket
TB67CG-TB	2"	TB67 Body, Cover & Gasket
X17CG-TB	½"	X17 Body, Cover & Gasket
X27CG-TB	¾"	X27 Body, Cover & Gasket
X37CG-TB	1"	X37 Body, Cover & Gasket
X47CG-TB	1¼"	X47 Body, Cover & Gasket
X57CG-TB	1½"	X57 Body, Cover & Gasket
X67CG-TB	2"	X67 Body, Cover & Gasket

For aluminum conduit bodies pre-assembled with covers and gaskets, request Red•Dot® D-PAK® Series Conduit Bodies for rigid and IMC conduit.

Thomas&Betts

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800.816.7809
Fax: 901.252.1354

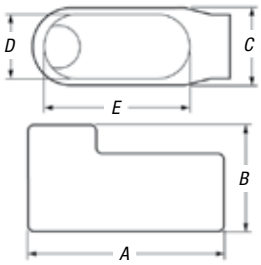
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Tel: 888.862.3289

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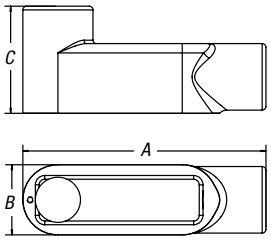
Conduit Bodies and Covers

BlueKote internal finish reduces the amount of force necessary to pull wires through T&B Form 7 and Form 8 conduit bodies.

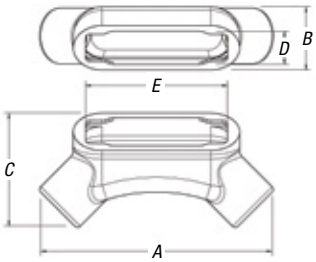




LB Form 7 and Form 8



LB Series 35



LU Form 7

LB Form 7 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
LB17	½"	4.60	2.20	1.35	.95	3.20	4.0
LB27	¾"	5.25	2.40	1.65	1.15	3.80	6.6
LB37	1"	6.00	2.65	1.80	1.35	4.55	10.6
LB47	1¼"	6.45	3.20	2.20	1.80	5.00	18.8
LB57	1½"	7.25	3.90	2.45	2.05	5.45	26.4
LB67	2"	8.30	4.45	3.10	2.45	6.40	51.0
LB77	2½"	10.55	5.20	4.25	3.60	8.40	102.0
LB87	3"	10.55	5.95	4.25	3.60	8.40	132.0
LB97	3½"	12.85	6.70	5.25	4.55	10.25	210.0
LB107	4"	12.85	7.20	5.25	4.55	10.25	243.0

LB Form 8 BlueKote® Conduit Bodies

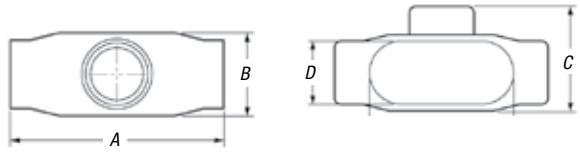
CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
LB18	½"	4.94	2.22	1.38	1.00	3.31	4.9
LB28	¾"	5.56	2.44	1.56	1.19	3.31	8.0
LB38	1"	6.50	2.81	1.75	1.38	4.56	13.0
LB448	1¼"	7.53	3.34	2.19	1.75	5.31	23.5
LB58	1½"	9.13	4.03	2.75	2.13	6.50	45.0
LB68	2"	11.00	4.41	3.75	3.00	8.56	88.0
LB78	2½"	13.94	6.13	5.00	4.25	10.88	110.0
LB888	3"	13.94	6.50	5.00	4.25	10.88	110.0
LB98	3½"	16.88	7.56	6.25	5.44	13.44	250.0
LB108	4"	16.88	7.81	6.25	5.44	13.44	250.0

LB Series 35 Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	CU. IN.
LB50M	½"	4.68	1.34	2.05	4.5
LB75M-TB	¾"	5.37	1.50	2.25	7.5
LB100M	1"	6.20	1.80	2.65	12.5
LB125M	1¼"	8.12	2.60	2.75	32
LB150M	1½"	8.12	2.60	2.83	35.3
LB200M	2"	10.50	3.12	4.42	73
LB250M	2½"	13.60	4.31	5.40	142
LB300M	3"	13.87	4.31	5.90	173
LB350M	3½"	16.25	5.62	6.90	292
LB400M	4"	16.60	5.62	7.21	324

LU® Form 7 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
LU17	½"	5.54	1.45	2.72	.95	3.20	4.8
LU27	¾"	6.22	1.70	3.07	1.15	3.80	7.6
LU37	1"	7.34	1.97	3.52	1.35	4.55	13.4
LU47	1¼"	8.40	2.47	4.21	1.80	5.00	23.0
LU57	1½"	8.95	2.72	4.44	2.05	5.45	28.3
LU67	2"	10.61	3.43	5.43	2.45	6.40	56.0



T Form 7 and Form 8

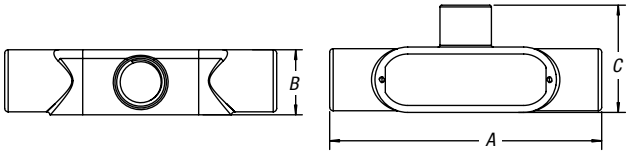
T Form 7 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
T17	½"	5.60	1.80	2.35	.95	3.20	6.0
T27	¾"	6.20	2.00	2.60	1.15	3.80	9.1
T37	1"	7.35	2.30	3.10	1.35	4.55	16.9
T47	1¼"	7.30	2.30	3.05	1.80	5.00	19.3
T57	1½"	8.60	2.60	3.80	2.05	5.45	27.5
T67	2"	9.50	3.20	4.25	2.45	6.40	50.0
T77	2½"	12.10	3.65	5.80	3.60	8.40	102.0
T87	3"	12.10	4.40	5.80	3.60	8.40	132.0
T97	3½"	14.65	4.90	7.05	4.55	10.25	210.0
T107	4"	14.65	5.40	7.05	4.55	10.25	243.0

T Form 8 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
T18	½"	5.69	7.75	2.16	1.00	3.31	6.0
T28	¾"	6.28	2.00	2.31	1.19	3.94	9.0
T38-TB	1"	7.31	2.25	2.63	1.38	4.56	15.0
T448	1¼"	8.50	2.63	3.16	1.75	5.31	24.0
T58	1½"	10.38	2.78	4.00	2.13	6.50	46.5
T68	2"	12.25	3.56	5.00	3.00	8.56	88.0
T78	2½"	15.63	4.44	6.69	4.25	10.88	110.0
T88-TB	3"	15.63	4.81	6.69	4.25	10.88	110.0

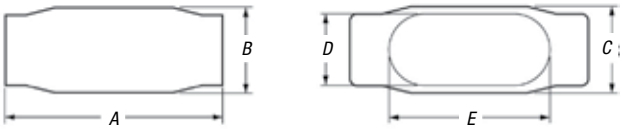
Conduit Bodies and Covers



T Series 35

T Series 35 Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	CU. IN.
T50M	½"	5.38	2.05	1.34	6.0
T75M	¾"	6.00	2.25	1.50	9.5
T100M	1"	7.05	2.65	1.80	15
T125M	1¼"	9.00	2.75	2.60	33
T150M	1½"	9.00	3.50	2.60	36
T200M	2"	11.50	4.12	3.12	76
T250M	2½"	15.00	5.71	4.31	142
T300M	3"	15.12	5.87	4.31	173
T350M	3½"	18.13	6.81	5.19	292
T400M	4"	18.13	7.15	5.56	324



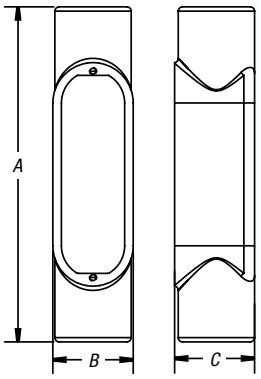
C Form 7 and Form 8

C Form 7 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
C17	½"	5.45	1.40	1.45	.95	3.20	4.0
C27	¾"	6.05	1.60	1.65	1.15	3.80	6.6
C37	1"	6.75	1.90	1.80	1.35	4.55	10.6
C47	1¼"	7.30	2.30	2.20	1.80	5.00	18.8
C57	1½"	8.60	2.60	2.45	2.05	5.45	26.4
C67	2"	9.50	3.20	3.05	2.45	6.40	51.0
C77-TB	2½"	12.10	3.65	4.25	3.60	8.40	102.0
C87	3"	12.10	4.40	4.25	3.60	8.40	132.0

C Form 8 BlueKote® Conduit Bodies

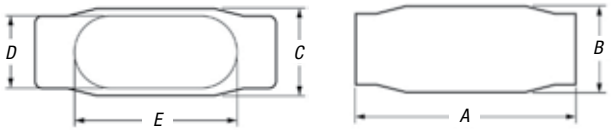
CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
C18	½"	5.53	1.44	1.38	1.00	3.31	4.9
C28	¾"	6.28	1.53	1.19	1.19	3.94	8.0
C38	1"	7.31	1.94	1.75	1.38	4.56	13.0
C448	1¼"	8.50	2.38	2.19	1.75	5.31	23.5
C58-TB	1½"	10.38	2.78	2.75	2.13	6.50	45.0
C68	2"	12.25	3.56	3.75	3.00	8.56	88.0
C78	2½"	15.63	4.44	5.00	4.25	10.88	110.0
C88	3"	15.63	4.81	5.00	4.25	10.88	110.0



C Series 35

C Series 35 Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	CU. IN.
C50M	½"	5.38	1.34	1.37	4.5
C75M-TB	¾"	6.00	1.50	1.70	7.5
C100M	1"	7.05	1.80	1.90	12.5
C125M	1¼"	9.00	2.60	2.75	35
C150M	1½"	9.00	2.60	2.83	35.3
C200M	2"	11.50	3.12	3.31	75
C250M-TB	2½"	15.00	4.31	3.90	153
C300M	3"	15.12	4.31	4.75	181
C350M	3½"	18.13	4.88	5.19	290
C400M	4"	18.13	4.88	5.56	320



LL Form 7

LL Form 7 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
LL17	½"	4.60	1.40	1.45	.95	3.20	4.0
LL27	¾"	5.25	1.60	1.65	1.15	3.80	6.6
LL37	1"	6.00	1.90	2.60	1.35	4.55	10.6
LL47	1¼"	6.45	2.30	3.05	1.80	5.00	18.6
LL57	1½"	7.90	2.60	3.80	2.05	5.45	26.4
LL67	2"	8.30	3.20	4.25	2.45	6.40	51.0
LL77	2½"	10.55	3.65	5.80	3.60	8.40	102.0
LL87	3"	10.55	4.40	5.80	3.60	8.40	132.0
LL97	3½"	12.85	4.90	7.03	4.55	10.25	210.0
LL107	4"	12.85	5.40	7.03	4.55	10.25	243.0

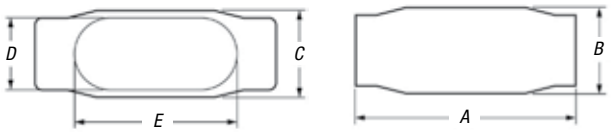
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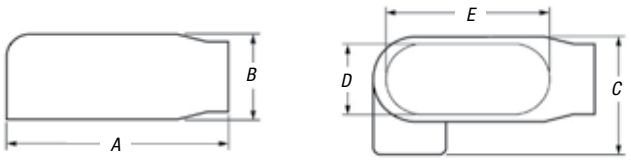
Conduit Bodies and Covers



LL Form 8

LL Form 8 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
LL18	½"	4.94	1.44	2.13	1.00	3.31	4.9
LL28	¾"	5.56	1.69	2.31	1.19	3.94	8.0
LL38	1"	6.47	1.94	2.63	1.38	4.56	13.0
LL448	1¼"	7.53	2.38	3.16	1.75	5.31	23.5
LL58	1½"	9.13	2.78	4.00	2.13	6.50	45.0
LL68	2"	11.00	3.56	5.00	3.00	8.56	88.0
LL78	2½"	13.94	4.44	6.69	4.25	10.88	110.0
LL888	3"	13.94	4.81	6.69	4.25	10.88	110.0



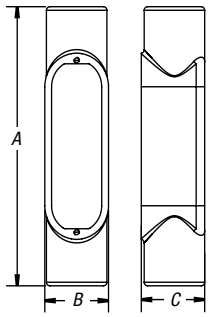
LR Form 7 and Form 8

LR Form 7 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
LR17	½"	4.60	1.40	1.45	.95	3.20	4.0
LR27	¾"	5.25	1.60	1.65	1.15	3.80	6.6
LR37	1"	6.00	1.90	2.60	1.35	4.55	10.6
LR47	1¼"	6.45	2.30	3.05	1.80	5.00	18.8
LR57	1½"	7.90	2.60	3.80	2.05	5.45	26.4
LR67	2"	8.30	3.20	4.25	2.45	6.40	51.0
LR77	2½"	10.55	3.65	5.80	3.60	8.40	102.0
LR87	3"	10.55	4.40	5.80	3.60	8.40	132.0
LR97	3½"	12.85	4.90	7.03	4.55	10.25	210.0
LR107	4"	12.85	5.40	7.03	4.55	10.25	243.0

LR Form 8 BlueKote® Conduit Bodies

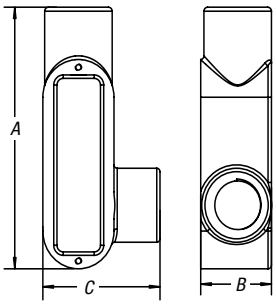
CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
LR18	½"	4.94	1.44	2.16	1.00	3.31	4.4
LR28	¾"	5.56	1.69	2.31	1.19	3.94	8.0
LR38	1"	6.47	1.94	2.63	1.38	4.56	13.0
LR448	1¼"	7.53	2.38	3.16	1.75	5.31	23.6
LR58	1½"	9.13	2.78	4.00	2.13	6.50	45.0
LR68	2"	11.00	3.56	5.00	3.00	8.56	88.0
LR78	2½"	13.94	4.44	6.69	4.25	10.88	110.0
LR888	3"	13.94	4.81	6.69	4.25	10.88	110.0



LL Series 35

LL Series 35 Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	CU. IN.
LL50M	½"	4.68	2.05	1.37	4.5
LL75M	¾"	5.37	2.25	1.70	7.5
LL100M	1"	6.20	2.65	1.90	12.5
LL125M	1¼"	8.12	2.75	2.75	32
LL150M	1½"	8.12	3.50	2.83	33
LL200M	2"	10.50	4.12	3.31	68
LL250M	2½"	13.60	5.71	3.90	142
LL300M	3"	13.87	5.87	4.75	173
LL350M	3½"	16.50	7.13	6.81	292
LL400M	4"	16.50	7.13	7.19	324

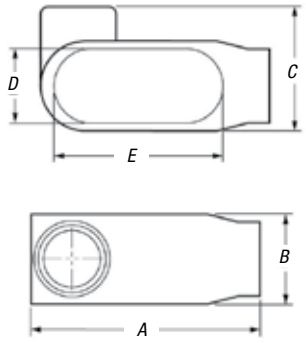


LR Series 35

LR Series 35 Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	CU. IN.
LR50M	½"	4.68	2.05	1.37	4.5
LR75M	¾"	5.37	2.25	1.70	7.5
LR100M	1"	6.20	2.65	1.90	12.5
LR125M	1¼"	8.12	2.75	2.75	32
LR150M	1½"	8.12	3.50	2.83	35.3
LR200M	2"	10.50	4.12	3.31	68
LR250M	2½"	13.60	5.71	3.90	142
LR300M	3"	13.87	5.87	4.75	173
LR350M-TB	3½"	16.25	6.10	5.62	292
LR400M	4"	16.25	6.95	5.62	324

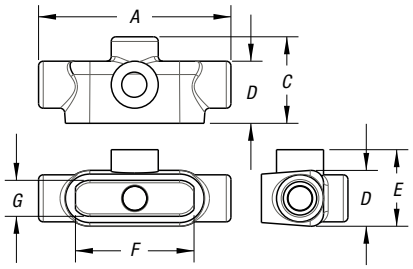
Conduit Bodies and Covers



L Form 7

L Form 7 BlueKote® Conduit Bodies

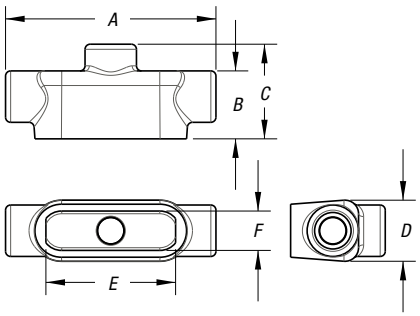
CAT. NO.	HUB SIZE	DIMENSIONS (IN.)				
		A	B	C	D	E
L17-TB	½"	4.60	1.40	1.45	.95	3.20
L27-TB	¾"	5.25	1.60	1.65	1.15	3.80
L37-TB	1"	6.00	1.90	2.60	1.35	4.55
L47-TB	1¼"	6.45	2.30	3.05	1.80	5.00
L57-TB	1½"	7.90	2.60	3.80	2.05	5.45
L67-TB	2"	8.30	3.20	4.25	2.45	6.40



TA Form 7

TA Form 7 BlueKote® Conduit Bodies

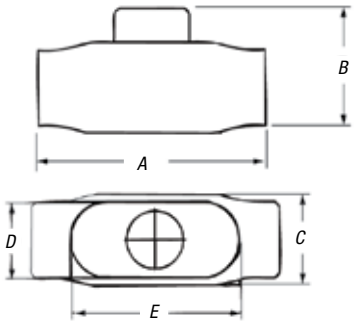
CAT. NO.	HUB SIZE	DIMENSIONS (IN.)						
		A	B	C	D	E	F	G
TA17	½"	5.57	1.80	2.57	1.62	2.34	3.19	.94
TA27	¾"	6.19	2.00	2.79	1.80	2.58	3.82	1.13
TA37	1"	7.35	2.23	3.07	2.29	3.10	4.55	1.35
TA47	1¼"	7.30	2.32	3.18	2.20	3.06	5.03	1.80
TA57	1½"	8.57	2.58	3.89	2.45	3.77	5.44	2.05
TA67	2"	9.48	3.20	4.43	3.06	4.26	6.41	2.44



TB Form 7

TB Form 7 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.)					
		A	B	C	D	E	F
TB17-TB	½"	5.57	1.77	2.57	1.62	3.19	.94
TB27	¾"	6.19	2.00	2.79	1.80	3.82	1.13
TB37	1"	7.35	2.28	3.07	2.29	4.63	1.35
TB47	1¼"	7.30	2.32	3.18	2.20	5.03	1.80
TB57	1½"	8.57	2.58	3.89	2.45	5.44	2.05
TB67	2"	9.48	3.20	4.43	3.06	6.41	2.44



TB Form 8

TB Form 8 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.)					
		A	B	C	D	E	CU. IN.
TB18	½"	5.69	2.63	1.38	1.00	3.31	6.0
TB28	¾"	6.28	2.88	1.19	1.19	3.94	9.0
TB38	1"	7.31	3.25	1.75	1.38	4.56	15.0
TB448	1¼"	8.50	3.31	2.19	1.75	5.31	24.0
TB58	1½"	10.38	3.69	2.75	2.13	6.50	46.5
TB68	2"	12.25	4.25	3.75	3.00	8.56	88.0

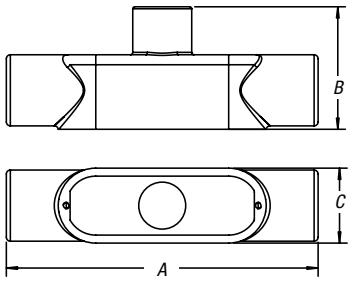
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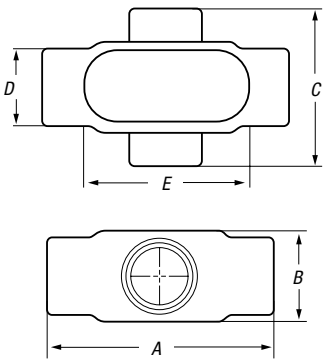
Conduit Bodies and Covers



TB Series 35

TB Series 35 Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	CU. IN.
TB50M	½"	5.38	1.34	2.05	6
TB75M	¾"	6.00	1.50	2.25	9.5
TB100M	1"	7.05	1.80	2.65	15
TB125M	1¼"	9.00	2.60	2.75	33
TB150M	1½"	9.00	2.60	2.83	36
TB200M	2"	11.50	3.12	4.42	76



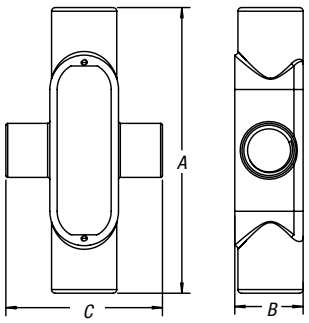
X Form 7 and Form 8

X Form 7 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
X17	½"	5.60	1.80	3.05	.95	3.20	6.0
X27	¾"	6.20	2.00	3.30	1.15	3.80	9.1
X37	1"	7.35	2.30	3.80	1.35	4.55	16.9
X47	1¼"	7.30	2.30	3.85	1.80	5.00	19.3
X57	1½"	8.60	2.60	5.05	2.05	5.45	27.5
X67	2"	9.50	3.20	5.45	2.45	6.40	52.8

X Form 8 BlueKote® Conduit Bodies

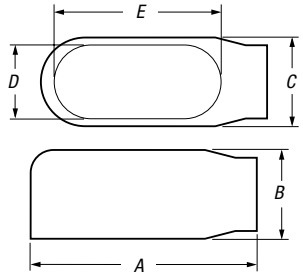
CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
X18	½"	5.69	1.75	2.91	1.00	3.31	6.0
X28	¾"	6.28	2.00	3.06	1.38	3.94	9.0
X38	1"	7.31	2.25	3.50	1.38	4.56	15.0
X448	1¼"	8.50	2.63	4.13	1.75	5.31	24.0
X58	1½"	10.38	2.47	5.25	2.13	6.50	46.5
X68	2"	12.25	3.56	6.25	3.00	8.56	88.0



X Series 35

X Series 35 Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	CU. IN.
X50M	½"	5.41	2.79	1.75	36.0
X75M	¾"	6.08	2.93	1.97	76.0
X100M	1"	7.1	3.56	2.25	6.0
X125M	1¼"	9.1	4.43	2.55	9.5
X150M	1½"	9.1	4.43	2.75	15.0
X200M	2"	11.75	5.4	3.45	33.0



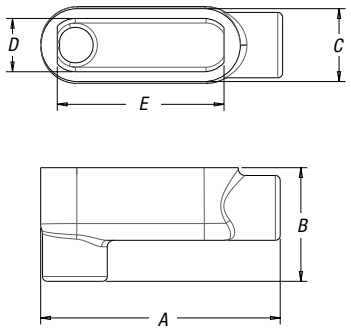
E Form 7

E Form 7 BlueKote® Conduit Bodies

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
E17	½"	4.60	1.40	1.45	.95	3.20	6.0
E27	¾"	5.25	1.60	1.65	1.15	3.80	9.1
E37	1"	6.00	1.90	1.80	1.35	4.55	16.9

Conduit Bodies and Covers

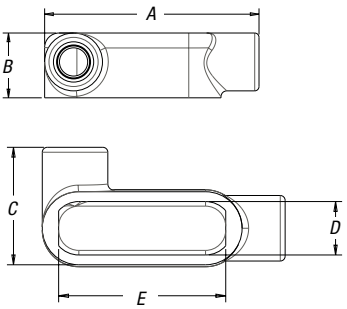
NEW!



LB Sand Cast Aluminum Form 7

LB Sand Cast Aluminum Form 7 Conduit Bodies

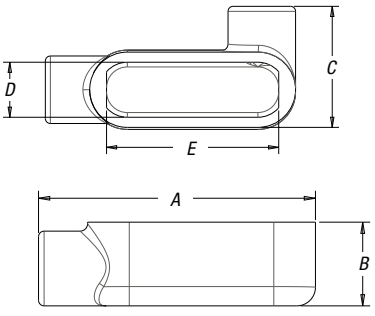
		DIMENSIONS (IN.)						
CAT. NO.	HUB SIZE	A	B	C	D	E	CU. IN.	STD. PKG. QTY.
LB17SA	½"	4.63	2.19	1.41	1.03	3.19	4.2	25
LB27SA	¾"	5.25	2.47	1.59	1.22	3.81	6.8	20
LB37SA	1"	6.22	2.88	1.75	1.38	4.56	11.0	10
LB47SA	1¼"	6.59	3.34	2.19	1.81	5.03	19.5	20
LB57SA	1½"	6.97	3.59	2.44	2.06	5.44	25.6	10
LB67SA	2"	8.13	4.25	3.06	2.44	6.41	51.2	10
LB77SA	2½"	10.56	5.19	4.25	3.63	8.38	100.4	1
LB87SA	3"	10.66	6.03	4.25	3.63	8.38	126.2	1
LB97SA	3½"	11.06	6.69	5.25	4.44	10.25	219.0	1
LB107SA	4"	12.81	7.72	5.25	4.44	10.25	247.1	1



LL Sand Cast Aluminum Form 7

LL Sand Cast Aluminum Form 7 Conduit Bodies

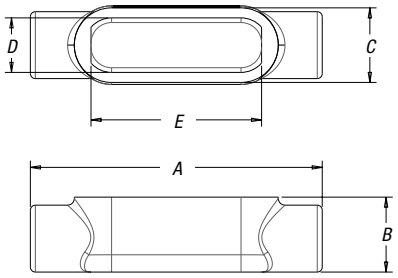
		DIMENSIONS (IN.)						
CAT. NO.	HUB SIZE	A	B	C	D	E	CU. IN.	STD. PKG. QTY.
LL17SA	½"	4.38	1.41	2.25	1.03	3.19	4.5	25
LL27SA	¾"	5.31	1.63	2.44	1.19	3.81	7.2	20
LL37SA	1"	6.22	1.88	2.78	1.38	4.56	11.5	25
LL47SA	1¼"	6.63	2.31	3.22	1.81	5.03	20.0	20
LL57SA	1½"	6.97	2.56	3.47	2.06	5.44	28.0	10
LL67SA	2"	8.13	3.19	4.13	2.44	6.25	54.2	10



LR Sand Cast Aluminum Form 7

LR Sand Cast Aluminum Form 7 Conduit Bodies

		DIMENSIONS (IN.)						
CAT. NO.	HUB SIZE	A	B	C	D	E	CU. IN.	STD. PKG. QTY.
LR17SA	½"	4.38	1.41	2.25	1.03	3.19	4.5	25
LR27SA	¾"	5.31	1.63	2.44	1.19	3.81	7.5	20
LR37SA	1"	6.22	1.88	2.78	1.38	4.56	11.2	25
LR47SA	1¼"	6.63	2.31	3.22	1.81	5.03	20.3	20
LR57SA	1½"	6.97	2.56	3.47	2.06	5.44	27.8	20
LR67SA	2"	8.13	3.19	4.13	2.44	6.25	54.0	10



C Sand Cast Aluminum Form 7

C Sand Cast Aluminum Form 7 Conduit Bodies

		DIMENSIONS (IN.)						
CAT. NO.	HUB SIZE	A	B	C	D	E	CU. IN.	STD. PKG. QTY.
C17SA	½"	5.44	1.41	1.41	1.00	3.19	4.8	25
C27SA	¾"	6.16	1.63	1.59	1.22	3.81	7.5	25
C37SA	1"	7.22	1.88	1.75	1.38	4.56	11.8	20
C47SA	1¼"	7.63	2.31	2.19	1.91	5.03	19.8	20
C57SA	1½"	8.00	2.56	2.44	2.06	5.44	27.8	10
C67SA	2"	9.16	3.22	3.06	2.44	6.25	53.2	10

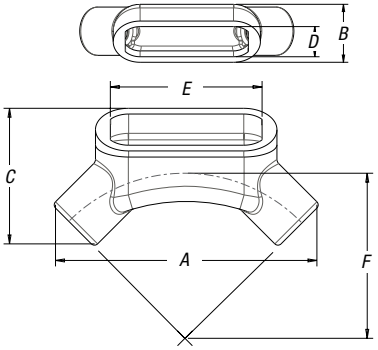
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Conduit Bodies and Covers

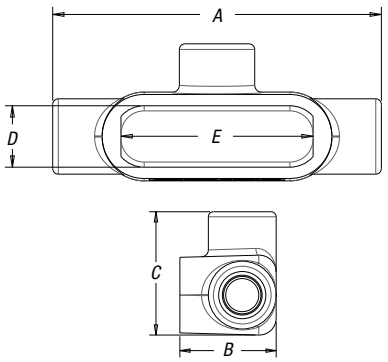


LU Sand Cast Aluminum Form 7

NEW!

LU Sand Cast Aluminum Form 7 Conduit Bodies

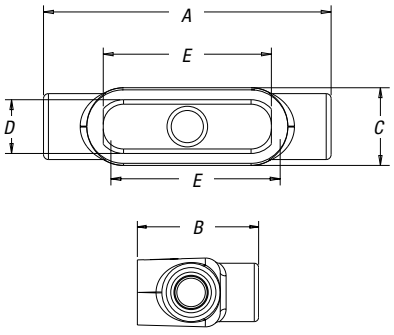
		DIMENSIONS (IN.)							
CAT. NO.	HUB SIZE	A	B	C	D	E	F	CU. IN.	STD. PKG. QTY.
LU17SA	½"	5.53	1.50	2.88	1.03	3.19	3.31	5.1	25
LU27SA	¾"	6.28	1.72	3.22	1.22	3.81	3.75	8.7	20
LU37SA	1"	7.34	1.97	3.78	1.38	4.56	4.41	13.4	10
LU47SA	1¼"	8.38	2.47	4.34	1.81	5.03	4.91	23.8	20
LU57SA	1½"	8.97	2.72	4.53	2.06	5.44	5.19	29.6	10
LU67SA	2"	10.78	3.44	5.41	2.44	6.25	6.25	59.4	10



T Sand Cast Aluminum Form 7

T Sand Cast Aluminum Form 7 Conduit Bodies

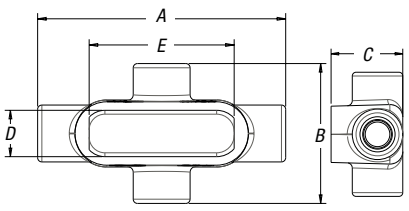
		DIMENSIONS (IN.)						
CAT. NO.	HUB SIZE	A	B	C	D	E	CU. IN.	STD. PKG. QTY.
T17SA	½"	5.44	1.78	2.28	1.03	3.19	5.5	20
T27SA	¾"	6.16	2.00	2.59	1.22	3.81	9.1	10
T37SA	1"	7.22	2.28	3.22	1.38	4.56	15.5	10
T47SA	1¼"	7.63	2.31	3.22	1.81	5.03	20.1	20
T57SA	1½"	8.00	2.56	3.47	2.06	5.44	27.1	10
T67SA	2"	9.16	3.19	4.09	2.44	6.41	51.0	10
T77SA	2½"	12.13	3.63	5.81	3.63	8.38	104.6	1
T87SA	3"	12.28	4.41	5.91	3.63	8.38	135.2	1
T97SA	3½"	14.44	4.91	6.94	4.44	10.25	230.0	1
T107SA	4"	14.50	5.41	6.97	4.44	10.25	260.3	1



TB Sand Cast Aluminum Form 7

TB Sand Cast Aluminum Form 7 Conduit Bodies

		DIMENSIONS (IN.)						
CAT. NO.	HUB SIZE	A	B	C	D	E	CU. IN.	STD. PKG. QTY.
TB17SA	½"	5.44	2.59	1.50	1.03	3.19	5.6	5
TB27SA	¾"	6.16	2.84	1.66	1.19	3.81	9.0	5
TB37SA	1"	7.22	3.28	1.78	1.38	4.56	13.1	2
TB47SA	1¼"	7.63	3.34	2.19	1.81	5.03	19.3	2
TB57SA	1½"	8.00	3.59	2.44	2.06	5.44	25.0	2
TB67SA	2"	9.16	4.25	3.06	2.44	6.41	51.6	2



X Sand Cast Aluminum Form 7

X Sand Cast Aluminum Form 7 Conduit Bodies

		DIMENSIONS (IN.)						
CAT. NO.	HUB SIZE	A	B	C	D	E	CU. IN.	STD. PKG. QTY.
X17SA	½"	5.44	3.06	1.78	1.03	3.19	5.8	10
X27SA	¾"	6.16	3.44	2.00	1.22	3.81	10.3	10
X37SA	1"	7.22	4.22	2.28	1.38	4.56	16.4	5
X47SA	1¼"	7.63	4.25	2.31	1.81	5.03	21.3	5
X57SA	1½"	8.00	4.50	2.56	2.06	5.44	28.6	5
X67SA	2"	9.16	5.16	3.19	2.44	6.41	53.5	5

Conduit Bodies and Covers

Mogul Conduit Outlet Bodies



Application

- Act as pull outlets for conductors that are stiff, due to large size or type of insulation
- Provide the longer openings needed when pulling large conductors
- Prevent sharp bends and kinks in large conductors (protects insulation during installation)
- Provide ample openings for splices and taps
- Provide access to wiring for maintenance and future system changes

Features

- Long openings
- Provision for easy bends
- Tapered tapped hubs with integral bushings
- Stainless Steel cover screws
- Covers and gaskets included

Standard Materials

Class 30 Gray iron alloy

Standard Finishes

Electrogalvanized and aluminum acrylic paint

Listings/Compliances

UL Standard: 514B

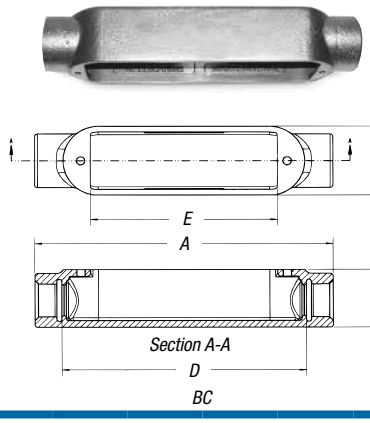
Fed. Spec.: W-C-586D

CSA Standard: C22.2 No.18

UL listed for wet locations

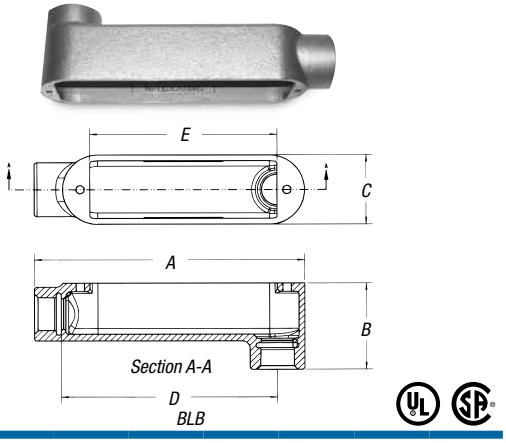
Note: *See NEC® 370-28 (a) (1) and (2) for pull length and bending space requirements applicable to BC, BLB and BUB Series Moguls.*

BC Mogul Series (Cover and Gasket Included)



CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
BC3-TB	1"	9.56	1.88	2.25	7.84	6	20.0
BC4-TB	1¼"	9.56	2.31	2.25	7.84	6	25.0
BC5-TB	1½"	13.75	2.56	3	11.45	10	60.0
BC6-TB	2"	13.75	3.31	3	11.45	10	78.0
BC7-TB	2½"	18.38	3.63	4.25	15.61	15	180.0
BC8-TB	3"	18.38	4.38	4.25	15.82	15	225.0
BC10-TB	4"	23.75	5.38	5.25	20.50	20	460.0

BLB Mogul Series (Cover and Gasket Included)



CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
BLB3-TB	1"	8.66	2.80	2.25	6.92	6	20.0
BLB4-TB	1¼"	8.66	2.70	2.25	6.70	6	25.0
BLB5-TB	1½"	12.58	2.56	3	10.36	10	62.0
BLB6-TB	2"	12.58	4.16	3	10.13	10	78.0
BLB7-TB	2½"	16.94	5.10	4.25	13.89	15	170.0
BLB8-TB	3"	16.94	5.81	4.25	13.59	15	210.0
BLB9-TB	3½"	22.16	6.50	5.25	18.32	20	410.0
BLB10-TB	4"	22.16	7.00	5.25	18.06	20	460.0

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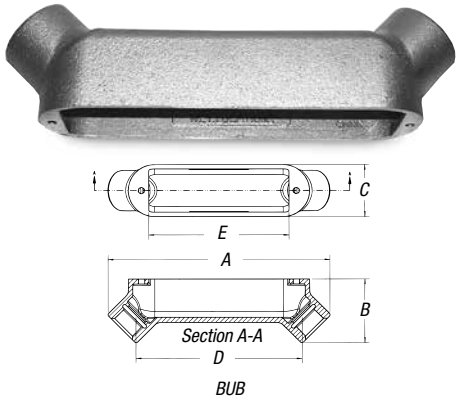
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Conduit Bodies and Covers

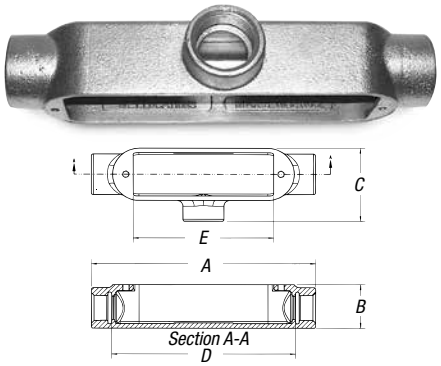
BUB Mogul Series (Cover and Gasket Included)



BUB

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
BUB3-TB	1"	9.49	2.75	2.25	7.01	6	20.0
BUB4-TB	1¼"	9.55	3.21	2.25	6.71	6	25.0
BUB5-TB	1½"	16.68	6.67	3	10.47	10	62.0
BUB6-TB	2"	13.68	4.28	3	10.20	10	78.0
BUB7-TB	2½"	18.30	5.03	4.25	13.97	15	170.0
BUB8-TB	3"	18.30	5.67	4.25	13.50	15	210.0
BUB9-TB	3½"	23.74	6.72	5.25	18.07	20	385.0
BUB10-TB	4"	23.74	7.22	5.25	17.73	20	430.0

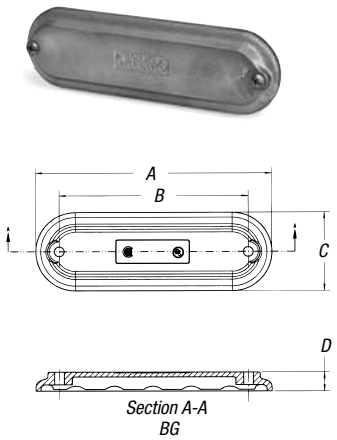
BT Mogul Series (Cover and Gasket Included)



BT

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
BT3-TB	1"	9.56	1.88	3.16	7.84	6	20.0
BT5-TB	1½"	13.75	2.56	4.06	11.45	10	62.0
BT6-TB	2"	13.75	3.31	4.06	11.45	10	78.0
BT7-TB	2½"	18.38	3.63	5.59	15.61	15	180.0
BT8-TB	3"	18.38	4.38	5.72	15.82	15	225.0
BT9-TB	3½"	23.75	4.88	6.88	20.50	20	410.0
BT10-TB	4"	23.75	5.38	6.88	20.50	20	460.0

BG Mogul Series Replacement Covers



BG

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E
BG48-TB	1"–1¼"	8.27	6.62	2.77	.67	—
BG68-TB	1½"–2"	12	10.62	3.60	.82	—
BG88-TB	2½"–3"	16.22	12.44	4.97	.85	2.75
BG98-TB	3½"– 4"	21.21	16.63	5.96	.87	3.75

Conduit Bodies and Covers

Aluminum Mogul Conduit Outlet Bodies

Application

- Raintight junction for bringing electrical service into a location
- Spacious, accessible wiring chamber provides a convenient location to pull conductors and make splices

Features

- Copper-free* aluminum provides increased corrosion resistance
- Precision cast and machined surfaces permit safer wire pulling
- Clean cover edges provide good gasket sealing
- Precision NPT threaded hubs enable trouble-free field installation for rigid and IMC conduit
- Deep slotted stainless steel cover screws for faster installation
- Clear UL, CSA and cubic content markings speed approval by inspectors
- Dome-style cover permits easy wire pulling
- Meets NEC® Article 314.28, 6-1 ratio
- Meets NEMA 3R standards

Standard Materials

- Mogul Pulling Elbows: Die cast aluminum alloy A360 with less than .004 copper content (copper-free). Stainless steel screws
- Gaskets: Composition

Standard Finish

- Aluminum lacquer finish

Listings/Compliances

- UL Listed
- CSA Certified
- Federal Spec. W-C-586
- NEC® Article 314.28

Sample Specifications

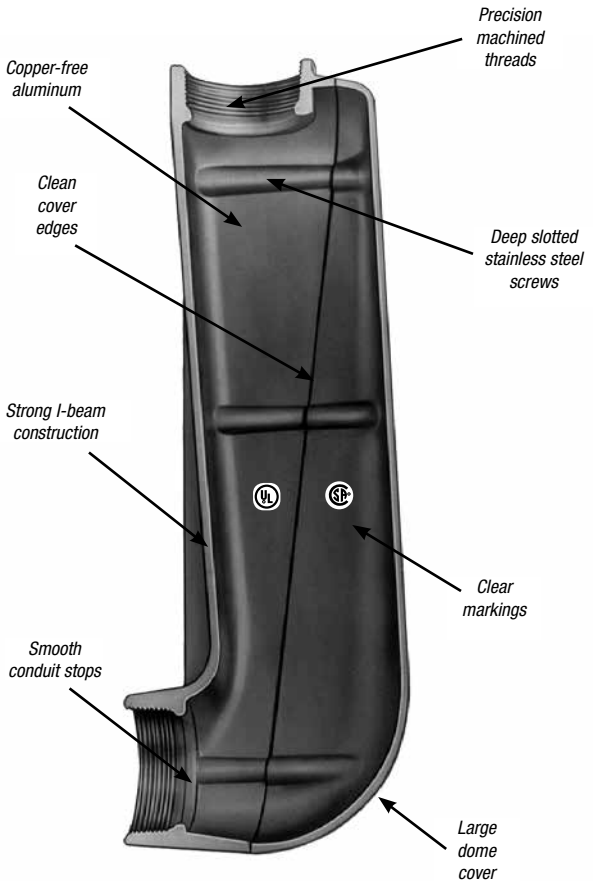
- Mogul Pulling Elbows shall be die cast copper-free* aluminum alloy A360. All conduit stops shall be coined and free of rough edges. Mogul Pulling Elbows shall be finished with aluminum lacquer

Mogul Pulling Elbows shall be Red•Dot® Catalog No. _____

*Less than .004 copper content



MALB



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Conduit Bodies and Covers



MALB-3 through -6



MALB-7 through -10

Aluminum Mogul Conduit Outlet Bodies with Covers and Gaskets

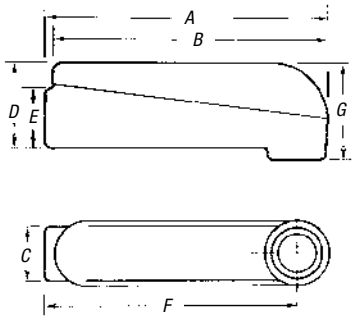
CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
MALB-3	1"	1	10	174
MALB-4	1¼"	2	10	160
MALB-5	1½"	1	1	400
MALB-6	2"	1	1	375
MALB-7	2½"	1	1	1100
MALB-8	3"	1	1	1060
MALB-9	3½"	1	1	1900
MALB-10	4"	1	1	1800



MGKV-4 through -7

Replacement Covers and Gaskets

COVER CAT. NO.	GASKET CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
—	MGKV-5	1¼"	1	5	4
MALB-56CV	MGKV-5	1½" to 2"	1	5	4
MALB-78CV	MGKV-6	2½" to 3"	1	5	5
MALB-90CV	MGKV-7	3½" to 4"	1	5	5



MALB

MALB Dimensions

SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	G	CU. IN.
1"	9.63	9.06	2.50	2.75	2.06	8.50	3.63	40.0
1¼"	9.63	9.06	2.50	2.75	2.06	8.50	3.63	40.0
1½"	14.53	14.25	2.75	4.00	2.81	13.00	5.22	128.0
2"	14.53	14.25	2.75	4.00	2.81	13.00	5.22	128.0
2½"	21.69	21.41	4.50	5.63	4.38	18.00	7.72	398.0
3"	21.69	21.41	4.50	5.63	4.38	18.00	7.72	398.0
3½"	28.63	28.69	5.50	6.50	5.38	24.00	9.72	766.7
4"	28.63	28.69	5.50	6.50	5.38	24.00	9.72	766.7

Device Boxes and Covers

Cast Device Boxes

Application

- Accommodate wiring devices
- Act as pull boxes for conductors in a threaded rigid conduit system, including an internal ground screw
- Provide openings to make splices and taps in conductors
- Provide access to conductors for maintenance and future system changes
- Connect conduit sections

Features

- All hubs have NPT Threads with a minimum of five full threads and integral bushing. Internal grounding screw standard on boxes
- Suitable for wet locations when used with gasketed covers
- Available in shallow (FS) or deep (FD) boxes. Use FD if device to be enclosed exceeds 1⅝" in depth
- Use blank bodies where special arrangements of conduit hubs or entrances are required
- All cover holes are #6-32
- Mounting lugs are standard on all FS and FD boxes

Size Range

Hubs: ½" to 1" NPT

Materials

Boxes: Class 30 gray iron alloy

Covers: Sand cast aluminum alloy and sheet steel

Gaskets: Neoprene

Finish

Zinc-plated with aluminum acrylic paint

Listings/Compliances

UL 514A (wet locations when used with gasketed covers)

CSA C22.2 No.18



Dead-End



Dead-End



Thru-Feed

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Device Boxes and Covers

Single-Gang Cast Device Boxes

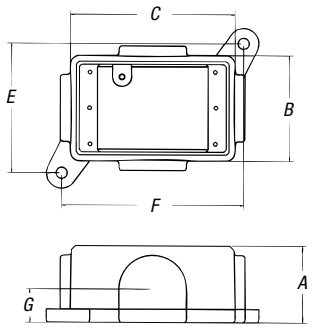


Fig. A Dead-End

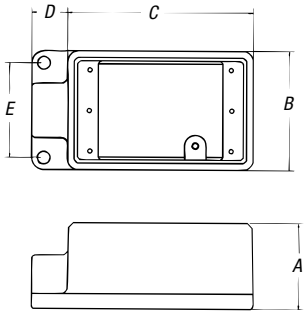


Fig. B Dead-End

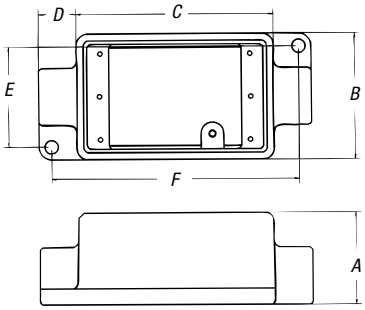


Fig. C Thru-Feed

Shallow Single-Gang Cast Device Boxes

CAT. NO.	FIG.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	G	THROAT DIA. MIN.	MAX.
Dead-End											
FS019-TB	A	Blank	2.00	2.75	4.28	—	3.38	4.72	.88	N/A	N/A
FS1-TB	B	½"	2.00	2.75	4.28	.88	2.19	—	—	.570	.610
FS2-TB	B	¾"	2.00	2.75	4.28	.88	2.19	—	—	.755	.810
FS3-TB	B	1"	2.00	2.75	4.28	.88	2.19	—	—	.935	1.035
Thru-Feed											
FSC1-TB	C	½"	2.00	2.75	4.28	.88	2.19	5.38	—	.570	.610
FSC2-TB	C	¾"	2.00	2.75	4.28	.88	2.19	5.38	—	.755	.810
FSC3-TB	C	1"	2.00	2.75	4.28	.88	2.19	5.38	—	.935	1.035

Deep Single-Gang Cast Device Boxes

CAT. NO.	FIG.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	G	THROAT DIA. MIN.	MAX.
Dead-End											
FD019-TB	A	Blank	2.81	2.75	4.28	—	3.38	4.72	1.38	N/A	N/A
FD1-TB	B	½"	2.81	2.75	4.28	.88	2.19	—	—	.570	.610
FD2-TB	B	¾"	2.81	2.75	4.28	.88	2.19	—	—	.755	.810
FD3-TB	B	1"	2.81	2.75	4.28	.88	2.19	—	—	.935	1.035
Thru-Feed											
FDC1-TB	C	½"	2.81	2.75	4.28	.88	2.19	5.38	—	.570	.610
FDC2-TB	C	¾"	2.81	2.75	4.28	.88	2.19	5.38	—	.755	.810
FDC3-TB	C	1"	2.81	2.75	4.28	.88	2.19	5.38	—	.935	1.035

Device Boxes and Covers

Double-Gang Cast Device Boxes



Fig. A Dead-End



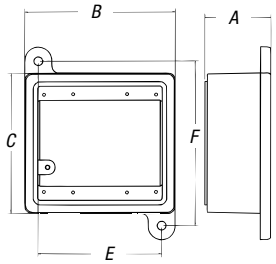
Fig. B Dead-End

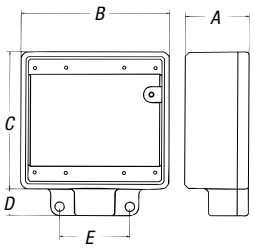


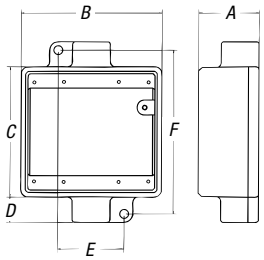
Fig. C Thru-Feed

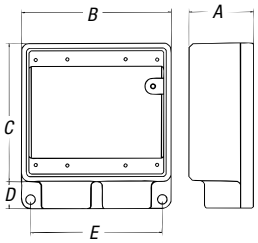


Fig. D Dead-End









Shallow Double-Gang Cast Device Boxes

CAT. NO.	HUB FIG.	SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	THROAT DIA. MIN.	MAX.
Dead-End										
FS062-TB	A	Blank	2.00	4.63	4.28	—	4.13	5.50	N/A	N/A
FS12-TB	B	½"	2.00	4.63	4.28	.88	2.19	—	.570	.610
FS22-TB	B	¾"	2.00	4.63	4.28	.88	2.19	—	.755	.810
FS32-TB	B	1"	2.00	4.63	4.28	.88	2.19	—	.935	1.035
Thru-Feed										
FSC12-TB	C	½"	2.00	4.63	4.28	.88	2.19	5.38	.570	.610
FSC222-TB	C	¾"	2.00	4.63	4.28	.88	2.19	5.38	.755	.810
FSC32-TB	C	1"	2.00	4.63	4.28	.88	2.19	5.38	.935	1.035

Deep Double-Gang Cast Device Boxes

CAT. NO.	FIG.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	THROAT DIA. MIN.	MAX.
Dead-End										
FD062-TB	A	Blank	2.81	4.63	4.28	—	4.13	5.50	N/A	N/A
FD12-TB	B	½"	2.81	4.63	4.28	.88	2.19	—	.570	.610
FD22-TB	B	¾"	2.81	4.63	4.28	.88	2.19	—	.755	.810
FD32-TB	B	1"	2.81	4.63	4.28	.88	2.19	—	.935	1.035
Thru-Feed										
FDC12-TB	C	½"	2.81	4.63	4.28	.88	2.19	5.38	.570	.610
FDC222-TB	C	¾"	2.81	4.63	4.28	.88	2.19	5.38	.755	.810
FDC32-TB	C	1"	2.81	4.63	4.28	.88	2.19	5.38	.935	1.035

Double-Gang Cast Device Boxes, Double Hub

CAT. NO.	FIG.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	THROAT DIA. MIN.	MAX.
FSS222-TB	D	¾"	2.00	4.63	4.28	.88	4.06	.755	.810
FDS222-TB	D	¾"	2.81	4.63	4.28	.88	4.06	.755	.810

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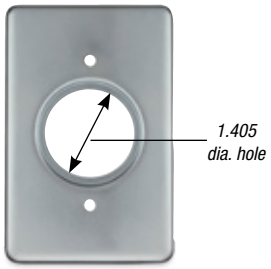
Device Boxes and Covers

Single-Gang Covers

CAT. NO.	DESCRIPTION
DSS100-TB	Blank, Sheet Steel
DS21-TB	Round Receptacle, Sheet Steel
DS23-TB	Duplex Receptacle, Sheet Steel
DS32-TB	Single Switch, Sheet Steel
DS100G-TB	Blank, Cast Aluminum



DSS100-TB



DS21-TB

Double-Gang Covers

CAT. NO.	DESCRIPTION
S1002-TB	Blank, Sheet Steel
S32232-TB	2 Receptacle/Switch, Sheet Steel
S32212-TB	Single Receptacle/Switch, Sheet Steel
S232-TB	2 Dual Receptacle, Sheet Steel
S322-TB	2 Switch, Sheet Steel
S1002GSA-TB	Blank, Cast Aluminum with Gasket



DS23-TB



DS32-TB



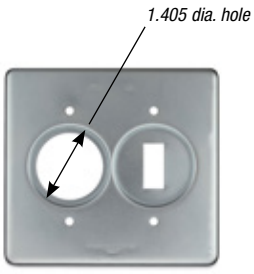
DS100G-TB



S1002-TB



S32232-TB



S32212-TB



S232-TB



S322



S1002GSA-TB

Device Boxes and Covers

Aluminum Device Boxes

Application

- Industrial-grade FS/FD device boxes and raintight covers protect wiring devices, switches, electronic components, and terminal blocks in dry, damp and wet locations.
- Spacious, accessible wiring chamber provides a convenient location to maintain or change a system, pull conductors and make splices
- Junction for branch conduits
- Aluminum boxes can be used with steel rigid conduit



AFS



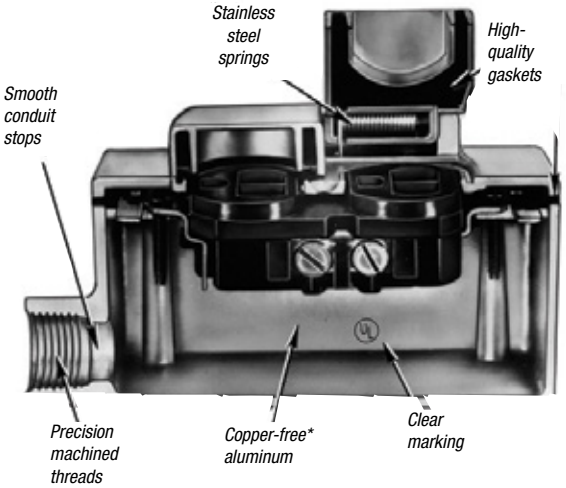
2AFSC



CWP-G



CDR



Features

- Copper-free* aluminum, stainless steel cover springs and hinge pins provide increased corrosion resistance
- Die-cast construction, boxes with securely fastened mounting plates and industrial designed covers combine to produce a rugged protective enclosure for devices on industrial and OEM applications
- Clean cover edges provide good gasket sealing
- Precision NPT threaded hubs allow trouble-free field installation for rigid or IMC conduit
- Clear UL, CSA and cubic content markings speed approval by inspectors
- Boxes — external hub design provides increased wiring room
- Covers ship complete with gaskets and screws

Standard Materials

Die-cast aluminum alloy A360 with less than .004% copper content (copper-free)

Cover hinge pins and springs: Stainless steel

Standard Finish

Aluminum lacquer finish

Listings/Compliances

UL Listed

Boxes CSA Certified with factory-installed ground screw **

Covers CSA Certified

Federal Spec. W-C-586

Sample Specifications

Industrial-grade FS/FD device boxes and covers shall be die-cast copper-free* aluminum alloy A360. All conduit stops shall be coined and free of rough edges. Raintight covers shall have stainless steel springs and hinge pins and are suitable for use in wet locations with cover closed (CFSB, CFST and CFSTF suitable for wet locations). Industrial-grade FS/FD device boxes and covers shall be finished with aluminum lacquer. Industrial-grade FS/FD device boxes and covers shall be Thomas & Betts Catalog No. _____

* Less than .004% copper content

** Consult factory for lead time and minimum quantity

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Device Boxes and Covers



AFS



AFSC



AFSS



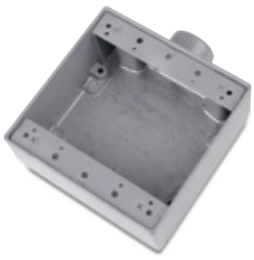
AFSCC



ADFS



ADFSC



2AFS



2AFSC



2ADFS



FSMG-TB

Single-Gang Boxes Raintight*

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
Standard, 1-Hole Box, Dead End				
AFS-1*	½"	5	25	68
AFS-2*	¾"	5	25	74
AFS-3*	1"	5	25	72
Standard, 2-Hole Box, Through Feed				
AFSC-1*	½"	5	25	72
AFSC-2*	¾"	5	25	88
AFSC-3*	1"	5	25	79
Standard, 2-Hole Box, Dead End				
AFSS-1*	½"	5	25	80
AFSS-2*	¾"	5	25	76
Standard, 3-Hole Box, Through Feed				
AFSCC-1*	½"	5	25	88
AFSCC-2*	¾"	5	25	80
Deep, 1-Hole Box, Dead End				
ADFS-1*	½"	—	5	74
ADFS-2*	¾"	—	5	78
ADFS-3*	1"	—	5	80
Deep, 2-Hole Box, Through Feed				
ADFSC-1*	½"	—	5	76
ADFSC-2*	¾"	—	5	90
ADFSC-3*	1"	—	5	90

** Rain-tight when used with appropriate T&B covers.*

Double-Gang Boxes Raintight*

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
Standard, 1-Hole Box, Dead End				
2AFS-1*	½"	2	10	115
2AFS-2*	¾"	2	10	95
2AFS-3*	1"	2	10	90
Standard, 2-Hole Box, Through Feed				
2AFSC-1*	½"	2	10	104
2AFSC-2*	¾"	2	10	102
Deep, 1-Hole Box, Dead End				
2ADFS-1*	½"	—	3	128
2ADFS-2*	¾"	—	3	143

** Rain-tight when used with appropriate T&B covers.*

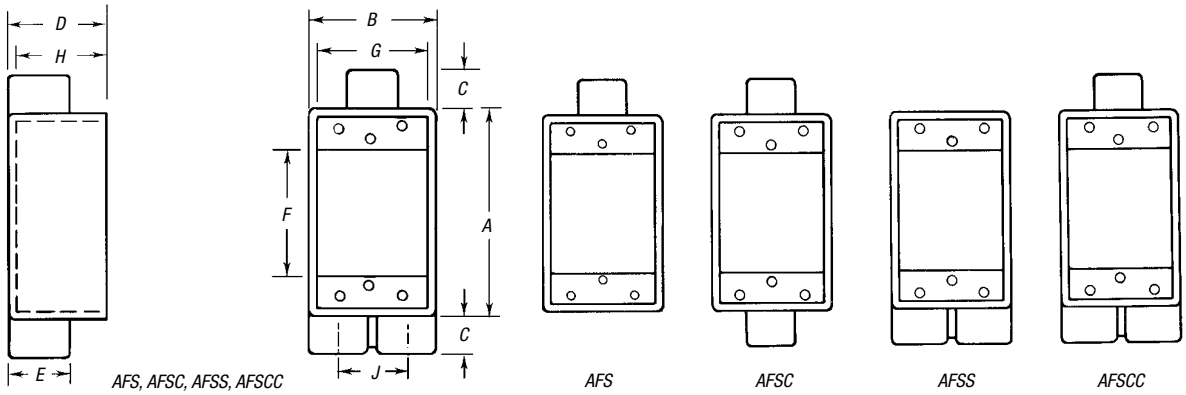
Multi-Gang Boxes Raintight*

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
FSMG-TB	4" Threadless Conduit	—	1	242

** Rain-tight when used with appropriate T&B covers and gaskets.*

Device Boxes and Covers

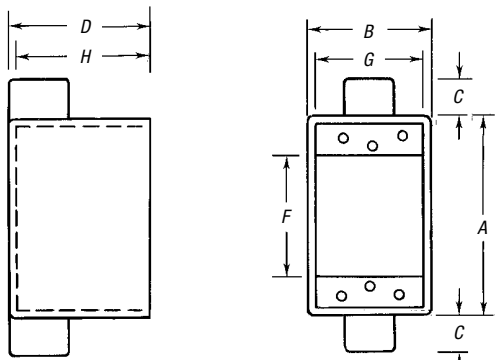
Dimensions and Cubic Inches (CI) for Single-Gang Boxes



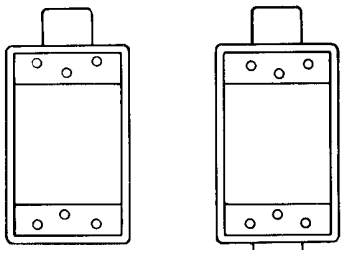
AFS, AFSC, AFSS, AFSCC

AFS AFSC AFSS AFSCC

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	J	CU. IN.
AFS-1	½"	4 9/16	2 13/16	13/16	2 1/16	1 1/8	2 7/8	2 9/16	1 15/16	—	21.6
AFS-2	¾"	4 9/16	2 13/16	13/16	2 1/16	1 11/16	2 7/8	2 9/16	1 15/16	—	21.6
AFS-3	1"	4 9/16	2 13/16	13/16	2 1/16	1 11/16	2 7/8	2 9/16	1 15/16	—	21.6
AFSC-1	½"	4 9/16	2 13/16	13/16	2 1/16	1 1/8	2 7/8	2 9/16	1 15/16	—	21.6
AFSC-2	¾"	4 9/16	2 13/16	13/16	2 1/16	1 11/16	2 7/8	2 9/16	1 15/16	—	21.6
AFSC-3	1"	4 9/16	2 13/16	13/16	2 1/16	1 11/16	2 7/8	2 9/16	1 15/16	—	21.6
AFSS-1	1½"	4 9/16	2 13/16	13/16	2 1/16	1 3/8	2 7/8	2 9/16	1 15/16	1½	21.6
AFSS-2	¾"	4 9/16	2 13/16	13/16	2 1/16	1 3/8	2 7/8	2 9/16	1 15/16	1½	21.6
AFSCC-1	½"	4 9/16	2 13/16	13/16	2 1/16	1 3/8	2 7/8	2 9/16	1 15/16	1½	21.6
AFSCC-2	¾"	4 9/16	2 13/16	13/16	2 1/16	1 3/8	2 7/8	2 9/16	1 15/16	1½	21.6



ADFS, ADFSC



ADFS ADFSC

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	CU. IN.
ADFS-1	½"	4 9/16	2 13/16	7/8	3 1/16	1 1/8	2 7/8	2 9/16	2 15/16	31.3
ADFS-2	¾"	4 9/16	2 13/16	7/8	3 1/16	1 11/16	2 7/8	2 9/16	2 15/16	31.3
ADFS-3	1"	4 9/16	2 13/16	7/8	3 1/16	1 11/16	2 7/8	2 9/16	2 15/16	31.3
ADFSC-1	1½"	4 9/16	2 13/16	7/8	3 1/16	1 1/8	2 7/8	2 9/16	2 15/16	31.3
ADFSC-2	¾"	4 9/16	2 13/16	7/8	3 1/16	1 11/16	2 7/8	2 9/16	2 15/16	31.3
ADFSC-3	1"	4 9/16	2 13/16	7/8	3 1/16	1 11/16	2 7/8	2 9/16	2 15/16	31.3

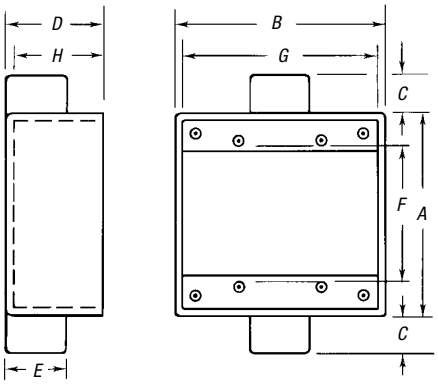
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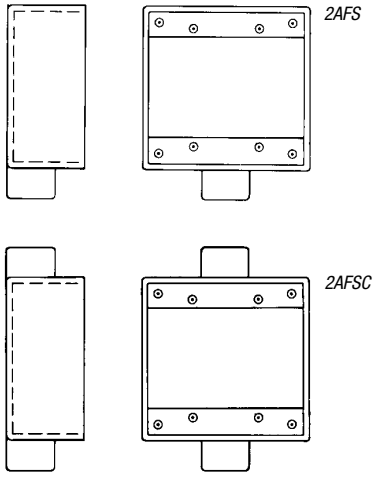
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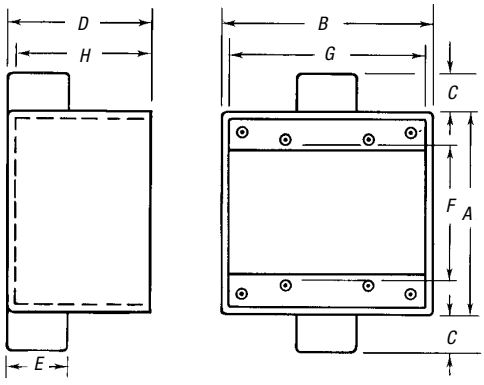
Dimensions and Cubic Inches (CI) for Double-Gang Boxes



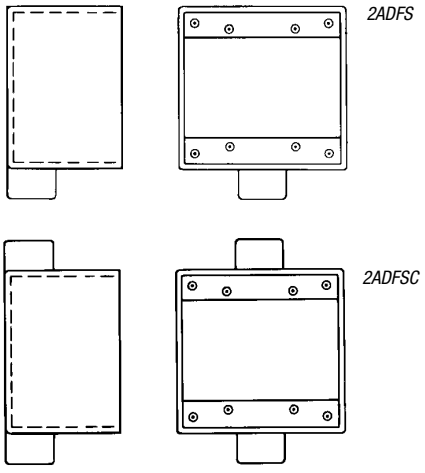
2AFS, 2AFSC



CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	CU. IN.
2AFS-1	½"	4 9/16	4 5/8	13/16	2 1/16	1 3/8	2 7/8	4 3/8	1 15/16	36.0
2AFS-2	¾"	4 9/16	4 5/8	13/16	2 1/16	1 3/8	2 7/8	4 3/8	1 15/16	36.0
2AFS-3	1"	4 9/16	4 5/8	7/8	2 1/16	1 11/16	2 7/8	4 3/8	1 15/16	36.0
2AFSC-1	½"	4 9/16	4 5/8	13/16	2 1/16	1 3/8	2 7/8	4 3/8	1 15/16	36.0
2AFSC-2	¾"	4 9/16	4 5/8	13/16	2 1/16	1 3/8	2 7/8	4 3/8	1 15/16	36.0



2ADFS, 2ADFSC



CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	CU. IN.
2ADFS-1	½"	4 9/16	4 5/8	13/16	3 3/32	1 3/8	2 7/8	4 3/8	20	54.0
2ADFS-2	¾"	4 9/16	4 5/8	13/16	3 3/32	1 3/8	2 7/8	4 3/8	20	54.0
2ADFS-3	1"	4 9/16	4 5/8	7/8	3 3/32	1 11/16	2 7/8	4 3/8	20	54.0
2ADFSC-2	¾"	4 9/16	4 5/8	13/16	3 3/32	1 3/8	2 7/8	4 3/8	20	54.0
2ADFSC-3	1"	4 9/16	4 5/8	7/8	3 3/32	1 11/16	2 7/8	4 3/8	20	54.0

Device Boxes and Covers

Special new aluminum alloy offers the ultimate in corrosion resistance!

T&B® FS/FD CorroStall® Aluminum Boxes



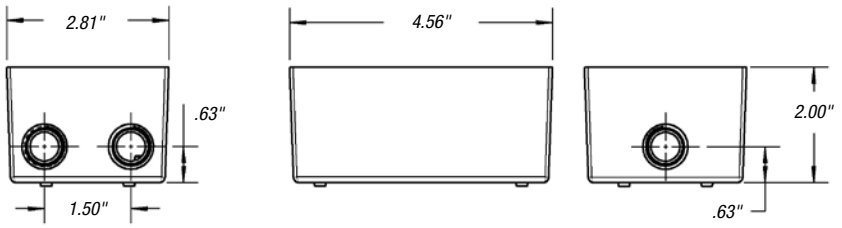
- Special aluminum alloy provides corrosion resistance as cast
- No protective coating required to prevent corrosion
- Ideal for use in food and beverage or pharmaceutical washdown areas, chemical processing and other corrosive environments
- Available in single- and double-gang sizes
- Use with standard T&B FS/FD Aluminum Covers

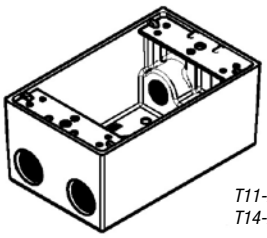
Material

Aluminum alloy

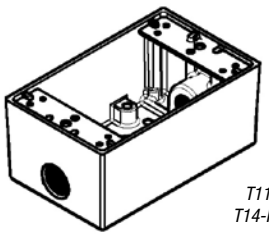
Finish

As cast

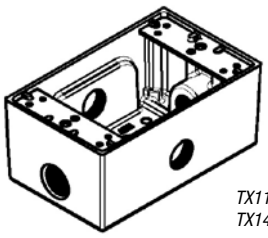




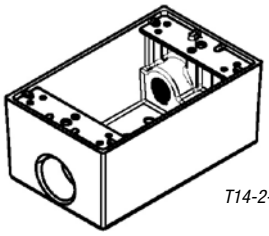
T11-22-FP
T14-22-FP



T11-FP
T14-PL-FP



TX11-5-FP
TX14-5-FP



T14-2-FP

Single-Gang CorroStall® Boxes

CAT. NO.	NO. OF OUTLET HOLES	HUB SIZE (IN.)	STD. PKG.
T11-22-FP	5	½	25
T14-22-FP	5	¾	25
T11-FP	3	½	25
T14-PL-FP	3	¾	25
TX11-5-FP	5	½	25
TX14-5-FP	5	¾	25
T14-2-FP	4	¾	25

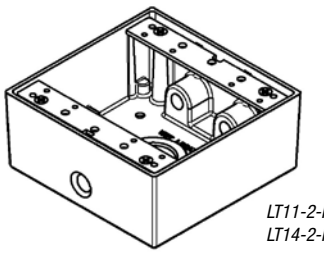
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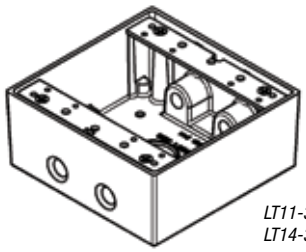
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Device Boxes and Covers

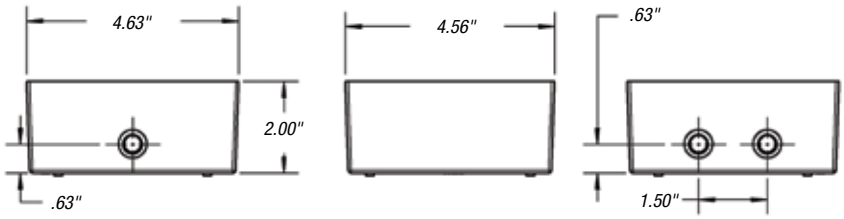


LT11-2-FP
LT14-2-FP



LT11-3-FP
LT14-3-FP





Double-Gang CorroStall® Boxes

CAT. NO.	NO. OF OUTLET HOLES	HUB SIZE (IN.)	STD. PKG.
LT11-3-FP	5	½	10
LT14-3-FP	5	¾	10
LT11-2-FP	4	½	10
LT14-2-FP	4	¾	10

Device Boxes and Covers

Aluminum Single- and Double-Gang Covers



CWPDR



CWPDR-FS



CFSDR



CFSH-G



CWPV-G



CFSR-G



CFSR Series



CFST



CFSTF



CFSB

Single-Gang Covers — Raintight*

CAT. NO.	DESCRIPTION	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
For Duplex Receptacles, Horizontal				
CWPDR*	Duplex Receptacle Cover with (2) Spring Doors, Device Mount	1	25	40
CWPDR-FS*	Box Mount	1	25	40
For Duplex Receptacles, Vertical				
CFSDR*	Box Mount	1	25	38
For GFCI Receptacles, Horizontal				
CFSH-G*	Box Mount	1	25	40
For GFCI Receptacles, Vertical				
CWPV-G*	GFCI Receptacle Cover, $2^{21}/_{32}$" x $1^{11}/_{32}$" Rectangular Opening Device Mount	1	25	40
CFSR-G*	Box Mount	1	25	40

**Raintight when used with appropriate Thomas & Betts boxes and gaskets. Suitable for use in wet locations with cover closed — NEMA 3R.*

CAT. NO.	NOMINAL SIZE	MAX. DEVICE FACE DIA.	UNIT QTY.	STD. PKG.	WT. LBS PER 100
For Single Receptacles, Vertical (Box Mount Only)					
CFSR-L*	$1^{9}/_{16}$"	1.600"	1	25	40
CFSR-S*	$1^{3}/_{8}$"	1.395"	1	25	40
CFSR-X*	$1^{27}/_{32}$"	1.865"	1	25	40
CFSR-XL*	$2^{1}/_{8}$"	2.145"	1	25	40
CFSR-Y*	$1^{3}/_{4}$"	1.750"	1	25	40

**Raintight when used with appropriate Thomas & Betts boxes and gaskets. Suitable for use in wet locations with cover closed — NEMA 3R.*

CAT. NO.	DESCRIPTION	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
Switch Cover				
CFST*	Plunger Style, Switch Cover, Box Mount NEMA 3R	1	25	40
Switch Cover				
CFSTF*	Front Lever, Switch Cover, Box Mount NEMA 4	1	25	40
Blank Cover				
CFSB*	Blank Cover, Box Mount, NEMA 3R	1	25	14

**Raintight when used with appropriate Thomas & Betts boxes and gaskets. Suitable for use in wet locations with cover closed — NEMA 3R.*

Thomas&Betts

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Technical Services
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Device Boxes and Covers


CDR


CTS


CR Series


FS-GKV


2CWPDR


2CWPR-M


2CFSR-M

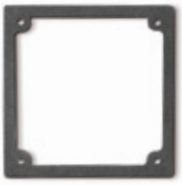

2CFST


2CFSB


2CDR


2CTS


2CTDR


2FS-GKV

Single-Gang Covers

CAT. NO.	DESCRIPTION	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
For Duplex Receptacles				
CDR	Duplex Receptacle Cover, Box Mount	20	100	11
For Switches				
CTS	Switch Cover, Box Mount	20	100	14

CAT. NO.	NOMINAL SIZE	MAX. DEVICE FACE DIA.	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
For Single Receptacles (Box Mount Only)					
CRL	1 9/16"	1.600"	20	100	12
CRS	1 3/8"	1.395"	20	100	12

CAT. NO.	DESCRIPTION	STD. PKG.	WT. LBS. PER 100
Gasket			
FS-GKV	Composition Gasket	100	2

Double-Gang Covers — Raintight*

CAT. NO.	DESCRIPTION	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
For Two Duplex Receptacles				
2CWPDR*	Two Duplex Receptacle Cover with (2) Spring Doors, Device Mount	1	10	48
For Single Receptacle				
2CWPR-M*	Single Receptacle Cover, Hole Dia. 2¼", Device Mount	1	10	48
2CFSR-M*	Single Receptacle Cover, Hole Dia. 2¼", Box Mount	1	10	48
For Two Switches				
2CFST*	Plunger Style Switch Cover, Box Mount	1	10	26
Blank				
2CFSB*	Blank Cover, Box Mount	10	50	25

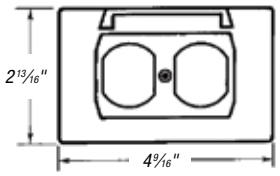
**Raintight when used with appropriate Thomas & Betts boxes, covers and gaskets. Suitable for use in wet locations with cover closed — NEMA 3R.*

Double-Gang Covers

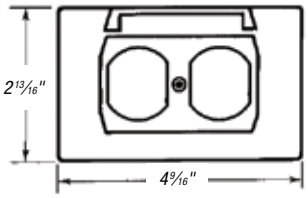
CAT. NO.	DESCRIPTION	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
For Two Duplex Receptacles				
2CDR	Two Duplex Receptacle Cover, Device Mount	10	50	24
For Two Switches				
2CTS	Switch Cover, Device Mount	10	50	24
For Switch and Duplex Receptacles				
2CTDR	Switch and Duplex Receptacle Cover, Device Mount	10	50	24
Gasket				
2FS-GKV	Composition Gasket	—	50	3

Device Boxes and Covers

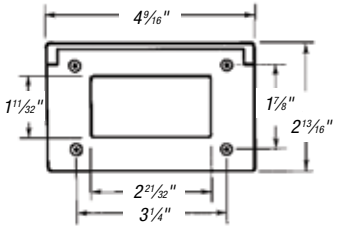
Dimensions for Single-Gang Covers



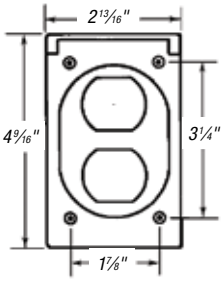
CWPDR



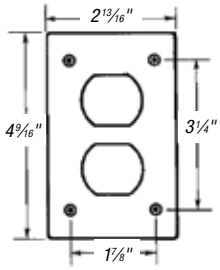
CWPDR-FS



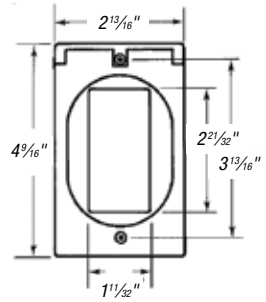
CFSH-G



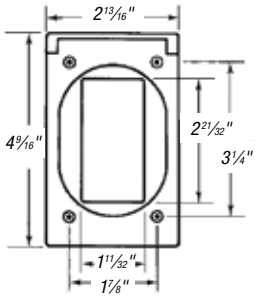
CFSDR



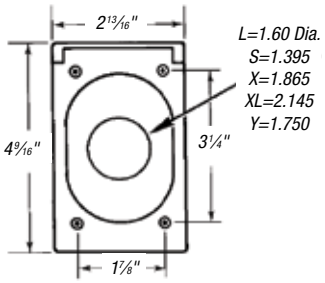
CDR



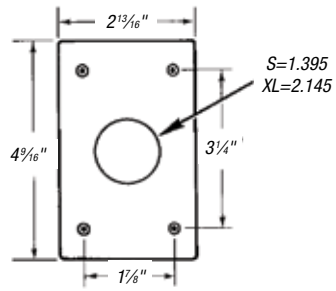
CWPV-G



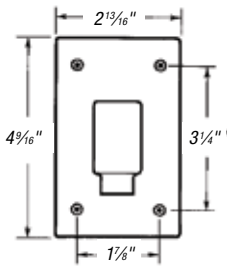
CFSR-G



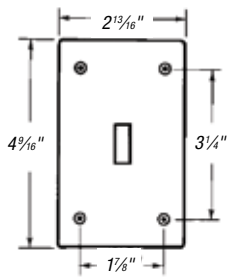
CFSR Series



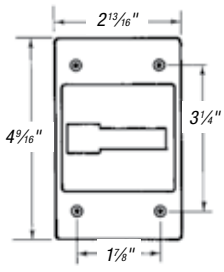
CR Series



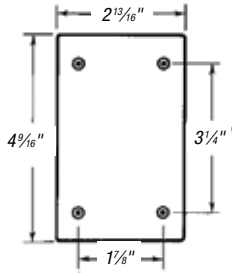
CFST



CTS



CFSTF



CFSB

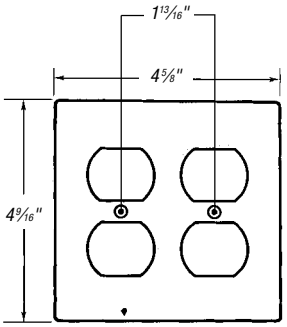
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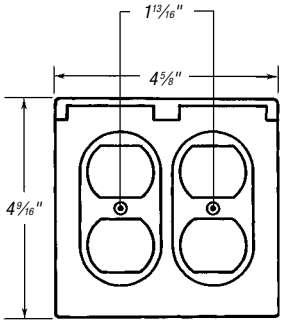
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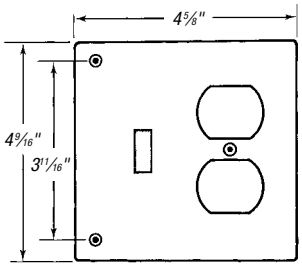
Dimensions for Double-Gang Covers



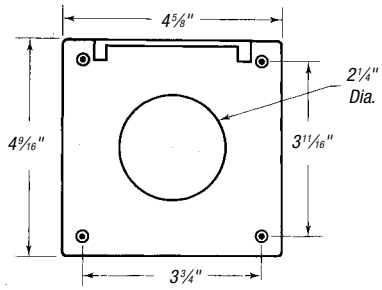
2CDR



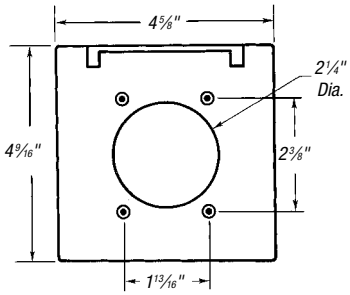
2CWPDR



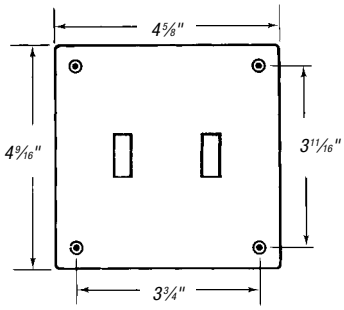
2CTDR



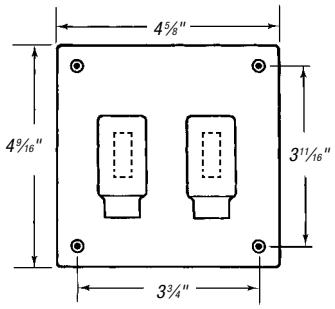
2CFSR-M



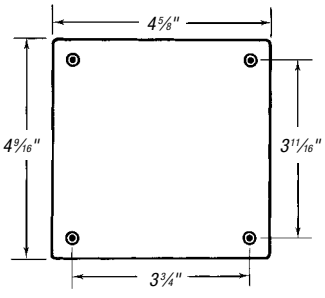
2CWPR-M



2CTS



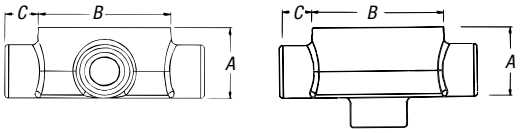
2CFST



2CFSB

Hazardous Location Fittings

GUA Conduit Outlet Boxes



Application

GUA boxes can be used for hazardous location conduit runs for the following:

- Allows for mounting of fixture outlets (when used with appropriate covers)
- Provides easy access to wiring
- Provides junction in conduit for wire pulling and splices
- Changes direction in rigid conduit systems
- Attaches two or more pieces of conduit in long runs
- Guards against damage to wires in rigid conduit



GUA

Features

- All hubs have a minimum of five full threads and integral bushing
- All boxes are furnished with internal grounding screw
- Cover supplied with O-ring gasket



GUAB

Size Range

½" NPT to 2" NPT

Access opening 2" to 5" diameter

Materials

Bodies.... Grade 60-45-10 Ductile Iron (Complies with ASTM standard A536)

Covers..... Die-cast aluminum

Finish

Boxes.....Zinc-plated with aluminum acrylic paint

Covers.....Natural



GUAC

Listings/Compliances

UL514A (wet locations when used with gasketed covers)

UL 1203

CSA: C22.2 No. 30

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III, Div. 1 & 2

NEMA 3, 4, 7 CD, 9 EFG

Explosion-Proof

Dust-Ignition-Proof

Raintight

Wet Locations



GUAD

GUA

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA. MIN.	MAX.	CU. IN. CAPACITY
GUA14-TB	½"	1.81	2.50	.88	.570	.610	5.5
GUA16-TB	½"	2.00	3.50	.88	.570	.610	13.5
GUA24-TB	¾"	2.00	2.50	.88	.755	.810	5.3
GUA26-TB	¾"	2.00	3.50	.88	.755	.810	13.3
GUA36-TB	1"	2.31	3.50	.88	.935	1.035	16.2
GUA47-TB	1¼"	2.69	4.38	1.00	1.260	1.360	29
GUA59-TB	1½"	3.81	5.75	1.06	1.470	1.590	70

GUAB

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA. MIN.	MAX.	CU. IN. CAPACITY
GUAB14-TB	½"	2.25	2.50	.88	.570	.610	6.9
GUAB16-TB	½"	2.00	3.50	.88	.570	.610	13.5
GUAB24-TB	¾"	2.50	2.50	.88	.755	.810	7.9
GUAB26-TB	¾"	2.00	3.50	.88	.755	.810	13.5
GUAB36-TB	1"	2.31	3.50	1.00	.935	1.035	15.4
GUAB47-TB	1¼"	2.69	4.38	1.00	1.260	1.360	27.5
GUAB59-TB	1½"	3.81	5.75	1.06	1.470	1.590	73.6
GUAB69-TB	2"	4.06	5.75	1.06	1.880	2.047	80
GUAB79-TB	2½"	4.06	5.75	1.13	2.320	2.380	98

GUAC

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA. MIN.	MAX.	CU. IN. CAPACITY
GUAC14-TB	½"	2.25	2.50	.88	.570	.610	6.8
GUAC16-TB	½"	2.00	3.50	.88	.570	.610	13.1
GUAC24-TB	¾"	2.00	2.50	.88	.755	.810	5.3
GUAC26-TB	¾"	2.00	3.50	.88	.755	.810	13.3
GUAC36-TB	1"	2.31	3.50	.88	.935	1.035	16.2
GUAC47-TB	1¼"	2.69	4.38	1.00	1.260	1.360	29.3
GUAC49-TB	1¼"	3.81	5.75	1.00	1.260	1.360	73.6
GUAC59-TB	1½"	3.81	5.75	1.06	1.470	1.590	74
GUAC69-TB	2"	4.06	5.75	1.06	1.880	2.047	77.8

GUAD

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA. MIN.	MAX.	CU. IN. CAPACITY
GUAD14-TB	½"	1.81	2.50	.88	.570	.610	5.6
GUAD16-TB	½"	2.00	3.50	.88	.570	.610	12.5
GUAD24-TB	¾"	2.00	2.50	.88	.755	.810	5.2
GUAD26-TB	¾"	2.00	3.50	.88	.755	.810	13.1
GUAD36-TB	1"	2.31	3.50	.88	.935	1.035	16
GUAD49-TB	1¼"	3.81	5.75	1.00	1.260	1.360	76

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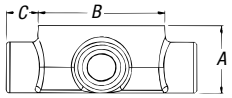
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Hazardous Location Fittings


GUAL


GUAT

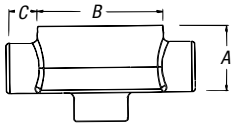

GUAW




GUAN


GUAM


GUAX



GUAL

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA. MIN.	MAX.	CU. IN. CAPACITY
GUAL14-TB	½"	2.25	2.50	.88	.570	.610	7.1
GUAL16-TB	½"	2.00	3.50	.88	.570	.610	13.4
GUAL24-TB	¾"	2.00	2.50	.88	.755	.810	5.3
GUAL26-TB	¾"	2.00	3.50	.88	.755	.810	13.3
GUAL36-TB	1"	2.31	3.50	.88	.935	1.035	16.2
GUAL47-TB	1¼"	2.69	4.38	1.00	1.260	1.360	30
GUAL49-TB	1¼"	3.81	5.75	1.00	1.260	1.360	74.5
GUAL59-TB	1½"	3.81	5.75	1.06	1.470	1.590	74
GUAL69-TB	2"	4.06	5.75	1.06	1.880	2.047	77.8

GUAM

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA. MIN.	MAX.	CU. IN. CAPACITY
GUAM14-TB	½"	1.81	2.50	.88	.570	.610	5.6
GUAM16-TB	½"	2.00	3.50	.88	.570	.610	12.5
GUAM24-TB	¾"	2.00	2.50	.88	.755	.810	6.2
GUAM26-TB	¾"	2.00	3.50	.88	.755	.810	12.5
GUAM36-TB	1"	2.31	3.50	.88	.935	1.035	14
GUAM47-TB	1¼"	2.69	4.38	1.00	1.260	1.360	29.2
GUAM69-TB	2"	4.06	5.75	1.06	1.880	2.047	80

GUAN

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA. MIN.	MAX.	CU. IN. CAPACITY
GUAN14-TB	½"	2.13	2.50	.88	.570	.610	6.8
GUAN16-TB	½"	2.00	3.50	.88	.570	.610	13.5
GUAN24-TB	¾"	2.31	2.50	.88	.755	.810	7.7
GUAN26-TB	¾"	2.00	3.50	.88	.755	.810	14
GUAN36-TB	1"	2.31	3.50	.88	.935	1.035	16.9
GUAN47-TB	1¼"	2.69	4.38	1.00	1.260	1.360	31.5
GUAN59-TB	1½"	4.06	5.75	1.06	1.470	1.590	84
GUAN69-TB	2"	4.06	5.75	1.06	1.880	2.047	84

GUAT

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA. MIN.	MAX.	CU. IN. CAPACITY
GUAT14-TB	½"	2.25	2.50	.88	.570	.610	7
GUAT16-TB	½"	2.00	3.50	.88	.570	.610	13.5
GUAT24-TB	¾"	2.00	2.50	.88	.755	.810	5.3
GUAT26-TB	¾"	2.00	3.50	.88	.755	.810	13.3
GUAT36-TB	1"	2.31	3.50	1.00	.935	1.035	15.9
GUAT37-TB	1"	2.31	3.50	.88	.935	1.035	23.3
GUAT47-TB	1¼"	2.69	4.38	1.00	1.260	1.360	29.3
GUAT49-TB	1¼"	3.81	5.75	1.00	1.260	1.360	77.2
GUAT59-TB	1½"	3.81	5.75	1.06	1.470	1.590	77.7
GUAT69-TB	2"	4.06	5.75	1.06	1.880	2.047	77.8
GUAT79-TB	2½"	4.06	5.75	1.06	2.320	2.380	95

GUAW

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA. MIN.	MAX.	CU. IN. CAPACITY
GUAW14-TB	½"	1.81	2.50	.88	.570	.610	5.2
GUAW16-TB	½"	2.00	3.50	.88	.570	.610	13
GUAW24-TB	¾"	2.00	2.50	.88	.755	.810	6.5
GUAW26-TB	¾"	2.00	3.50	.88	.755	.810	13

GUAX

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA. MIN.	MAX.	CU. IN. CAPACITY
GUAX14-TB	½"	1.81	2.50	.88	.570	.610	5.2
GUAX16-TB	½"	2.00	3.50	.88	.570	.610	13.5
GUAX24-TB	¾"	2.00	2.50	.88	.755	.810	5.3
GUAX26-TB	¾"	2.00	3.50	.88	.755	.810	13.3
GUAX36-TB	1"	2.31	3.50	1.00	.935	1.035	16
GUAX37-TB	1"	2.31	3.50	.88	.935	1.035	23.3
GUAX47-TB	1¼"	2.69	4.38	1.00	1.260	1.360	30
GUAX49-TB	1¼"	3.81	5.75	1.00	1.260	1.360	72
GUAX59-TB	1½"	3.81	5.75	1.06	1.470	1.590	71
GUAX69-TB	2"	4.06	5.75	1.06	1.880	2.047	77.8

Hazardous Location Fittings

Aluminum External Hubs

Application

- Junction for branch conduits in hazardous locations
- Accessible wiring chamber provides a convenient location to maintain or change a system, pull conductors and make splices
- Unique mounting pads and external hub designideal for installations of OEM devices or instruments

Features

- Copper-free* aluminum provides increased corrosion resistance
- Precision cast and machined surfaces permit safer wire pulling
- Precision NPT threaded hubs enable trouble-free field installation for rigid or IMC conduit
- Die-cast construction and industrial design combine to produce a rugged protective enclosure for devices on industrial and OEM applications
- Clear UL, CSA and cubic content markings speed approval by inspectors

Standard Materials

Die-cast aluminum alloy A360 with less than .004 copper content (copper-free)

Standard Finish

Aluminum lacquer finish

Listings/Compliances

UL Listed

CSA Certified

Suitable for hazardous locations

NEMA 4 rated when ordered with O-ring installed

Federal Spec W-C-586

Cl.I, Div. 1 & 2, Groups C, D
Cl.II, Div. 1, Groups E, F, G
Cl.III, Div. 1 & 2

Explosion-Proof

Dust-Ignition-Proof

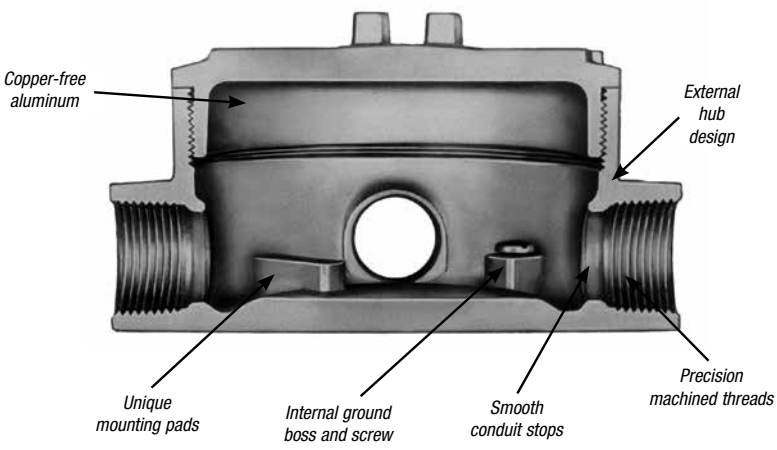
Raintight

Wet Locations

Sample Specifications

Outlet boxes for hazardous locations shall be die-cast copper-free* aluminum alloy A360 and suitable for use in Class I, Groups C, D, Class II, Groups E, F, G and Class III areas. All conduit stops shall be coined and free of rough edges. Outlet boxes for hazardous locations shall be finished with aluminum lacquer. Outlet boxes shall be Red•Dot® Catalog No. _____

Less than .004 copper content.





GAX



GAFX



GAJU



GASS

Thomas&Betts

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

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Hazardous Location Fittings

Aluminum External Hubs with Installed Green Ground Screw

Through Feed with Surface Cover

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
GAC-1•	½"	1	5	115
GAC-2•	¾"	1	5	115
GAC-3•	1"	1	5	115



GAC

Dead End with Surface Cover

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
GAE-2•	¾"	1	5	110



GAE

L Style with Surface Cover

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
GAL-1	½"	1	5	115
GAL-2•	¾"	1	5	115
GAL-3•	1"	1	5	115
GAL-4•	1¼"	1	5	175
GAL-5•	1½"	1	4	247
GAL-6•	2"	1	4	253



GAL

LB Style with Surface Cover

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
GALB-1•	½"	1	5	115
GALB-2	¾"	1	5	115
GALB-3•	1"	1	5	115
GALB-4•	1¼"	1	2	175
GALB-6•	2"	1	4	253



GALB

T Style with Surface Cover

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
GAT-1•	½"	1	5	120
GAT-2	¾"	1	5	120
GAT-3•	1"	1	5	120
GAT-4	1¼"	1	5	180
GAT-6•	2"	1	1	406

• Made-to-order items. Consult factory for lead time and minimum quantities.



GAT

Hazardous Location Fittings

Aluminum External Hubs with Installed Green Ground Screw

X Style with Surface Cover

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
GAX-1†•	½"	1	5	125
GAX-2†	¾"	1	5	125
GAX-3†•	1"	1	5	125
GAX-5†•	1½"	1	1	257



GAX

X Style with Flange and Surface Cover

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
GAFX-1†	½"	1	4	135
GAFX-2†	¾"	1	4	135



GAFX

Surface-Style Cover

CAT. NO.	COVER OPENING	FIT BOXES	STD. PKG.	WT. LBS. PER 100
GAS-123•	3 11/16"	½", ¾", 1"	1	36
GAS-4•	3 29/32"	1¼"	1	52
GAS-56•	5 3/16"	1½", 2"	1	69



GAS

Dome-Style Cover (Class I, Group D only)

CAT. NO.	COVER OPENING	FITS BOXES	INSIDE HEIGHT	CU. IN. CAPACITY	STD. PKG.	WT. LBS PER 100
GAD-123•	3 11/16	½", ¾", 1"	2⅝"	23	1	71



GAD

• *Made-to-order items. Consult factory for lead time and minimum quantities.*

† *Suffix-OR: O-ring available for NEMA 4 rating. Consult factory for lead time and price.*

Aluminum External Hubs with Installed Green Ground Screw, Covers and Plugs

U Style with Canopy Cover

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
GAJU-2	¾"	1	5	130
GAJU-3	1"	1	5	130
GAJU-6•	2"	1	1	273



GAJU

Canopy-Style Cover

CAT. NO.	COVER OPENING	FITS BOXES	UNIT QTY.	STD. PKG.	WT. LBS PER 100
GAJ-123•	3 11/16"	½", ¾", 1"	1	10	44
GAJ-4•	3 29/32"	1¼"	1	5	61
GAJ-56•	5 3/16"	1½", 2"	1	5	78



GAJ

• *Made-to-order items. Consult factory for lead time and minimum quantities.*

Thomas&Betts

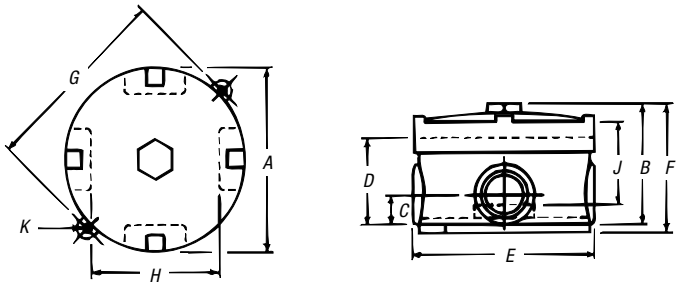
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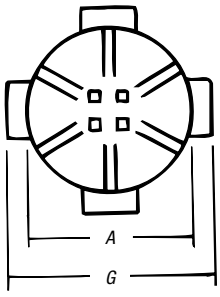
Hazardous Location Fittings

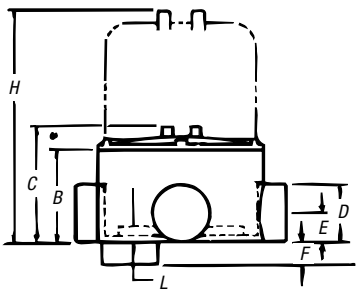
Dimensions and Cubic Inches (CI) for External Hubs

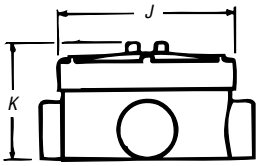


EXUN and EXUNL

HUB SIZE	DIMENSIONS (IN.)										CI
	A	B	C	D	E	F	G	H	J	K	
½"	3 31/32"	3⅛"	2 21/32"	2 1/16"	4	3⅜"	4¼"	1¼"	1 9/16"	17/64"	20.3
¾"	3 31/32"	3⅛"	2 21/32"	2 1/16"	4	3⅜"	4¼"	1¼"	1 9/16"	17/64"	20.3
1"	3 31/32"	3 5/16"	¾"	2¼"	4	3 9/16"	4¼"	1 1/16"	1 9/16"	17/64"	20.0







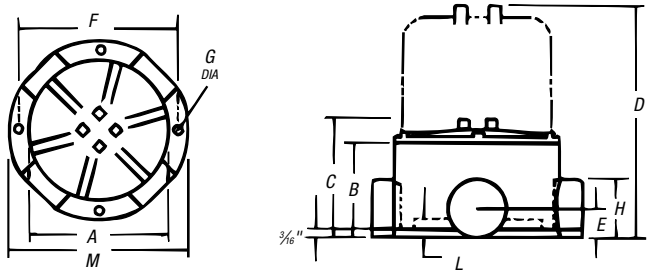
Dimensions of all styles when GAJ cover is used

GAC, GAE, GAL, GALB, GAT and GAX

COVER OPENING	HUB SIZE	DIMENSIONS (IN.)											CI
		A	B	C	D	E	F	G	H	J	K	L	
3 11/16"	½"	4"	2¼"	2 5/16"	1⅜"	11/16"	11/16"	5 3/16"	5 9/16"	4 3/16"	3 5/16"	9/16"	18.8
3 11/16"	¾"	4"	2¼"	2 5/16"	1⅜"	11/16"	11/16"	5 3/16"	5 9/16"	4 3/16"	3 5/16"	9/16"	18.8
3 11/16"	1"	4"	2¼"	2 5/16"	1⅝"	13/16"	27/32"	5½"	5 9/16"	4 3/16"	3 5/16"	9/16"	18.8
3 29/32"	1¼"	4 5/16"	3"	3 11/16"	2 1/16"	1 1/32"	⅞"	5 11/16"	—	4 9/16"	3 15/16"	⅝"	28.0
5 3/16"	1½"	5¾"	4¼"	5 1/16"	2⅞"	1 1/16"	⅞"	6⅝"	—	6 7/16"	5 15/32"	13/16"	69.3
5 3/16"	2"	5¾"	4¼"	5 1/16"	2⅞"	1 1/16"	⅞"	6⅝"	—	6 7/16"	5 15/32"	13/16"	69.3

Hazardous Location Fittings

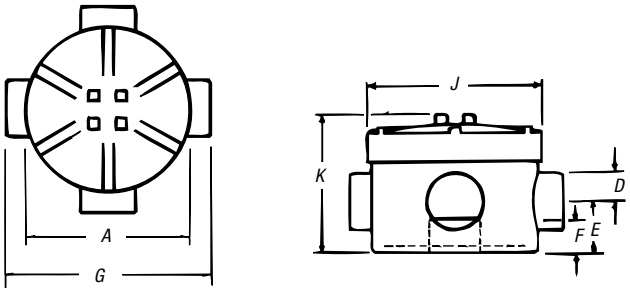
Dimensions and Cubic Inches (CI) for External Hubs (continued)



GAFX

COVER OPENING	HUB SIZE	DIMENSIONS (IN.)										CI
		A	B	C	D	E	F	G	H	L	M	
3 11/16"	1/2"	4"	2 1/4"	2 15/16"	5 9/16"	11/16"	4 1/2"	1/4"	1 3/8"	9/16"	5 3/16"	20.0
3 11/16"	3/4"	4"	2 1/4"	2 15/16"	5 9/16"	11/16"	4 1/2"	1/4"	1 3/8"	9/16"	5 3/16"	20.0
3 11/16"	1"	4"	2 1/4"	2 15/16"	5 9/16"	13/16"	4 3/4"	5/16"	1 5/8"	9/16"	5 1/2"	19.0

Note: *All GAF units supplied as X configuration with proper number of explosion-proof close-up plugs to make C, T or L.*



GAJU

COVER OPENING	HUB SIZE	DIMENSIONS (IN.)							CI
		A	D	E	F	G	J	K	
3 11/16"	1/2"	4"	13/16"	1 1/2"	31/32"	5 3/16"	4 3/16"	4"	23.8
3 11/16"	3/4"	4"	13/16"	1 1/2"	31/32"	5 3/16"	4 3/16"	4"	23.8
3 11/16"	1"	4"	13/16"	1 1/2"	31/32"	5 3/16"	4 3/16"	4"	23.8
3 29/32"	1 1/4"	4 5/16"	2 1/16"	1 31/32"	7/8"	5 11/16"	4 3/4"	3 15/16"	33.3
5 3/16"	1 1/2"	5 3/4"	1 7/16"	2 1/16"	1 1/2"	6 5/8"	6 7/16"	6 3/16"	82.8
5 3/16"	2"	5 3/4"	1 7/16"	2 1/16"	1 1/2"	6 5/8"	6 7/16"	6 3/16"	82.8

Note: *All GA & GAF series boxes are supplied with GAS or GAJ style covers.*
To order these boxes with GAD dome cover, consult factory.

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EXUN Series Aluminum Internal Hubs

Application

- Junction for branch conduits in hazardous locations
- Accessible wiring chamber provides a convenient location to maintain or change a system, pull conductors and make splices
- Internal hub design ideal for installation where space is limited

Features

- Copper-free* aluminum provides increased corrosion resistance
- Precision cast and machined surfaces permit safer wire pulling
- Precision NPT threaded hubs enable trouble-free field installation for rigid or IMC conduit
- Die-cast construction and industrial design combine to produce a rugged protective enclosure for devices on industrial and OEM applications
- Clear UL, CSA and cubic content markings speed approval by inspectors



EXUN *EXUNL*

Standard Materials

Die-cast aluminum alloy A360 with less than .004 copper content (copper-free)

Standard Finish

Aluminum lacquer finish

Listings/Compliances

UL Listed

CSA Certified

Suitable for hazardous locations

Federal Spec W-C-586

Cl.I, Div. 1 & 2, Groups C, D
Cl.II, Div. 1, Groups E, F, G
Cl.III, Div. 1 & 2

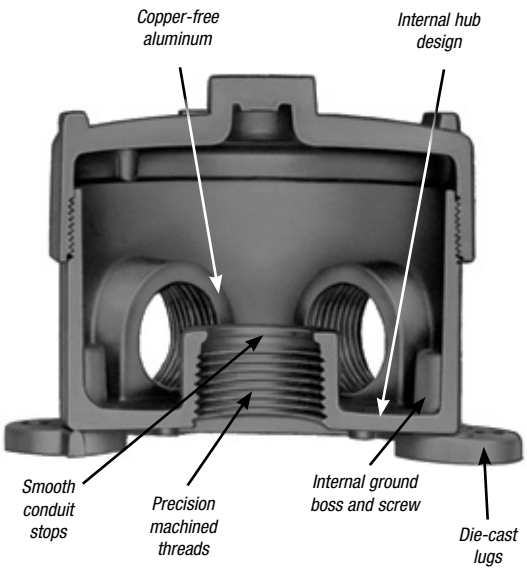
NEMA 3, 4, 7 CD, 9 EFG

Explosion-Proof

Dust-Ignition-Proof

Raintight

Wet Locations



Sample Specifications

Outlet boxes for hazardous locations shall be die-cast copper-free* aluminum alloy A360 and suitable for use in Class I, Groups C, D, Class II, Groups E, F, G and Class III areas. All conduit stops shall be coined and free of rough edges. Outlet boxes for hazardous locations shall be finished with aluminum lacquer. Outlet boxes shall be Thomas & Betts Catalog No. _____

**Less than .004 copper content.*

Hazardous Location Fittings

5-Hole Aluminum Box

CAT. NO.	HUB SIZE	DESCRIPTION	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
EXUN-1	½"	(5) Outlets	1	5	140
EXUN-2	¾"	with (3) Close-Up Plugs	1	5	140
EXUN-3	1"	with (3) Close-Up Plugs	1	5	140



EXUN-1

4-Hole Aluminum Box

CAT. NO.	HUB SIZE	DESCRIPTION	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
EXUN-11	½"	(4) Outlets	1	5	140
EXUN-22	¾"	with (2) Close-Up Plugs	1	5	—



EXUN-11

Thomas&Betts

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Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

www.tnb.com

Hazardous Location Fittings

GASS Series Aluminum Internal Hubs

Application

- Junction for branch conduits in hazardous locations
- Accessible wiring chamber provides a convenient location to maintain or change a system, pull conductors and make splices

Features

- Copper-free* aluminum alloy provides increased corrosion resistance
- Extra-wide 3¾" opening provides more hand space for easy access to the wiring chamber
- Precision cast and machined surfaces permit safer wire pulling
- Large capacity 31-cu.-in. chamber provides more wiring space
- Precision NPT threaded hubs enable trouble-free field installation for rigid or IMC conduit
- Sand-cast construction and industrial design combine to produce a rugged protective enclosure for devices on industrial and OEM applications
- Clear UL, CSA and cubic content markings speed approval by inspectors
- Hub spacing enables use of EXFU and EXMU unions

Standard Materials

Box —Sand-Cast aluminum alloy A356. 2-T6

Cover — Die-Cast aluminum alloy A360 with less than .004 copper content (copper-free)

Standard Finish

Aluminum lacquer finish

Listings/Compliances

UL Listed

CSA Certified

NEC

Cl.I, Div. 1 & 2, Groups C, D
Cl.II, Div. 1, Groups E, F, G
Cl.III, Div. 1 & 2

NEMA 3, 4, 7 CD, 9 EFG

Explosion-Proof

Dust-Ignition-Proof

Raintight

Wet Locations

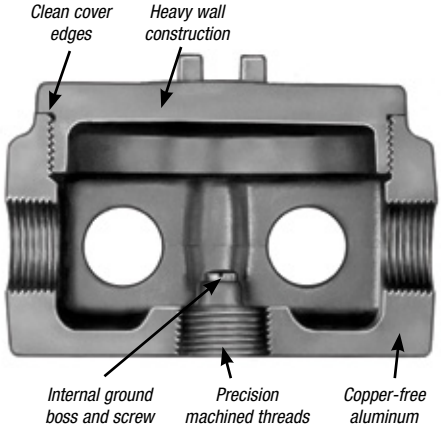
Sample Specifications

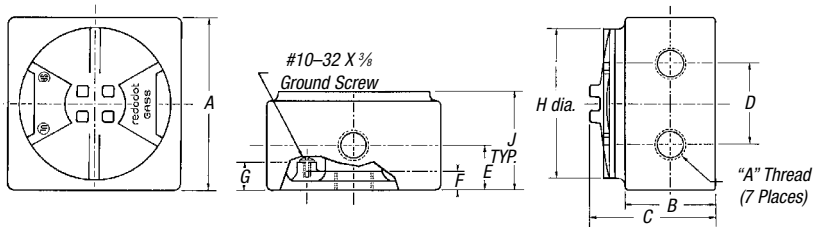
Enclosure for hazardous locations. The box shall be cast copper-free* aluminum alloy A356.2-T6. Suitable for use in hazardous locations: Suitable for use in Class I, Groups C, D; Class II, Groups E, F, G; and Class III areas. Enclosures shall be finished with aluminum lacquer. Outlet boxes shall be Thomas & Betts Catalog No. _____

*Less than .004% copper content.



GASS





Dimensions of all styles when GASS cover is used

COVER OPENING	HUB SIZE	A	B	C	D	E	F	G	H	J	CI
4"	½"	4⅝	2⅜	3⅜	2 5/16	1 3/16	½	¾	4	2⅝	31
4"	¾"	4⅝	2⅜	3⅜	2 5/16	1 3/16	½	¾	4	2⅝	31
4"	1"	4⅝	2⅜	3⅜	2 5/16	1 3/16	½	¾	4	2⅝	31

GASS Internal Hubs with Installed Green Ground Screw, Cover and Plugs

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
GASS-1	½"	1	5	282
GASS-2	¾"	1	5	278
GASS-3	1"	1	5	274

Hazardous Location Fittings

Perfect for the petrochemical industry!

GUP Explosion-Proof Enclosure

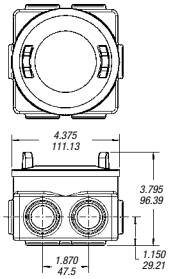


CAT. NO.	DESCRIPTION	STD. PKG. QTY.
GUP214-TB	Junction Box — 10 Hubs (¾" NPT): (2) in Top, (2) in Bottom, (1) in Each Side, (4) in the Back	1
GUP215-TB	Junction Box — (6) Hubs (¾" NPT): (2) in Top, (2) in Bottom, (1) in Each Side	1

T&B has developed an innovative new solution ideally suited for gas station contractors and the petrochemical market — the GUP Explosion-Proof Enclosure. The compact design makes gas station pumps an ideal application due to space constraints. Two different configurations are available and the body is constructed of ductile iron for superior strength. Rely on T&B to deliver the best products when safety is a concern.

Features

- Compact design
- O-ring gasket standard for raintight applications
- Supplied with conduit plugs
  - — three plugs for GUP215-TB
  - — seven plugs for GUP214-TB



Materials

Ductile iron for superior strength (Body)
Copper-free cast aluminum (A6) (Cover)
Neoprene gasket (O-Ring)

Standard Finish

Ductile iron — Electrogalvanized and aluminum acrylic paint

Copper-free aluminum cover — Natural

Listings/Compliances

UL 1203 Listed
CSA Standard C22.2
Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III, Div. 1 & 2
NEMA 3, 4, 7 CD, 9 EFG
Explosion-Proof
Dust-Ignition-Proof
Raintight
Wet Locations

LB Style Conduit Body — Aluminum



EXLB

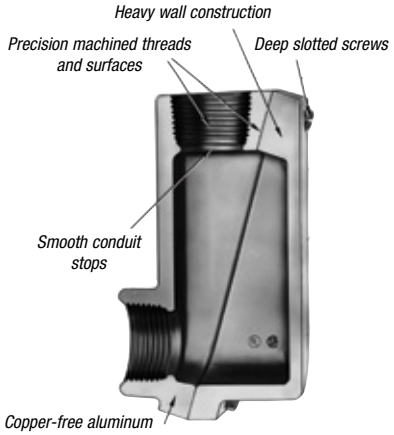
CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
EXLB-1	½"	5	76	92
EXLB-2	¾"	5	94	115
EXLB-3	1"	5	132	172

T Style Conduit Body — Aluminum



EXT

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
EXT-1	½"	5	25	92
EXT-2	¾"	5	25	115
EXT-3	1"	5	5	172



Application

- Junction for branch conduits
- Accessible wiring chamber provides a convenient location to pull conductors and make splices

Features

- 31 cu. in. capacity
- Copper-free* aluminum provides increased corrosion resistance
- Precision cast and machined surfaces permit safer wire pulling
- Precision NPT threaded hubs enable trouble-free field installation for rigid or IMC conduit
- Deep slotted cover screws for faster installation
- Clear UL, CSA and cubic content markings speed approval by inspectors

Standard Materials

Die-cast aluminum alloy A360 with less than .004% copper content (copper-free)

Standard Finish

Aluminum lacquer finish

Listings/Compliances

UL Listed
CSA Certified
Suitable for hazardous locations
Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III, Div. 1 & 2
NEMA 3, 4, 7 CD, 9 EFG
Explosion-Proof
Dust-Ignition-Proof
Raintight
Wet Locations

Sample Specifications

Conduit fittings for hazardous locations shall be die-cast copper-free* aluminum alloy A360. Suitable for use in hazardous locations: Class I, Groups C, D; Class II, Groups E, F, G and Class III. All conduit stops shall be coined and free of rough edges. Conduit fittings shall be finished with aluminum lacquer. Conduit fittings shall be Thomas & Betts® Catalog No.

Less than .004 copper content.

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Hazardous Location Fittings

OE Series Iron Conduit Outlet Bodies



Application

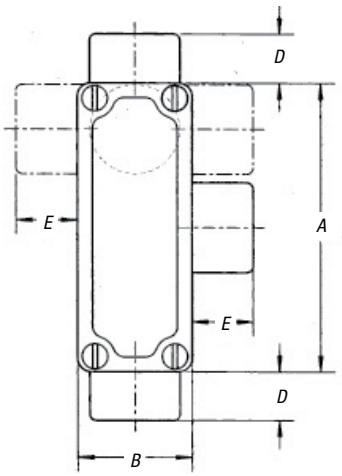
OE series are installed in conduit systems within hazardous areas to:

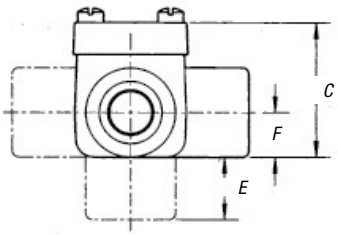
- Protect conductors in threaded rigid conduit
- Act as pulling and splice fittings
- Interconnect lengths of conduit
- Change direction of conduit
- Provide access for maintenance and future system changes

Features

OE conduit bodies have:

- Tapered threaded hubs for ground continuity
- Smooth integral hub bushings to protect conductor insulation when pulling
- Five different hub arrangements
- Accurately machined body with blind tapped screw holes
- Sizes up to 1"





Standard Materials

Bodies: Grade 60-45-10 Ductile Iron (Complies with ASTM standard A536)

Standard Finish

Electrogalvanized and aluminum acrylic paint

Size Ranges

Hub — ½" and ¾"

Listings/Compliances

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III, Div. 1 & 2

NEMA 3, 4, 7 CD, 9 EFG

Explosion-Proof

Dust-Ignition-Proof

Raintight

Wet Locations

CAT. NO.	HUB SIZE	DIMENSIONS (IN.)					
		A	B	C	D	E	F
OEC1-TB	½"	4.06	1.62	1.90	.69	.88	.63
OEC2-TB	¾"	4.35	1.88	2.19	.69	.88	.76
OET1-TB	½"	4.06	1.62	1.90	.69	.88	.63
OET2-TB	¾"	4.35	1.88	2.19	.69	.88	.76
OELL1-TB	½"	4.06	1.62	1.90	.69	.88	.63
OELL2-TB	¾"	4.35	1.88	2.19	.69	.88	.76
OELR1-TB	½"	4.06	1.62	1.90	.69	.88	.63
OELR2-TB	¾"	4.35	1.88	2.19	.69	.88	.76
OELB1-TB	½"	4.06	1.62	1.90	.69	.88	.63
OELB2-TB	¾"	4.35	1.88	2.19	.69	.88	.76

Hazardous Location Fittings

Provides maximum volume for bends within a compact overall size!

Capped Iron Elbow — Female to Female

Application

LBY/GYF elbows are installed in conduit systems within hazardous areas to:

- Make 90° bends in conduit systems where space is limited
- Act as pull outlets
- Provide access to conductors for maintenance and future system changes


LBY

Features

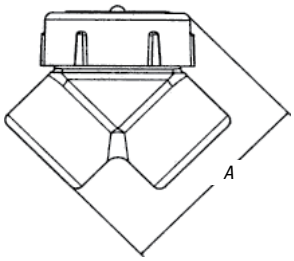
- Maximum volume for bends within a compact overall size
- Screw on cover for ease of installation and removal
- Cover opening on an angle, permitting conductors to be pulled straight through either hub
- Tapered threaded hubs and integral bushing for rigid threaded conduit

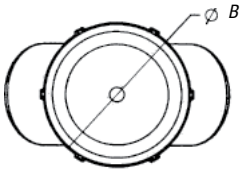
Standard Materials

LBY Ductile Iron
GYF Copper Free Aluminum

Listings/Compliances (LBY)

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III, Div. 1 & 2
NEMA 3, 4, 7 CD, 9 EFG
Explosion-Proof
Dust-Ignition-Proof
Raintight
Wet Locations





CAT. NO.	HUB SIZE	A	B	THROAT DIM. MIN.	THROAT DIM. MAX.
LBY15-TB	½"	2 9/16	2	.570	.610
LBY25-TB	¾"	2 13/16	2 1/4	.755	.810
LBY35-TB	1"	3 3/32	2 1/2	.955	1.035
LBY45-TB	1 1/4"	3 3/4	2 15/16	1.260	1.360
LBY55-TB	1 1/2"	4 1/4	3 3/8	1.470	1.590
LBY65-TB	2"	5 1/2	4	1.880	2.047

Capped Aluminum Elbow — Female to Female


GYF

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
GYF-1	½"	10	50	23
GYF-2	¾"	5	25	40
GYF-3	1"	5	25	60
GYF-4•	1 1/4"	2	10	80
GYF-5	1 1/2"	2	10	95

• *Made-to-order items. Consult factory for lead time and minimum quantities.*

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Hazardous Location Fittings

Reducers, Plugs and Adapters

Application

- RE and REC reducers are used in threaded heavy wall conduit systems
- RE reduces conduit hubs to a smaller size
- REC connects two different sizes of conduit together or is used to replace a coupling and reducer in an installation
- PLG plugs are used for closing threaded conduit hubs

Features

- All Hubs have NPT threads with a minimum of five full threads and integral bushing for preventing damage to wires

Materials

Machined Reducers: Steel

Cast Reducers: Gray Iron

Funnel Reducers: Iron

Recessed Plugs: Gray Iron

Red•Dot® Recessed Plugs: Copper-free aluminum

Standard Finishes

Cast zinc plated with aluminum acrylic paint

Machine zinc plated with clear chromate finish

Listings/Compliances

UL: 1203

CSA: C22.2 No.30

Cl. I, Div. 1 & 2, Groups A, B, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III, Div. 1 & 2

Explosion-Proof

Dust-Ignition-Proof

For hazardous and non-hazardous locations

Recessed Plugs



CAT. NO.	THREADS (NPT)
With Flush Head for Hazardous and Non-Hazardous Locations	
PLG1-TB	½
PLG2-TB	¾
PLG3-TB	1
PLG4-TB	1¼
PLG5-TB	1½
PLG6-TB	2
PLG7-TB	2½
PLG8-TB	3
PLG9-TB	3½
PLG10-TB	4

Reducing Bushings

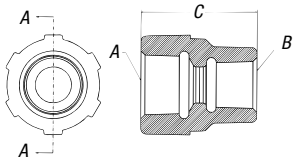


CAT. NO.	A MALE (NPT)	B FEMALE (NPT)
RE21-TB	¾	½
RE31-TB	1	½
RE32-TB	1	¾
RE41-TB	1¼	½
RE42-TB	1¼	¾
RE43-TB	1¼	1
RE51-TB	1½	½
RE52-TB	1½	¾
RE53-TB	1½	1
RE54-TB	1½	1¼
RE61-TB	2	½
RE62-TB	2	¾
RE63-TB	2	1
RE64-TB	2	1¼
RE65-TB	2	1½

CAT. NO.	A MALE (NPT)	B FEMALE (NPT)
RE73-TB	2½	1
RE74-TB	2½	1¼
RE75-TB	2½	1½
RE76-TB	2½	2
RE83-TB	3	1
RE84-TB	3	1¼
RE85-TB	3	1½
RE86-TB	3	2
RE87-TB	3	2½
RE96-TB	3½	2
RE97-TB	3½	2½
RE98-TB	3½	3
RE106-TB	4	2
RE107-TB	4	2½
RE108-TB	4	3

REC Series Reducers





CAT. NO.	A (NPT)	B (NPT)	C
Funnel-Shaped Reducers for Hazardous and Non-Hazardous Locations			
REC21-TB	¾	½ - 14	1⅞
REC31-TB	1	½ - 14	2
REC32-TB	1	¾ - 14	2

Aluminum Recessed Plugs



CAT. NO.	HUB SIZE
With Flush Head for Hazardous and Non-Hazardous Locations	
XPLG-1†	½"
XPLG-2†	¾"
XPLG-3†	1"
XPLG-4*	1¼"
XPLG-5*	1½"
XPLG-6*	2"

Made-to-order items. Consult factory for lead time and minimum quantities.

† *Not UL Listed and not approved for use in hazardous locations.*

* *UL Listed E 34438*

Hazardous Location Fittings

UN Series Three-Piece Unions

Application

UNY and UNF unions are installed in threaded thickwall conduit systems:

- UNY — to connect conduit to a conduit fitting, junction box or device enclosure
- UNF — to connect conduit to conduit, or to provide a means for future modification of the conduit system

Standard Finishes

Steel — electrogalvanized with chromate treatment

Iron alloy, malleable iron — electrogalvanized and aluminum acrylic paint

Listings/Compliances

NEC®/CEC

Class I, Division 1 & 2, Groups A, B, C, D
Class II, Division 1, Groups E, F, G
Class III

UNF, UNY ½" – 1"

UL – Conduit unions for use in Cat. Nos. UNF/UNY followed by 105, 205, or 305; for use in:

Class I, Division 1 & 2, Groups A, B, C, D
Class II, Division 1, Groups E, F, G
Class III

UNF, UNY ½", ¾", 1"

CSA — Conduit unions for use in Cat. Nos. UNF/UNY followed by 105, 205, 305, 405 or 505; for use in:

Class I, Division 1 & 2, Groups B, C, D
Class II, Division 1, Groups E, F, G
Class III

UNF, UNY ½", ¾", 1", 1¼", 1½"

UL — Conduit unions for use in Cat. Nos. UNF/UNY followed by 405 or 505; for use in:

Class I, Division 1 & 2, Groups B, C, D
Class II, Division 1, Groups E, F, G
Class III

UNF, UNY 1¼", 1½"

UL & CSA — Conduit unions for use in Cat. Nos. UNF/UNY, EL Series followed by 605, 905, or 1005; for use in:

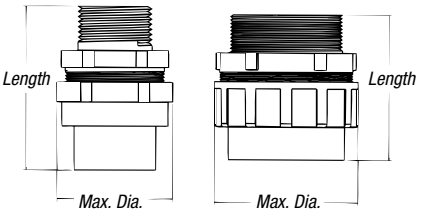
Class I, Division 1 & 2, Groups C, D
Class II, Division 1, Groups E, F,G
Class III

UNF, UNY 2", 2½", 3", 3½", 4"

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UNY

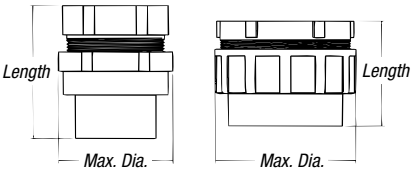


UNY Male Unions

CAT. NO.	TRADE SIZE	OVERALL LENGTH/INCHES	OVERALL DIA./INCHES
For Hazardous and Non-Hazardous Locations			
UNY105-TB	½	2 25/64	1½
UNY205-TB	¾	2 7/16	1 13/16
UNY305-TB	1	2¾	2
UNY405-TB	1¼	3 1/16	2¾
UNY505-TB	1½	3⅝	3 1/16
UNY605-TB	2	3½	3 13/16
UNY705-TB	2½	4 13/16	4 5/16
UNY805-TB	3	5 11/32	5 1/16
UNY905-TB	3½	5½	5 11/16
UNY1005-TB	4	5⅝	6 3/16



UNF



UNF Female Unions

CAT. NO.	TRADE SIZE	OVERALL LENGTH/INCHES	OVERALL DIA./INCHES
For Hazardous and Non-Hazardous Locations			
UNF105-TB†	½	1⅛	1½
UNF205-TB†	¾	2⅛	1 13/16
UNF305-TB†	1	2 5/32	2
UNF405-TB††	1¼	2¼	2¾
UNF505-TB††	1½	2¾	3 1/16
UNF605-TB†††	2	2½	3 13/16
UNF705-TB†††	2½	3½	4 5/16
UNF805-TB†††	3	4	5 1/16
UNF905-TB†††	3½	4 5/32	5 11/16
UNF1005-TB†††	4	4¼	6 3/16

† *Steel*
†† *Forged steel*
††† *Malleable iron*

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Hazardous Location Fittings

EX Series Aluminum Three-Piece Unions

Application

- Unions are used as connecting elements between enclosures, fittings or boxes that permit future changes to the system in both hazardous and non-hazardous areas

Features

- Copper-free* aluminum provides increased corrosion resistance
- Precision cast and machined surfaces permit safer wire pulling
- Precision NPT threaded hubs allow trouble-free field installation for rigid or IMC conduit
- Clear UL, CSA and cubic content markings speed approval by inspectors
- Unique concentric ring design ensures critical flame path control

Standard Materials

Die-cast aluminum alloy A360 with less than .004 copper content (copper-free)

EXMU nipples are galvanized steel

Standard Finish

Aluminum lacquer finish

Listings/Compliances

UL Listed

CSA Certified

Suitable for hazardous locations

Federal Spec W-C-586

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III, Div. 1 & 2

NEMA 3, 4, 7 CD, 9 EFG

Explosion-Proof

Dust-Ignition-Proof

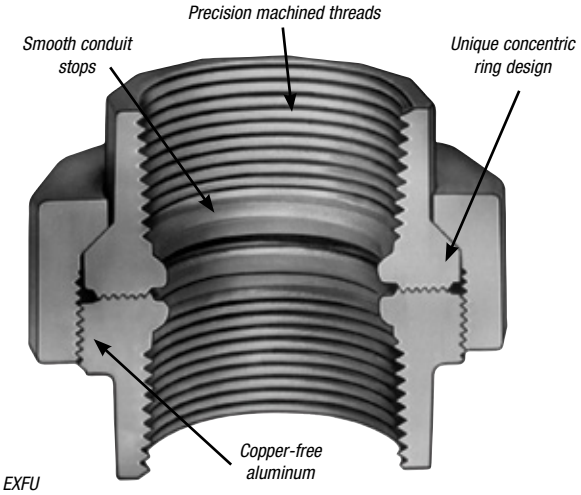
Raintight

Wet Locations

Sample Specifications

Conduit unions for hazardous locations shall be die-cast copper-free* aluminum alloy A360. Suitable for use in hazardous locations: Class I, Groups C, D; Class II, Groups E, F, G and Class III. All conduit stops shall be coined and free of rough edges. Conduit unions shall be finished with aluminum lacquer. Conduit unions shall be Thomas & Betts® Catalog No. _____

*Less than .004 copper content.





EXFU

EXFU Female-to-Female Unions

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
EXFU-1	½"	5	25	24
EXFU-2	¾"	5	25	33
EXFU-3	1"	5	25	42
EXFU-4	1¼"	5	25	53
EXFU-5	1½"	5	25	68
EXFU-6•	2"	2	10	130
EXFU-8•	3"	1	5	310
EXFU-9•	3½"	1	5	340
EXFU-10•	4"	1	1	374

• *Made-to-order items. Consult factory for lead time and minimum quantities.*



EXMU

EXMU Male-to-Female Unions

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
EXMU-1	½"	5	25	24
EXMU-2	¾"	5	25	35
EXMU-3	1"	5	25	45

Hazardous Location Fittings

EYD Drain Seals

Cl. I, Div. 1 & 2, Groups A, B, C, D

Cl. II, Div. 1, Groups E, F, G

Cl. III, Div. 1 & 2



Application

EYD drain and inspection sealing fittings:

- Restrict the passage of gases, vapors or flames from one portion of the electrical installation to another at atmospheric pressure and normal ambient temperatures
- Limit explosions to the sealed-off enclosure
- Prevent precompression or “pressure piling” in conduit systems. Drain sealing fittings are installed in vertical conduit runs and at low points in conduit systems to prevent accumulation of condensate above seal

Features

EYD drain sealing fittings include:

- Drain to provide continuous, automatic drainage of condensate
- Large openings with threaded closures to provide easy access to conduit hubs for making dams
- Integral bushings to protect conductor insulation from damage
- Tapered-tapped hubs to ensure ground continuity

Standard Materials

Bodies and drain covers — Gray iron alloy and/or ductile iron

Closure for drain — copper-free aluminum or ductile iron

Small closure plug — Gray iron alloy and/or steel

Drain — stainless steel

Removable nipples — steel

Standard Finish

Gray iron alloy and ductile iron — electrogalvanized and aluminum acrylic paint

Copper-free aluminum — natural

Stainless steel — natural

Steel — electrogalvanized

Options

Copper-free aluminum bodies, nipples and enclosures — see listings

Size Ranges

EYD — ½"–4"

Listings/Compliances

EYD11 — 31-TB

Class I, Division 1 & 2, Groups A, B, C, D; Class II, Division 1, Groups E, F, G; Class III

EYD41 — 101-TB

Class I, Division 1 & 2, Groups C, D; Class II, Division 1, Groups E, F, G

Class II, Division 2, Groups F, G

Class III

UL Standard: 1203

CSA Standard: C22.2

NEMA 3, 4, 7 CD, 9 EFG

Explosion-Proof

Dust-Ignition-Proof

Raintight

Wet Locations

Sealing Compound and Fibers

Seal A3 (1-lb. can of sealing compound)

Fiber X6 (8-oz. fiber packing)

Seal Kit (1-lb. can of sealing compound and 1-oz. fiber packing)

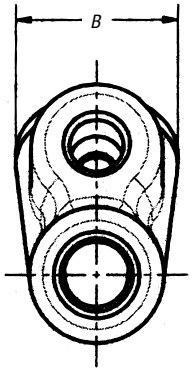
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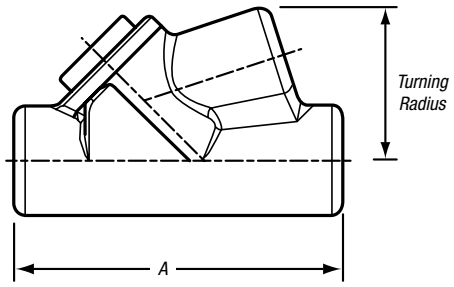
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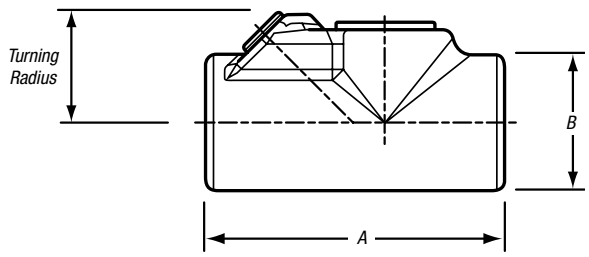
Hazardous Location Fittings



EYD ½" – 1"



EYD ½" – 1"



EYD 1¼" — 4"

EYD Drain Seals

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	TURNING RADIUS
EYD11-TB	½"	3.81	1.50	1.75
EYD21-TB	¾"	4.08	1.75	1.98
EYD31-TB	1"	4.85	2.19	2.19
EYD41-TB	1¼"	5.00	2.25	1.80
EYD51-TB	1½"	5.44	2.44	2.00
EYD61-TB	2"	6.25	3.00	2.32
EYD71-TB	2½"	7.50	3.50	2.69
EYD81-TB	3"	8.50	4.25	3.15
EYD91-TB	3½"	9.19	4.75	3.38
EYD101-TB	4"	9.75	5.25	3.64

Drains/Breathers for Hazardous Locations

Application

The Thomas & Betts Universal drain/breather fittings can be used as drains or breathers depending on the installation.

- To use as a drain, the product must be installed in the bottom of the enclosure or the lowest point where an NPT threaded opening exists. It can also be used in a seal fitting or a "T" conduit body. These must be in a lower section of the conduit system. This will enable moisture inside the conduit system to drain out
- To use as a breather, installation should be done at the top of an enclosure or in upper sections of conduit systems. This will permit air exchange and keep moisture accumulation inside the conduit system to a minimum. Thomas & Betts recommends the use of at least two devices (one drain and one breather) for maximum efficiency

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) B
ECD15*	½"	.975
ECD384	⅜"	.407
ECD284	¼"	.327

** NEMA 4X rated.*



Listings/Compliances

Cl. I, Div. 1 & 2, Groups B, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III, Div. 1 & 2

Hazardous Location Fittings

EYS Sealing Fittings

Application

EYS sealing fittings can be installed in either vertical or horizontal applications.

- Seals sections of conduit runs from passage of vapors, flame, or gases
- Seals off sections of conduit system during explosion
- Limits precompression or pressure piling in conduit system

Features

- All hubs have a minimum of five full threads, integral bushings to protect conductor insulation from damage and large access openings for easier packing of sealing medium
- Seals are approved to be used with Crouse-Hinds® Sealing Compound and Fiber

Size Range

½" NPT to 4" NPT

Materials

Bodies: Ductile Iron

Plugs: Gray Iron

Nipples: Steel, supplied with EYS fittings

Finish

Bodies: Zinc-plated with aluminum acrylic paint

Plugs: Zinc-plated with aluminum acrylic paint

Nipples: Zinc-plated

Sealing Compound and Fibers

Seal A3 (1-lb. can of sealing compound)

Fiber X6 (8-oz. fiber packing)

Sealkit (1-lb. can of sealing compound and 1-oz. fiber packing)

Listings/Compliances

UL 1203

CSA: C22.2 No. 30

EYS seals are approved to be used with Crouse-Hinds® Chico® A compound and Chico® X fiber

EYS1-3TB:
Cl. I, Div. 1 & 2,
Groups A, B, C, D

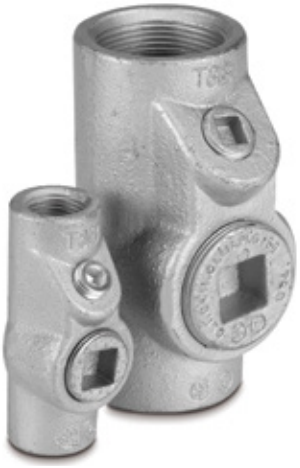
EYS4-5TB:
Cl. I, Div. 1 & 2, Groups C, D

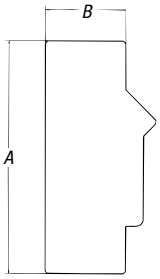
EYS11-31TB:
Cl. I, Div. 1 & 2,
Groups A, B, C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III

EYS41-101TB:
Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III

Explosion-Proof

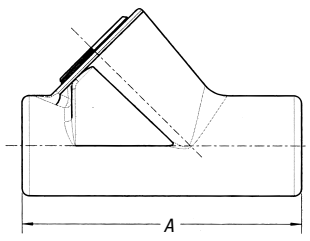
Dust-Ignition-Proof

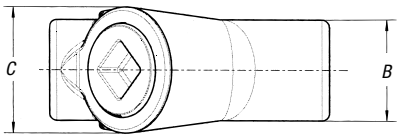




EYS11-TB – EYS101-TB

CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	TURNING RADIUS
Vertical Only					
EYS1-TB	½"	3.31	1.25	1.50	1.66"
EYS2-TB	¾"	3.65	1.50	1.75	1.96"
EYS3-TB	1"	4.25	1.75	2.19	2.40"
EYS4-TB	1¼"	5.00	2.25	2.45	3.11"
EYS5-TB	1½"	5.69	2.45	3.00	3.62"
Horizontal/Vertical					
EYS11-TB	½"	3⅜	1¼	—	1³⁄₃₂"
EYS21-TB	¾"	3²¹⁄₃₂	1½	—	1¼"
EYS31-TB	1"	4¼	1¾	—	1¹⁹⁄₃₂"
EYS41-TB	1¼"	5	2¼	—	1¹³⁄₁₆"
EYS51-TB	1½"	5⁷⁄₁₆	2⁷⁄₁₆	—	2"
EYS61-TB	2"	6¼	3	—	2⁵⁄₁₆"
EYS71-TB	2½"	7½	3½	—	2⁹⁄₁₆"
EYS81-TB	3"	8½	4¼	—	3³⁄₃₂"
EYS91-TB	3½"	9³⁄₁₆	4¾	—	3⅜"
EYS101-TB	4"	9¾	5¼	—	3¹⁷⁄₃₂"





EYS1-TB – EYS5-TB

Crouse-Hinds® and Chico® are trademarks of Cooper Industries, Inc.

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EYVF and EVHF Sealing Fittings

Application

- Limits flames and/or explosions to area within electrical system where they originate
- Limits pressure piling
- Required by NEC® for conduit systems in hazardous locations 18" from an enclosure housing a heat producing or arcing device; on 2" and larger system that enters an enclosure containing splices; wherever conduit leaves a Class I, Division I area and enters a non-hazardous area

Features

- Copper-free* aluminum provides increased corrosion resistance
- Precision cast and machined surfaces permit safer wire pulling
- Precision NPT threaded hubs enable trouble-free field installation for rigid or IMC conduit
- Large opening provides maximum working room for creating dam and seal pouring to speed up installation
- Compact design permits close construction of parallel conduit runs

Standard Materials

Sealing Fittings: Die-cast aluminum alloy A360 with less than .004 copper content (copper-free)

Sealing Cement

Fiber: Flame-retardant Kaowool Type A fiber

Standard Finish

Aluminum lacquer finish

Listings/Compliances

UL Listed

CSA Certified

Suitable for hazardous locations

Federal Spec W-C-586

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III, Div. 1 & 2

NEMA 3, 4, 7 CD, 9 EFG

Explosion-Proof

Dust-Ignition-Proof

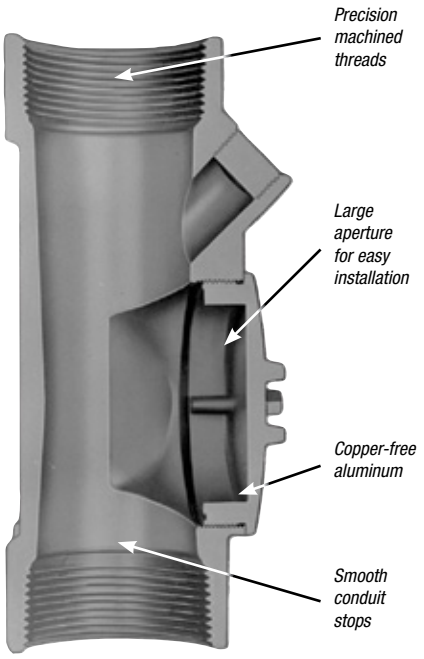
Raintight

Wet Locations

Sample Specifications

Sealing fittings for hazardous locations shall be die-cast copper-free* aluminum alloy A360. Suitable for use in hazardous locations: Class I, Groups C, D; Class II, Groups E, F, G and Class III. All conduit stops shall be coined and free of rough edges. Sealing fittings for hazardous locations shall be finished with aluminum lacquer. Sealing fittings shall be Thomas & Betts Catalog No. _____

*Less than .004% copper content.



Vertical Sealing Fittings

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
EYVF-1†	½"	5	25	50
EYVF-2†	¾"	5	25	54
EYVF-3†	1"	5	25	100
EYVF-11	½"	10	50	35
EYVF-22	¾"	10	50	40
EYVF-33	1"	4	20	60

Vertical/Horizontal Sealing Fittings

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
EVHF-1	½"	10	50	41
EVHF-2	¾"	5	25	50
EVHF-3	1"	5	25	60
EVHF-4	1¼"	4	20	70
EVHF-5	1½"	1	5	60
EVHF-6	2"	1	1	125
EVHF-7 •	2½"	1	1	150
EVHF-9 •	3½"	1	1	300

• *Made-to-order items. Consult factory for lead time and minimum quantities.*

† *Packaged with an adequate amount of sealing compound and plugs installed.*



EYVF



EVHF-1 through -3



EVHF-4 through -9

Hazardous Location Fittings

Preparation of Sealing Fittings

Applications

T&B Red•Dot® sealing cement is used for making seals in sealing fittings. The insulation in the conductors sealed in the cement may be approved thermoplastic or rubber, with or without lead covering. The sealing cement should not be used for insulating.

Characteristics

T&B Red•Dot® sealing cement is not affected by gasoline, alcohol, acetone, ether, naptha, petroleum, benzol or lacquer solvent.

Preparation

(1) Use a clean mixing vessel for each batch.

(2) Thoroughly mix powder before adding water.

(3) Do not use if temperature is below 40° F.

(4) Mix one part water to two parts cement.

(5) Allow cement to set for 72 hours before use.

Standard Dams

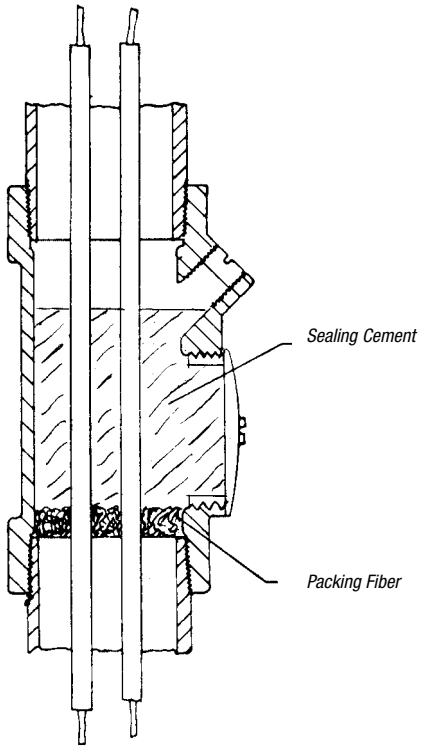
(1) Push the conductors away from the filling opening and force them apart so that they do not touch each other or the walls of the fitting or conduit along their length. If the conductors do touch, the sealing cement will not form a closed path between them.

(2) Force the packing fiber between each conductor and the inside walls. Be sure that the dam is strong enough and tight enough to prevent the considerable weight of the fluid sealing cement from seeping out.

Pouring

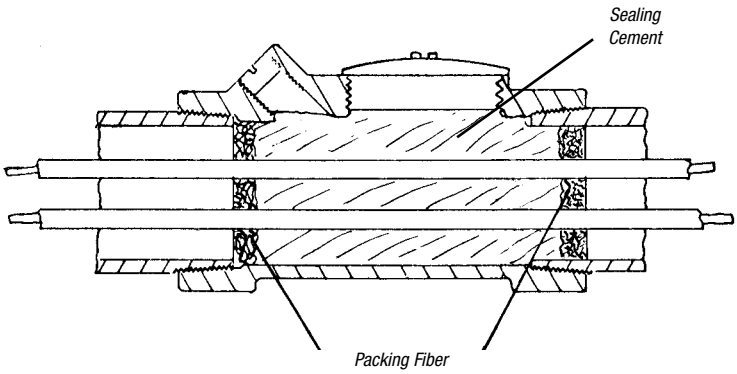
(1) Pour the mixed cement into the fitting slowly so as not to trap air in the seal.

(2) Replace the close-up plugs to ensure that they engage not less than five full threads.



Vertical Installation for EYVF or EVHF Fittings

Cl. I, Div. 1 & 2, Groups C, D	Explosion-Proof
Cl. II, Div. 1, Groups E, F, G	Dust-Ignition-Proof
Cl. III, Div. 1 & 2	Raintight
NEMA 3, 4, 7 CD, 9 EFG	Wet Locations



Horizontal EVF Installation

Thomas&Betts

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Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

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Hazardous Location Fittings

Sealing Cement and Fiber for T&B® Sealing Fittings

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. III, Div. 1 & 2

Explosion-Proof
Dust-Ignition-Proof
Raintight
Wet Locations

- Can be used on T&B EYV, EVH series fittings only



EXSC



EXPF

Sealing Cement

CAT. NO.	QUANTITY	VOLUME CUBIC INCHES	STD. PKG.	WT. LBS PER 100
EXSC-2	3.2 oz.	2.75	25	20
EXSC-8	13 oz.	11.50	15	81
EXSC-16	1 lb., 10 oz.	23.00	10	163

Packing Fiber

CAT. NO.	QUANTITY	STD. PKG.	WT. LBS PER 100
EXPF-16	1 lb.	1	112

Approximate Amount of Cement and Fiber Required per Hub

CAT. NO.	HUB SIZE	CEMENT QUANTITY	FIBER QUANTITY
EYVF-11	½"	2 oz.	1/32 oz.
EYVF-22	¾"	3 oz.	1/16 oz.
EYVF-33	1"	4 oz.	⅛ oz.
EVHF-1	½"	2 oz.	1/32 oz.
EVHF-2	¾"	2 oz.	1/32 oz.
EVHF-3	1"	4 oz.	¼ oz.
EVHF-4	1¼"	4 oz.	¼ oz.
EVHF-5	1½"	6 oz.	½ oz.
EVHF-6	2"	12 oz.	1 oz.
EVHF-7	2½"	15 oz.	1½ oz.
EVHF-8	3"	40 oz.	2 oz.
EVHF-9	3½"	45 oz.	3 oz.
EVHF-10	4"	50 oz.	4 oz.

Hazardous Location Fittings

Make flexible connections in hazardous locations!

XP Flex Explosion-Proof Flexible Couplings

With their flexible design, T&B® XP Flex Couplings make it easy to achieve tight bends in conduit systems in confined spaces — or to connect stationary equipment to equipment that moves or vibrates. Their explosion-proof and corrosion-resistant construction mean you can use them with confidence in hazardous and wet locations.

NEW!

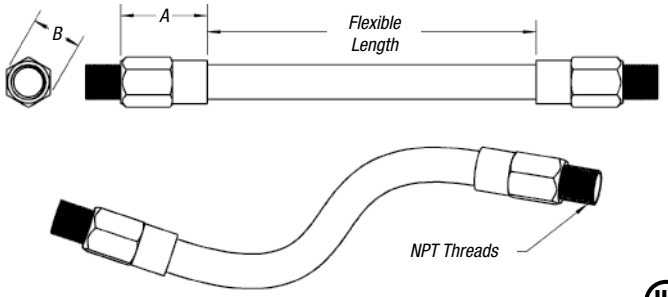


Application

- Achieve tight bends in conduit systems in confined spaces
- Connect stationary equipment to equipment that moves or vibrates

Features

- Corrosion resistant — ideal for washdown areas
- Flexible bronze construction with arc-resistant inner sleeve and brass fittings
- Terminated with two threaded female end fittings and male close nipples
- No bonding jumper required



Standard Materials

Flexible bronze construction with arc-resistant inner sleeve

Brass fittings

Listings/Compliances

UL Listed

CSA Certified

Suitable for hazardous locations

½" and ¾" Hub Sizes:
Class I, Div. 1 & 2, Groups A, B, C, D Class II, Div. 1, Groups E, F, G
Class III

1" Hub Size:
Class I, Div. 1 & 2, Groups C, D
Class II, Div. 1, Groups E, F, G
Class III

Wet Locations

UL886

CAT. NO.	HUB SIZE	FLEXIBLE LENGTH (IN.)	DIMENSIONS (IN.)	
			A	B
XPLFL16	½"	6	1.54	1.44
XPLFL18	½"	8	1.54	1.44
XPLFL110	½"	10	1.54	1.44
XPLFL112	½"	12	1.54	1.44
XPLFL115	½"	15	1.54	1.44
XPLFL118	½"	18	1.54	1.44
XPLFL124	½"	24	1.54	1.44
XPLFL212	¾"	12	1.60	1.87
XPLFL215	¾"	15	1.60	1.87
XPLFL218	¾"	18	1.60	1.87
XPLFL224	¾"	24	1.60	1.87
XPLFL236	¾"	36	1.60	1.87
XPLFL318	1"	18	2.00	2.31

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Technical Information

UL Recommended Dimensions and Weights of Rigid Metal Conduit

TRADE SIZE (IN.)	THDS. PER IN.	I.D. (IN.)	O.D. (IN.)	WALL THICKNESS (IN.)	A MIN. WT. AT 100' LENGTHS WITH ONE COUPLING ATTACHED (LBS.)
¼	18	.364	.540	.088	38.5
⅜	18	.493	.675	.091	51.5
½	14	.622	.840	.109	79.0
¾	14	.824	1.050	.113	105.0
1	11½	1.049	1.315	.133	153.0
1¼	11½	1.380	1.660	.140	201.0
1½	11½	1.610	1.900	.145	249.0
2	11½	2.067	2.375	.154	332.0
2½	8	2.469	2.875	.203	527.0
3	8	3.068	3.500	.216	682.6
3½	8	3.548	4.000	.226	831.0
4	8	4.026	4.500	.237	972.3
4½	8	4.506	5.000	.247	1,150.0
5	8	5.047	5.563	.258	1,313.6
6	8	6.065	6.625	.280	1,745.3

UL Dimensions for Intermediate Metallic Conduit† — Type I (10-ft. lengths)

TRADE SIZE (IN.)	O.D. (IN.) MIN.	O.D. (IN.) MAX.	WALL THICKNESS (IN.)
½	.810	.820	.070*
¾	1.024	1.034	.075*
1	1.285	1.295	.085*
1¼	1.630	1.645	.085*
1½	1.875	1.890	.090*
2	2.352	2.367	.095*
2½	2.847	2.867	.130**
3	3.466	3.486	.130**
3½	3.961	3.981	.130**
4	4.456	4.476	.130**

** (+.015. -.000)*

*** (+.020. -.000)*

† IMC Threads are the same as Rigid Metal Conduit Threads.

UL Dimensions for Intermediate Metallic Conduit — Type II (10-ft. lengths)

TRADE SIZE (IN.)	O.D. (IN.) MIN.	O.D. (IN.) MAX.	WALL THICKNESS (IN.)
½	.825	.840	.085*
¾	1.035	1.050	.085*
1	1.300	1.315	.108*
1¼	1.645	1.660	.108*
1½	1.885	1.900	.108*
2	2.360	2.375	.108*
2½	2.850	2.875	.155**
3	3.475	3.500	.155**
3½	3.975	4.000	.160**
4	4.475	4.500	.160**

** (+.020. -.000)*

*** (+.025. -.000)*

UL Recommended Dimensions and Weight of Electrical Metallic Tubing (EMT)

TRADE SIZE (IN.)	O.D. (IN.)	I.D.* (IN.)	WALL THICKNESS (IN.)	MIN. ACCEPT WT. FT. (LBS.)
⅜	.577 ± .005	.493	.042	.230
½	.706 ± .005	.622	.042	.285
¾	.922 ± .005	.824	.049	.435
1	1.163 ± .005	1.049	.057	.640
1¼	1.510 ± .005	1.380	.065	.950
1½	1.740 ± .005	1.610	.065	1.100
2	2.197 ± .005	2.067	.065	1.400
2½	2.875 ± .010	2.731	.072	2.050
3	3.500 ± .015	3.356	.072	2.500
3½	4.000 ± .020	3.834	.083	3.250
4	4.500 ± .020	4.334	.083	3.700

** Not a requirement — included for information only.*

Technical Information

Knockout (Sliphole) Sizes for Electrical Conduits and Connectors

TRADE SIZE (IN.)	KNOCKOUT DIAMETER		
	NOM.	MIN.	MAX.
¼	.575	.559	.605
⅜	.718	.703	.734
½	.875	.859	.906
¾	1.109	1.094	1.141
1	1.375	1.359	1.406
1¼	1.734	1.719	1.766
1½	1.984	1.958	2.000
2	2.469	2.433	2.500
2½	2.969	2.938	3.000
3	3.594	3.563	3.625
3½	4.125	4.063	4.156
4	4.641	4.563	4.672
4½	5.109	5.063	5.166
5	5.719	5.625	5.750
6	6.813	6.700	6.844

Sizes ¼" thru 1¼" are per UL 514.

Sizes ½" thru 6" per proposed revision to NEMA Engineering Bulletin No. 71, Aug. 1976.

UL Recommended Diameters for Flexible Metal Conduit (Greenfield)

TRADE SIZE (IN.)	MAX. O.D. (IN.)	O.D. (IN.)	
		MIN.	MAX.
5/16	.510	.312	.393
⅜	.610	.375	.645
½	.920	.625	.835
¾	1.105	.812	—
1	1.380	1.000	—
1¼	1.630	1.250	—
1½	1.950	1.500	—
2	2.450	2.000	—
2½	3.060	3.500	—
3	3.560	3.000	—
3½	4.060	3.500	—
4	4.560	4.000	—

UL Recommended Diameters for Liquidtight Flexible Metal Conduit

TRADE SIZE (IN.)	I.D. (IN.)		O.D. (IN.)	
	MIN.	MAX.	MIN.	MAX.
⅜	.484	.504	.690	.710
½	.622	.642	.820	.840
¾	.820	.840	1.030	1.050
1	1.041	1.066	1.290	1.315
1¼	1.380	1.410	1.630	1.660
1½	1.575	1.600	1.865	1.900
2	2.020	2.045	2.340	2.375
2½	2.480	2.505	2.840	2.875
3	3.070	3.100	3.460	3.500
3½	3.500	3.540	3.960	4.000
4	4.000	4.040	4.460	4.500

Diameter of Liquidtight Non-Metallic Flexible Conduit

TRADE SIZE (IN.)	I.D. (IN.)		O.D. (IN.)	
	MIN.	MAX.	MIN.	MAX.
⅜	.485	.505	.755	.775
½	.620	.640	.910	.930
¾	.815	.835	1.150	1.170
1	1.030	1.055	1.415	1.440
1¼	1.370	1.395	1.800	1.825
1½	1.585	1.620	2.045	2.080
2	2.045	2.080	2.605	2.640

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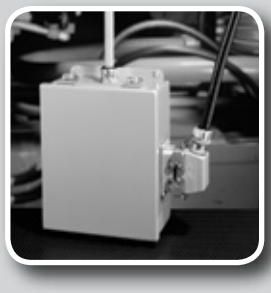
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T&B® Fittings

T&B® Cord & Cable Fittings



In this section...



T&B® Cord & Cable Fittings

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Spin-On® Series Fittings and Accessories.....E-131–E-132
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STAR TECK® Teck Cable Fittings

STAR TECK® STE/STEX Series Cable Fittings

The STAR TECK® STE cable fitting series is designed for optimum integrity in ordinary applications. The STEX series is specially designed for classified hazardous areas. Both are designed to stand up to the harshest and most corrosive environment.



Greater Cable Range + Fewer Part Numbers = Less Inventory!

Application

- Provides means for passing jacketed metal clad cables through a bulkhead or enclosure in industrial and hazardous areas. (These fittings are suitable for hazardous areas when used with T&B sealing compound)
- Forms a mechanical grip and water- and/or oil-resistant termination
- Provides grounding continuity of cable armor

Features

- Powergrip grounding ring
- Removable armor-stop for greater cable ranges
- Built-in sealing device
- Elastomeric collar ring/ bushing for greater cable ranges
- Built-in jacket stripping gauge on gland nut
- Gland nut can be tightened with hammer and screwdriver

Range

- STAR TECK EXTREME® fittings are designed to accommodate a broad range of cables. Each hub range overlaps the adjacent hub range, thereby minimizing the possibility of mismatched cables and fittings in the field. They are available in hub sizes from ½" to 4" and will handle outer jacket diameters form .525" to 4.340"

Materials

Aluminum is standard material

Add suffix "S" for steel with zinc plating

Add suffix "PVC" for corrosion-resistant PVC coating

Add suffix "SS" for stainless steel material

Cable Type

JMC, MC-HL, Teck

Environment Classification

STE* Series

–Ordinary Location

–Class I, Division 2†

–NEMA 4, 4X (stainless steel), 6P

–STE050 – STE200

NEMA 6P

–STE250 – 400

NEMA 4

–STE050 – 400

NEMA 4X (stainless steel)

STEX** Series

–Class I, Division 1, Groups A, B, C, D

–Class II, Division 1, Groups E, F, G

–Class III

–NEMA 4, 4X (stainless steel), 6P

UL Listed for Direct Burial when made from stainless steel material

Suitable for use in wet locations and concrete tight (steel) applications per UL 514B

UL File No. E82038/E38947

CSA File No. LR638/LR23086

* *These fittings are suitable for Class I hazardous locations when used in combination with a certified Class I hazardous location sealing fitting.*

** *Meets NEC® Class I Division 2/Zone 2 and Class II Division 2/Zone 22 requirements when installed as per Articles 501.10/505.15 and 502.10/506.15*

*** *May be used in hazardous areas with approved MC-HL or Teck cable (or equal) when installed in accordance with NEC®/CEC requirements.*

Not applicable to all STEX series.

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STAR TECK® Teck Cable Fittings



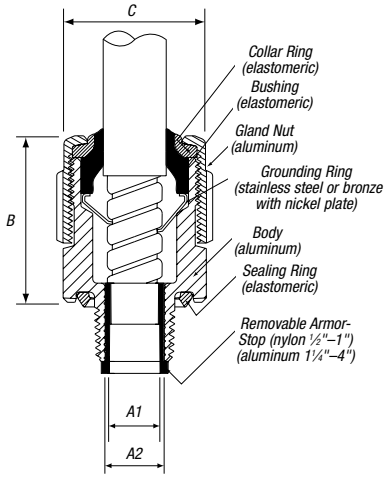
STE Series Ordinary



STEX Series Hazardous Locations

STAR TECK EXTREME® Jacketed Metal-Clad Cable Fittings

CAT. NO.	HUB SIZE NPT	STRIP LENGTH (IN.)	GLAND TORQUE (IN.-LB.)	CABLE RANGE OVER JACKET (IN.)		CABLE RANGE OVER ARMOR (IN.)		DIMENSIONS (IN.)				SEALING COMPOUND REQUIRED	
				MIN.	MAX.	MIN.	MAX.	A1: THROAT DIA. MIN. W/END STOP	A2: THROAT DIA. MIN. WO/END STOP	B OVERALL	C MAX. O.D.	SC65 PUTTY (G)	SC4-KIT LIQUID (CC)
Ordinary Locations													
ST050-462#	½	1¼	300	.525	.650	.415	.570	N/A*	.395	2.020	1.224	—	—
STE050DATA#**	½	⅞	300	.592	.693	.502	.603	.375	.515	2.100	1.360	—	—
STE050*	½	1¼	300	.600	.985	.520	.895	.505	.612	2.650	1.630	—	—
STE075*	¾	1¼	600	.860	1.205	.780	1.125	.655	.816	2.900	2.080	—	—
STE100*	1	1¼	700	.950	1.375	.870	1.295	.785	1.044	3.020	2.300	—	—
STE125*	1¼	1¼	1,000	1.150	1.625	.990	1.465	.970	1.250	4.010	2.820	—	—
STE150*	1½	1¾	1,200	1.440	1.965	1.280	1.805	1.260	1.562	4.290	3.250	—	—
STE200*	2	1¾	1,600	1.825	2.375	1.665	2.215	1.645	1.995	4.120	3.600	—	—
STE250	2½	2½	1,600	2.265	2.840	2.105	2.680	2.075	2.424	5.320	4.750	—	—
STE300	3	2½	1,600	2.670	3.270	2.545	3.145	2.531	2.890	5.400	5.400	—	—
STE350	3½	2½	1,600	3.220	3.870	3.090	3.640	3.065	3.460	5.360	5.900	—	—
STE400	4	2½	1,600	3.665	4.340	3.550	4.225	3.525	3.941	5.415	6.400	—	—
Hazardous Locations													
STX050-462*	½	1¼	300	.525	.650	.415	.570	N/A*	.395	2.500	1.630	7	4
STX050-464*	½	1¼	300	.600	.760	.490	.680	N/A*	.485	2.530	1.630	7	4
STEX075*	¾	1¼	600	.600	.985	.520	.895	.504	.678	3.400	1.820	14	7
STEX100*	1	1¼	700	.860	1.205	.780	1.125	.650	.833	3.580	2.300	30	16
STEX125*	1¼	1¼	1,000	.950	1.375	.870	1.295	.834	1.065	3.920	2.510	45	22
STEX150*	1½	1¾	1,200	1.150	1.625	.990	1.465	.958	1.273	5.020	3.260	80	43
STEX200*	2	1¾	1,600	1.440	1.965	1.280	1.805	1.250	1.560	5.120	3.620	125	66
STEX250	2½	2½	1,600	1.825	2.375	1.665	2.215	1.640	1.995	5.170	4.580	341	164
STEX300	3	2½	1,600	2.265	2.840	2.105	2.680	2.075	2.461	6.610	5.100	497	239
STEX350	3½	2½	1,600	2.670	3.270	2.545	3.145	2.531	2.864	7.380	5.790	965	464
STEX400	4	2½	1,600	3.220	3.870	3.090	3.640	3.055	3.461	7.650	6.190	1323	636
STX400-484#	4	—	1,600	3.810	4.030	3.680	3.870	—	—	—	—	1645	791
STX400-485#	4	—	1,600	3.965	4.185	3.835	4.025	—	—	—	—	1645	791



To specify other material, add the appropriate suffix to the catalog number.

DESIRED MATERIAL	SUFFIX	EXAMPLE
Aluminum fitting with grounding lock nut	GRL	STE-050GRL
Steel with zinc plate	S	STE-050S
Stainless steel	SS	STX050-462SS
Aluminum with PVC coating	PVC	STE-050PVC
Steel with PVC coating	S-PVC	STE-050S-PVC

** These products are UL Listed Watertight NEMA Type 6P*
*** UL tested for data cables*
 # Does not have a removable armor stop.

Sealing Compounds — Used for Hazardous Locations

CAT. NO.	DESCRIPTION	VOLUME
SC65	Putty-Type Sealing Compound	60 grams
SC4-KIT	Liquid-Type Sealing Compound for Use in High Wire Density Applications (five or more wires)	2.8 fl. oz. (66 cc)

STAR TECK® Jacketed Metal-Clad Cable Fittings

Overlapping range of sizes. STAR TECK® jacketed metal-clad cable fittings are designed to accommodate a broad range of cables, thereby minimizing the possibility of mismatched cables and fittings in the field.

Application

- Provide means for passing armored, metal-clad, jacketed cables through a bulkhead or enclosure in hazardous areas (these fittings are suitable for hazardous areas when used with T&B sealing compound)
- Form a mechanical grip and water- and/or oil-resistant termination
- Provide grounding continuity of cable armor

Cable Type

- JMC, MC-HL, Teck

Features

Easy Installation

- Exclusive power-grip. Provides a grip that's high up on the cable — not on the first convolution — so strip length and cutting of cable are not as critical

Dependable Service

- Stainless steel retaining ring. Withstands corrosive environments. Non-magnetic

Dependable Grounding

- Power-Grip grounding ring is non-magnetic stainless steel. Provides 360° long-term dependable grounding. It makes immediate contact with the cable

Watertight

- Tapered bushing. Cone shaped to provide a secure, tight fit while eliminating cupping or water in vertical installations

Easy to Install in Tight Spaces

- Low-profile gland nut fits tight spaces. Has grooves for screwdriver installation, and flats for a wrench. Durable and reusable with funnel entry for easy cable insertion

Materials

Aluminum is standard material

Add suffix "S" for steel with zinc plating

Add suffix "PVC" for corrosion- resistant PVC coating

Add suffix "SS" for stainless steel Grade 316 material (½"–2" sizes)

Environment Classification

Meets NEC® Class I Division 2/Zone 2 and Class II Division 2/Zone 22 requirements when installed as per Articles 501.10/505.15 and 502.10/506.15

NEMA 4

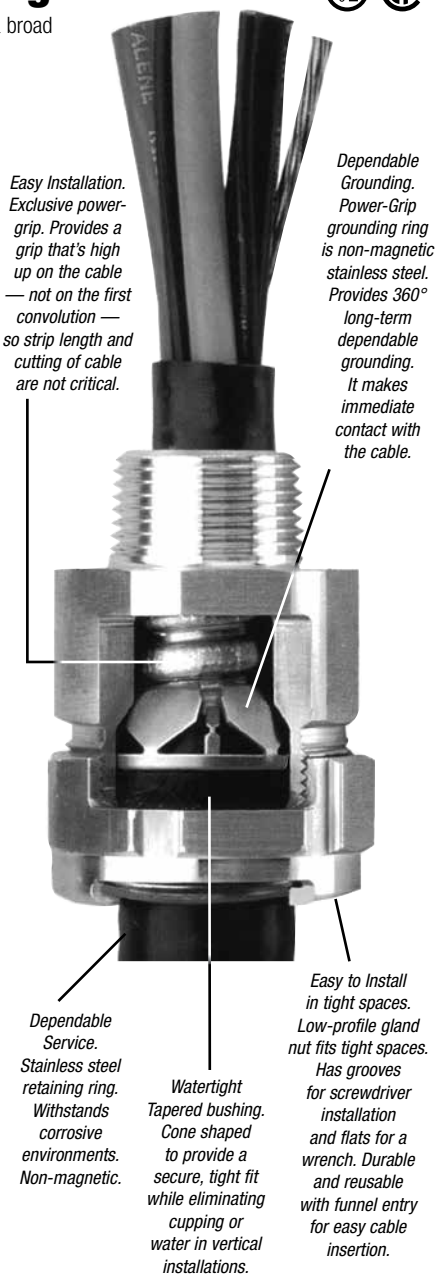
Suitable for use in wet locations and concrete tight (steel) applications per UL 514B

UL File No. E82038/E38947

CSA File No. LR638/LR23086

Range

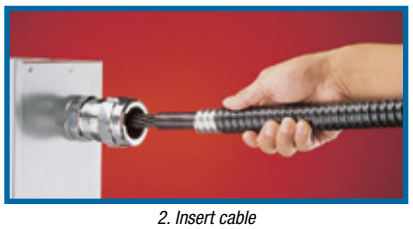
Available in hub sizes from ½" to 4", and will handle outer jacket diameters from .525" to 4.340"



Installing the STAR TECK® Fitting



1. Prepare cable



2. Insert cable



3. Tighten gland nut

Thomas&Betts

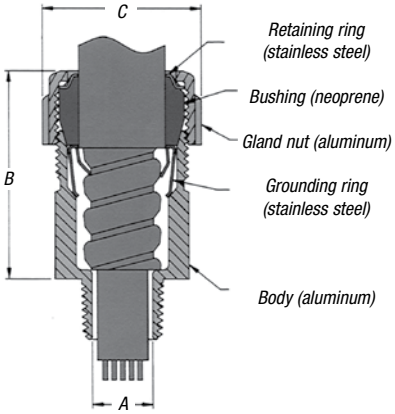
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Technical Services
Tel: 888.862.3289

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STAR TECK® Teck Cable Fittings





- Overlapping sizes minimize possibility of mismatched cables and fittings in the field
- Available in hub sizes from ½" to 4", handling outer jacket diameters from .525" to 4.34"
- Suitable for hazardous locations (Class 1 Div. 2; Class II Div. 2; Class III)
- Where explosion-proof or dust-proof boxes are required by code, use STAR TECK XP® fittings (STX050-462 Series)

STAR TECK® Jacketed Metal-Clad Cable Fittings for Ordinary Locations

CAT. NO.	HUB SIZE NPT	CABLE RANGE OVER JACKET (IN.)		CABLE RANGE OVER ARMOR (IN.)		DIMENSIONS (IN.)		
		MIN.	MAX.	MIN.	MAX.	A	B*	C
ST050-462	½	.525	.650	.415	.570	.395	2.020	1.224
ST050-464	½	.600	.760	.490	.680	.485	2.020	1.363
ST050-465	½	.725	.885	.615	.805	.612	2.133	1.633
ST050-466	½	.825	.985	.715	.905	.612	2.133	1.633
ST075-467	¾	.880	1.065	.770	.985	.819	2.450	2.080
ST075-468	¾	1.025	1.205	.915	1.125	.819	2.450	2.080
ST100-469	1	1.187	1.375	1.077	1.295	1.039	2.601	2.230
ST125-470	1¼	1.357	1.625	1.240	1.545	1.182	3.282	2.824
ST125-550	1¼	1.500	1.625	1.390	1.545	1.370	3.282	2.824
ST125-471	1¼	1.600	1.875	1.490	1.795	1.370	3.282	2.824
ST150-472	1½	1.700	1.965	1.590	1.885	1.557	3.620	3.260
ST150-473	1½	1.900	2.187	1.790	2.107	1.600	3.620	3.260
ST200-551	2	1.900	2.187	1.790	2.107	1.715	3.640	3.620
ST200-474	2	2.100	2.375	1.990	2.280	1.995	3.640	3.620
ST200-475	2	2.300	2.565	2.190	2.485	2.057	3.640	4.020
ST200-476	2	2.500	2.750	2.390	2.656	2.057	3.640	4.020
ST250-477	2½	2.380	2.640	2.240	2.560	2.230	4.700	4.750
ST250-478	2½	2.580	2.840	2.440	2.750	2.430	4.700	4.750
ST300-479	3	2.790	3.060	2.640	2.970	2.630	4.700	5.050
ST300-480	3	3.000	3.270	2.870	3.190	2.860	4.790	5.480
ST300-481	3	3.210	3.480	3.042	3.390	3.032	4.790	5.480
ST350-482	3½	3.420	3.690	3.270	3.590	3.260	4.790	5.980
ST350-483	3½	3.610	3.870	3.440	3.770	3.430	4.790	5.980
ST400-484	4	3.810	4.030	3.600	3.930	3.590	4.840	6.435
ST400-485	4	3.965	4.185	3.755	4.065	3.745	4.840	6.435
ST400-486	4	4.120	4.340	3.910	4.220	3.900	4.840	6.435

** Approximate dimension before installation.*

Suggested specifications for metal-clad cable fitting.

1. All metal-clad cable fittings for jacketed interlocked armor cable or continuous corrugated cable shall be approved by a nationally recognized testing laboratory, inspection agency or product evaluation organization.

2. Where corrugated-jacketed metal-clad cable exposed to intermittent or continuous moisture is terminated into a threaded opening, the fitting shall be watertight type furnished with:

a. An elastomeric beveled bushing.

b. A funnel entry, splined gland nut.

c. A non-magnetic stainless steel grounding device with dual grounding action.

d. A taper threaded hub.

e. A hexagonal body and gland nut as manufactured by Thomas & Betts (aluminum series ST050-464).

3. Where cable is terminated into a threadless opening, a suitable moisture-resistant elastomeric gasket as manufactured by Thomas & Betts, series 5262, shall be provided between the outside of enclosure and fitting shoulder.

4. With single-conductor cable and/or in corrosive environments, aluminum fittings such as Thomas & Betts series ST050-464 shall be installed.

Class I Div 2; Class II Div. 2; Class III. Where explosion-proof or dust-ignition-proof boxes are required by Teck, fitting must be used in conjunction with an approved sealing fitting.

STAR TECK® Teck Cable Fittings

Easy installation saves time, money!

STAR TECK XP® Jacketed Metal-Clad Cable Fittings for Hazardous Locations

Application

- Provide means for passing armored, metal clad, jacketed cables through a bulkhead or enclosure in hazardous areas (these fittings are suitable for hazardous areas when used with T&B sealing compound)
- Form a mechanical grip and water- and/or oil-resistant termination
- Provide grounding continuity of cable armor

Cable Type

- JMC, MC-HL, Teck

Features

- Sealing chamber is easier to fill, requires less sealing compound — saves time, material. Flame path is optimally designed to enable easy insertion into hub. Quick-turn lock
- Internal splines
- Union features twist-on action; red color for high visibility
- Exclusive Power Grip. Provides grip that's high up on cable armor non-magnetic stainless steel Power Grip grounding ring
- Low-profile gland nut

Materials

Aluminum is standard material

Add suffix "S" for steel with zinc plating

Add suffix "PVC" for corrosion-resistant PVC coating

Add suffix "SS" for stainless steel material

Environment Classification

Suitable for hazardous locations. Class I Div. 2; Class II Div. 2; Class III. Where explosion-proof or dust-proof fittings are required by code, use STAR TECK XP® fittings (STX Series)

NEMA 4, 4X (stainless steel)

Suitable for use in wet locations and concrete-tight (steel) applications per UL 514B

UL File No. E82038/E38947

CSA File No. LR23086

Range

Available in hub sizes from ½" to 4", and will handle outer jacket diameters from .525" to 4.185"



1. Prepare cable



2. Install Star Teck XP® on cable



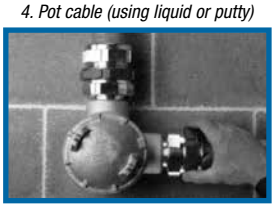
3. Tighten gland nut



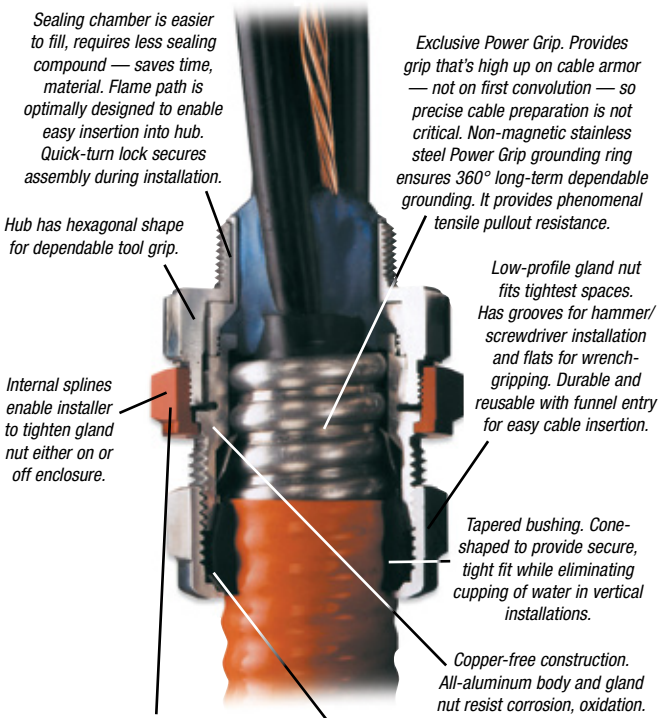
4. Pot cable (using liquid or putty)



5. Install hub on enclosure



6. Insert cable and tighten red union



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STAR TECK® Teck Cable Fittings

STAR TECK XP® Jacketed Metal-Clad Cable Fittings for Hazardous Locations

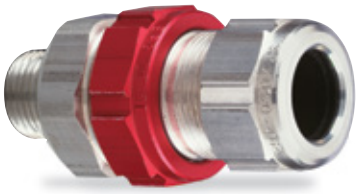
CAT. NO.	HUB SIZE NPT	CABLE RANGE OVER JACKET (IN.) MIN.	CABLE RANGE OVER JACKET (IN.) MAX.	CABLE RANGE OVER ARMOR (IN.) MIN.	CABLE RANGE OVER ARMOR (IN.) MAX.	DIMENSIONS (IN.) A MIN.	DIMENSIONS (IN.) B*	DIMENSIONS (IN.) C	SEALING COMPOUND REQUIRED SC65** PUTTY (G)	SEALING COMPOUND REQUIRED SC4-KIT** LIQUID (CC)
STX075-465	¾	.725	.885	.615	.805	.612	2.62	1.82	14	7
STX075-466	¾	.825	.985	.715	.905	.720	2.62	1.82	14	7
STX100-467	1	.880	1.065	.770	.985	.755	2.83	2.30	30	16
STX100-468	1	1.025	1.205	.915	1.125	.900	2.83	2.30	30	16
STX125-469	1¼	1.187	1.375	1.077	1.295	1.062	3.05	2.51	45	22
STX150-470	1½	1.357	1.625	1.240	1.545	1.182	3.76	3.26	80	43
STX150-550	1½	1.500	1.625	1.390	1.545	1.370	3.76	3.26	80	43
STX150-471	1½	1.600	1.875	1.490	1.795	1.470	3.76	3.26	80	43
STX200-472	2	1.700	1.965	1.590	1.885	1.557	4.05	3.62	125	66
STX200-473	2	1.900	2.187	1.790	2.107	1.757	4.05	3.62	125	66
STX200-474	2	2.100	2.375	1.990	2.280	1.995	4.15	4.02	150	80
STX250-475	2½	2.300	2.565	2.200	2.485	2.185	4.31	4.58	341	164
STX250-476	2½	2.500	2.750	2.380	2.656	2.365	4.31	4.58	341	164
STX300-478	3	2.580	2.840	2.477	2.750	2.460	5.64	5.10	497	239
STX300-479	3	2.790	3.060	2.677	2.970	2.660	5.80	5.33	609	293
STX350-480	3½	3.000	3.270	2.880	3.190	2.864	6.32	5.79	965	464
STX350-481	3½	3.210	3.480	3.080	3.390	3.062	6.32	5.79	965	464
STX400-482	4	3.420	3.690	3.307	3.590	3.290	6.63	6.19	1323	636
STX400-483	4	3.610	3.870	3.477	3.770	3.460	6.63	6.19	1323	636
STX400-484	4	3.810	4.030	3.650	3.930	3.630	7.09	6.90	1645	791
STX400-485	4	3.965	4.185	3.794	4.065	3.775	7.09	6.90	1645	791

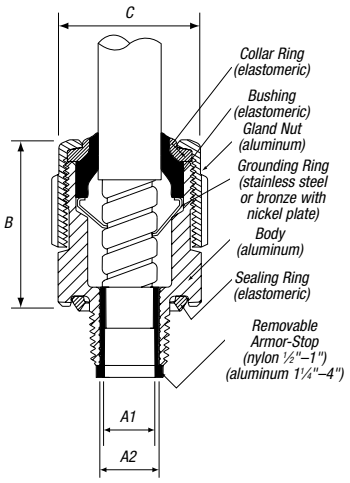
** Approximate dimension before installation.*

*** One unit of SC65 putty type sealing compound contains 60 g. One unit of SC4-Kit liquid type sealing compound contains 66 cc and includes a dispensing syringe and fiber damming material.*

***CAUTION:** STAR TECK XP® fittings must be installed with Thomas & Betts catalog numbers SC4-KIT or SC65 sealing compound (purchase separately). See installing instructions.*

***Note:** Stainless Steel (SS suffix) STX and STEX fittings have a NEMA 4X rating.*





Sealing Compounds

CAT. NO.	DESCRIPTION	VOLUME
SC65	Putty-Type Sealing Compound	60 grams
SC4-KIT-1	Liquid-Type Sealing Compound for use in high wire density applications (5 or more wires)	2.8 fl. oz. (66 cc)

UL Connectors When Used with Putty-Type Listed or Liquid-Type Compound for:

½" thru 3"	Class I	Div. 1	Groups A, B, C, D
	Class II	Div. 2	Groups F, G
	Class III		
	Enclosure Type 4		

Connectors When Used with Putty-Type or Liquid-Type Compound for:

3½" & 4"	Class I	Div. 1	Groups B, C, D
	Class II	Div. 2	Groups F, G
	Class III	Enclosure Type 4	

CSA Certified for:

Class I	Division 1 and 2	Groups A, B, C, D
Class II	Division 1 and 2	Groups E, F, G
Class III, SL (Integral Seal) Enclosure Type 4		

STAR TECK® Teck Cable Fittings

Greater range, fewer part numbers, less inventory. A fitting combination!



STAR TECK EXTREME® DIRECTOR™ Jacketed Metal-Clad and Teck Cable Termination Fittings

Terminating jacketed metal-clad and teck cable can be a time-consuming process, especially when angle adjustments are required. Current termination methods such as 90° elbows and LB conduit bodies take up a lot of space and lack flexibility.

To address these issues, Thomas & Betts introduces the electrical industry's first truly adjustable series of range-taking fittings, the STAR TECK EXTREME® DIRECTOR™.

STAR TECK EXTREME® DIRECTOR™ Cable Fittings are designed for optimum integrity in ordinary applications. They accept a range of jacketed metal-clad and teck cable diameters.

Featuring an exclusive swash-plate design, the STAR TECK EXTREME® DIRECTOR™ Cable Fittings adjust from 90° to 180°. A full circular bore makes cable insertion trouble free. Alignment guides serve as handy reference points for aligning installed fittings at the same angle.

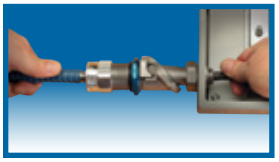
What's more, STAR TECK EXTREME® DIRECTOR™ fittings require no disassembly prior to installation and can also be easily disconnected.

Save Time and Money!

Install



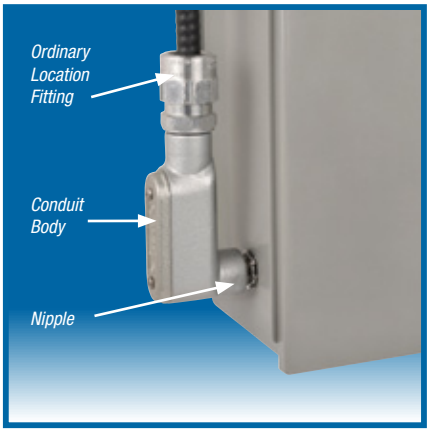
Insert



Rotate



Conventional Method



Multiple components are less flexible and require added space.

Time-Saving Method



One component that can be used at any angle adds flexibility and requires less space.



Turn blue compression nut one-half turn to loosen and rotate hub. Tighten blue compression nut to hold hub in place at desired angle.

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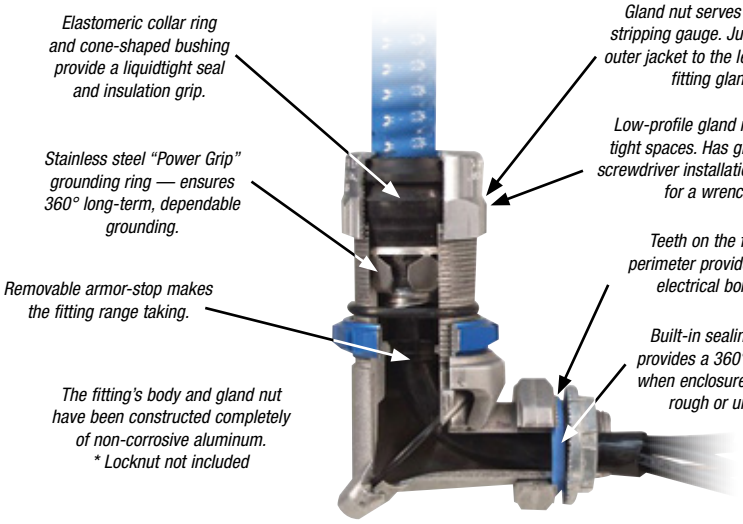
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STAR TECK EXTREME® DIRECTOR™ Jacketed Metal-Clad and Teck Cable Termination Fittings *(continued)*

Inside STAR TECK EXTREME® DIRECTOR™ Cable Fittings





90° to 180° Rotation

Environment Classification

Meets NEC® Class I Division 2/Zone 2 and Class II Division 2/Zone 22 requirements when installed as per Articles 501.10/505.15 and 502.10/506.15

NEMA Type 4

UL File No. E38947

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STAR TECK EXTREME® DIRECTOR™ Cable Fittings

CAT. NO.	HUB SIZE (NPT)	GLAND TORQUE (LB.-IN.)	RANGE OVER JACKET (IN.)		RANGE OVER ARMOR (IN.)		THROAT DIA. MIN. (IN.)		OVERALL LENGTH (IN.)
			MIN.	MAX.	MIN.	MAX.	WITH ARMOR STOP	WITHOUT ARMOR STOP	
STED050	½	450	.600	.885	.520	.795	.505	.617	5.375
STED075	¾	600	.860	1.205	.780	1.125	.645	.819	5.875

STAR TECK® Teck Cable Fittings

Jacketed Metal-Clad Cable and Teck Cable

Metal-Clad Cable (Type MC) Ref. NEC® Article 330

"Metal-Clad Cable Type MC is a factory assembly of one or more conductors, each individually insulated and enclosed in a metallic sheath of interlocking tape, or a smooth or corrugated tube."

Metal-Clad Cable Type MC is rated for use up to 5,000 volts. The National Electrical Code permits use of metallic sheath as an equipment grounding conductor.

Metal-Clad Cables are available with a variety of phase conductor insulations such as crosslinked polyethylene and silicone rubber ethylene propylene, depending on rated temperature of conductors and working potential. Metallic sheath can be of galvanized steel, aluminum, copper or bronze. A special outer covering such as PVC or Neoprene over metallic sheath is usually provided for environmental protection.

Metal-clad cable is not permitted in locations where it could be subject to physical damage. Metal-clad cable can be used exposed, concealed, in cable tray, in any approved raceway and with minor exceptions in hazardous locations. Type MC cable can also be used for services, feeders, branch circuits, power, lighting, control and signal circuits.

Use of metal-clad cable is permitted in wet locations, or where exposed to destructive corrosive conditions or can be directly buried in earth, concrete or exposed to cinder fills, strong chlorides, caustic alkalis, vapors, chlorine or hydrochloric acids provided the construction of cable, the conductors within the metallic sheath, the metallic sheath and protective cover over metallic sheath comply with requirements enumerated in Sec. 330.10 of the National Electrical Code.

Bend radius restrictions are dependent on the size of the cable and the type of sheath, i.e., smooth, interlocked armor, corrugated sheath or shielded conductors and varies from seven times to 15 times cable external diameter.

NEC Article 330 requires that approved fittings be used for termination. Where single-conductor cables carrying alternating current enter a ferrous metal box or enclosure, procedures described in NEC Section 300.20 must be followed to reduce effects of heating due to induced currents. These procedures include recommended arrangements of conductors, cutting of slots in metal between individual conductor holes, passing of conductors through insulating walls, or use of non-magnetic aluminum sheathed cable and aluminum terminating fittings.

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Please refer to the following for further details and complete information:

1. NEC Article 330…Metal Clad Cable (Type MC)
2. UL 4, ANSI C33.9…Safety Standards for Type MC Metal Clad Cable
3. UL 514B, Safety Standards for Outlet Boxes & Fittings
4. A-A50552…Federal Specification. Fittings for Cable, Power Electrical & Conduit Metal, Flexible
5. NEMA FM-1…Standards Publication. Fittings and Supports for Conduit and Cable Assemblies

Teck Cables

Teck cable derived its name from one of its first users, the Teck-Hughes Gold Mines in Kirkland Lake, Ontario. Teck 90 is CSA Type designation. Trade designation of this cable is Armored Cable.

Teck cables up to 5,000-volt working potential are manufactured in accordance with CSA Standard C22.2 No. 131 and are provided with a bare ground conductor and an optional outer jacket. Depending on phase conductor insulation, the cables are designated as Teck 90 (X-LINK) when insulation is cross-linked polyethylene and Teck 90 (EP) when insulation is ethylene propylene. Both cables are rated for 90° C service (dry location) and 75° C (wet locations). When Teck cable is suitable for installation down to -40° F, the cables are marked Teck 90 (X-LINK) minus 40 or Teck 90 (EP) minus 40.

Over 5,000 volts working potential Teck cables are manufactured in accordance with IPCEA standards and are certified by CSA. Cables are provided with or without ground wire as required.

Teck cables with outer jacket may be used for exposed or concealed wiring in wet or dry locations, indoors/outdoors and in corrosive environments. Teck cables are suitable for use in ventilated, non-ventilated and ladder-type cable troughs, in ventilated flexible cable ways in both dry and wet locations. Teck cable with outer jacket is suitable for direct earth burial and for Class II Division 2, Class III Division 1 & 2 hazardous locations per Canadian Electric Code.

Some of the features of Teck cable are its flexibility and ease of installation. Absence of dead air space within cable increases heat transfer and minimizes condensation. Overall protective covering provides good environmental protection.

Bend radii for permanent training during installation usually varies between seven times to 12 times the cable diameter depending on cable construction and manufacturer's recommendations. Larger radii bends are required for other conditions.

Section 12-3028 of the Canadian Electric Code requires that the terminating fittings used must provide adequate strain relief to terminal connections and ensure electrical continuity without injury to non-metallic sheath. Continuity is mandatory whether or not the armor is used as a grounding conductor. Except for dry locations free from corrosive atmosphere, the non-metallic jacket is not permitted to be stripped back to a point where armor is exposed after installation.

Where single conductor cables carrying 200 amps or more enter metal boxes through separate openings, certain precautions are required to prevent overheating of the metal by induction. Use of non-ferrous or non-metallic box connectors, locknuts and bushings and installation of non-magnetic panel inserts is suggested in the code.

Please refer to the following for further details and complete information:

1. CEC Section 12…Wiring Methods
   CEC Section 4…Conductors
2. CSA C22.2 No. 131 & 131S (Supplement #1)…Safety Standard for Type Teck Cable
3. CSA C22.2 No. 18…Safety Standards for Outlet Boxes, Conduit Boxes and Fittings
4. UL File E82038 — Volume 1, Section 3, Page 1, Revision 1/31/2007

***Note**: The materials herein, whether relating to the National Electrical Code, the Underwriters Laboratories, Inc. listing, to industry practice or otherwise are not intended to provide all relevant information required for use and installation of our products. Refer to applicable codes, instructions and industry specifications prior to installation or use.*

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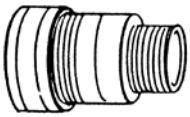
Spin-On® Series II Connectors and Accessories

CAT. NO.	HUB SIZE NPT	CABLE RANGE OVER ARMOR (IN.)	DIMENSIONS (IN.) A DIA.	DIMENSIONS (IN.) B	OPTIONAL CORROSION RESISTANT BOOT CAT. NO.
2-050-008	½	.380–.435	1¼	1⅞	NB050
2-050-010	½	.436–.500	1¼	1⅞	NB050
2-050-020	½	.501–.580	1¼	1⅞	NB050
2-050-030	½	.581–.650	1¼	1⅞	NB050
2-075-040	¾	.651–.730	1⅝	2⅛	NB075
2-075-050	¾	.731–.820	1⅝	2⅛	NB075
2-075-060	¾	.821–.880	1⅝	2⅛	NB075
2-100-070	1	.881–0.960	2	2⅛	NB100
2-100-080	1	.961–1.030	2	2⅛	NB100
2-100-090	1	1.031–1.100	2	2⅛	NB100
2-100-100	1	1.101–1.180	2	2⅛	NB100
2-125-110	1¼	1.181–1.240	2¼	2½	NB125
2-125-120	1¼	1.241–1.310	2¼	2½	NB125
2-125-130	1¼	1.311–1.390	2¼	2½	NB125
2-150-140	1½	1.391–1.480	2⅝	2⅝	NB150
2-150-150	1½	1.481–1.570	2⅝	2⅝	NB150
2-150-160	1½	1.571–1.660	2⅝	2⅝	NB150
2-200-170	2	1.661–1.750	3	2⅞	NB200
2-200-180	2	1.751–1.840	3	2⅞	NB200
2-200-190	2	1.841–1.930	3	2⅞	NB200
2-200-200	2	1.931–2.030	3	2⅞	NB200
2-250-210	2½	2.031–2.150	3⅜	3⅜	NB250
2-250-220	2½	2.151–2.270	3⅜	3⅜	NB250
2-250-230	2½	2.271–2.390	3⅜	3⅜	NB250
2-250-240	2½	2.391–2.510	3⅜	3⅜	NB250
2-300-250	3	2.511–2.640	4½	3⅜	NB300
2-300-260	3	2.641–2.770	4½	3⅜	NB300
2-300-270	3	2.771–2.900	4½	3⅜	NB300
2-300-280	3	2.901–3.040	4½	3⅜	NB300
2-350-300	3½	3.171–3.310	5	3⅜	NB350
2-350-310	3½	3.311–3.450	5	3⅜	NB350
2-350-320	3½	3.451–3.590	5	3⅜	NB350
2-400-330	4	3.591–3.730	5⅜	3⅜	NB400
2-400-340	4	3.731–3.870	5⅜	3⅜	NB400

UL File No. E38947

CSA File No. LR 2884





Connector Aluminum





In corrosive environments, the T&B neoprene boot provides maximum corrosion protection to the connector. Simply match the connector hub size to the boot hub size to select the proper boot (NB Series).

Spin-On® Series Fittings and Accessories

Install a complete gas-blocked connector in a hazardous location!

Spin-On® X Connectors for Hazardous Locations

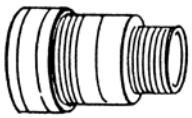
CAT. NO.	HUB SIZE NPT	CABLE RANGE OVER ARMOR (IN.)	DIMENSIONS (IN.)		SEALING COMPOUND REQUIRED	
			A DIA.	B	SC65** PUTTY (G)	SC4-KIT** LIQUID (CC)
4-075-008	¾	.380–.435	1⅝	2⅛	25	12
4-075-010	¾	.436–.500	1⅝	2⅛	25	12
4-075-020	¾	.501–.580	1⅝	2⅛	25	12
4-075-030	¾	.581–.650	1⅝	2⅛	25	12
4-075-040	¾	.651–.730	1⅝	2⅛	25	12
4-100-050	1	.731–820	2	2⅛	55	30
4-100-060	1	.821–880	2	2⅛	55	30
4-100-070	1	.881–960	2	2⅛	55	30
4-100-080	1	.916–1.030	2	2⅛	55	30
4-125-090	1¼	1.031–1.100	2¼	2½	70	40
4-125-100	1¼	1.101–1.880	2¼	2½	70	40
4-125-110	1¼	1.181–1.240	2¼	2½	70	40
4-125-120	1¼	1.241–1.310	2¼	2½	70	40
4-150-130	1½	1.311–1.390	2⅝	2⅝	80	45
4-150-140	1½	1.181–1.240	2⅝	2⅝	80	45
4-150-150	1½	1.241–1.310	2⅝	2⅝	80	45
4-200-160	2	1.571–1.660	3	2⅞	95	55
4-200-170	2	1.661–1.750	3	2⅞	95	55
4-200-180	2	1.751–1.840	3	2⅞	95	55
4-200-190	2	1.841–1.930	3	2⅞	95	55
4-250-200	2½	1.931–2.030	3⅜	3⅜	200	120
4-250-220	2½	2.151–2.270	3⅜	3⅜	200	120
4-300-240	3	2.391–2.510	4½	3⅜	275	165
4-300-260	3	2.641–2.770	4½	3⅜	275	165
4-300-270	3	2.771–2.900	4½	3⅜	275	165
4-400-350	4	3.871–4.010	5⅜	3⅞	500	300

Suffix Cat. No. with S for steel, B for brass.

SPIN-ON® X is UL Listed for: Class I, Div. 2, Groups A, B, C, & D in ¾", 1", 1¼", 1½", 2", 2½" Hub sizes. Class I, Div. 2, Groups C & D in 3", 3½", and 4" Hub sizes. The entire line is UL listed for Class II, Div. 2, Groups F & G and Class III. CSA certified through 4" Hub size for Class I, Groups A, B, C, D; Class II, Groups E, F, G; and Class III.

UL File No. E82038

CSA File No. LR23086



Spin-On® X Connectors for Hazardous Locations

- Each SPIN-ON® X catalog number is a complete compound-filled connector kit
- 3-piece construction — gland/body/insert with O-ring
- Red anodized gland identifies hazardous location fitting
- Compact size — overall length is ⅔ less than conventional fitting
- Installation time is 50% less than conventional
- Full tapered hub threads for gas-tight thread engagement
- Machined aluminum construction for corrosion resistance
- Sealing compound (sold separately) premixed for consistency — no jobsite variations
- Neoprene boots available for additional corrosion protection
- For control cable applications, order liquid compound separately

Sealing Compounds

CAT. NO.	DESCRIPTION	VOLUME
SC65	Putty-Type Sealing Compound	60 grams
SC4-KIT	Liquid-Type Sealing Compound for use in high wire density applications (5 or more wires)	2.8 fl. oz. (66 cc)

Thomas&Betts

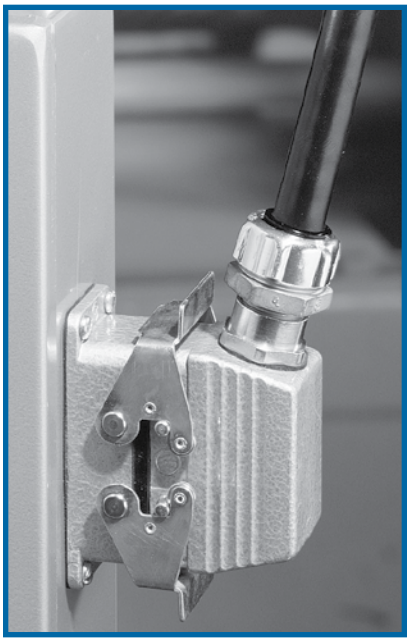
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Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

www.tnb.com

Metallic Liquidtight Cord and Cable Connectors

Whatever the application. Whatever the size. Thomas & Betts is your connection to tough, versatile cord and cable fittings.



Thomas & Betts offers a complete line of rugged, reliable cord and cable fittings. All fittings are produced to the highest standards, combining innovative design and precision manufacturing methods to provide the products you need for your specific applications. Combining proven performance, installation advantages and availability of ranges, T&B is also your connection to lower installed costs for the life of your cord and cable requirements.

Use this guide to help you specify the fitting you need for your cord and cable requirements.

Cord and Cable Requirements

CORD AND CABLE TYPE	T&B FITTING
S, SO, SV, ST, STD, SJ,	Ranger® 2920NM# Series, 2920# Series
SJO, SJT, SJTO, SVO	Liquidtight Strain Relief 2500# Series
S, SO, SV, ST, STD, SJ, SJO, SJT, SJTO, SVO	Wire Mesh Grips WMG-PC Series for Portable Cord

Considerations for Selection

- Selection of the proper device or fitting involves consideration of the type of cable to be installed and the environment that will surround the cable installation.
- A proper matching of the cable and its fitting is necessary to prevent physical damage to the cable when installed.
- NEMA Applications: Fittings used in a trade size knockout requiring a NEMA 3R, 4, 6 or 13 listing require a 5262 Series sealing ring.



Cord and Cable Descriptions

Type SJ, tradename is Junior Hard Service Cord. The outer covering is Thermoset and it is a pendant or portable cord used in damp locations for hard usage.

Type SJO, tradename is Junior Hard Service Cord. The outer covering is oil-resistant Thermoset.

Type SJT, tradename is Junior Hard Service Cord. The outer covering is Thermoplastic.

Type SJTO, tradename is Junior Hard Service Cord. The outer covering is oil-resistant Thermoplastic.

Type SO, tradename is Hard Service Cord. The outer covering is oil-resistant Thermoset and it is a pendant or portable cord used in damp locations for extra-hard usage.



Suggested Specifications for Flexible Cord and Cable Fittings

- Flexible cord or cable and associated fittings shall be suitable for conditions of use and location and approved for the purpose by a nationally recognized testing laboratory, inspection agency or product evaluation organization
- Flexible cord or cable shall be so connected to the device or fitting that tension will not be transmitted to joints or terminal screws. Sufficient slack shall be provided to avoid sharp flexing and straining. Cord or cable shall be installed in such a manner that liquid will tend to run off the surface instead of draining towards the fitting
- Where flexible cord or cable exposed to intermittent or constant moisture and subjected to mechanical strain is terminated into a threaded or threadless opening, terminating fittings shall be of watertight strain relief type such as Thomas & Betts series 2920, 2920AL, 2920NM, 2520, 2631 or 2672. Fittings shall be equipped with a beveled moisture-resistant/oil-resistant synthetic rubber bushing
- Where space is limited inside the enclosure, a female hub type fitting such as Thomas & Betts series 2631 shall be furnished. A captivated resilient sealing O-Ring shall be included to positively protect against damage from overtorquing

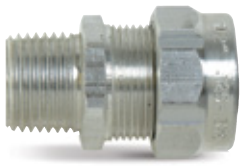
Metallic Liquidtight Cord and Cable Connectors



2920 Ranger® Series



2920SST Ranger® Series



2920AL Ranger® Series



2516 Series

Ranger® Series of Liquidtight Flexible Cord and Cable Connectors

Application

- A liquidtight connector to connect flexible cord or cable to an enclosure and provide adequate strain relief

Features

- Liquidtight connection with enclosure is ensured by:

  (A) Taper threaded hub on 2520 series for female hub application

  (B) Using sealing ring series 5262 with 2520 series for knockout application

  (C) Captivated sealing O-Ring on 2631 series

  (D) Neoprene bushing makes liquidtight installation; applies pressure against cable the full length of bushing

  (E) Thermoplastic or stainless steel retaining ring
  (1) Will not abrade cord/cable jacket
  (2) Reduces installing torque effort

- UL Listed liquidtight, strain relief and as an outlet bushing; CSA certified watertight

Standard Material

Gland, Body.....Steel/Malleable Iron/Zinc Die Cast

Retaining Ring.....Thermoplastic/ Stainless Steel

Bushing.....Neoprene

O-Ring.....Buna N

Standard Finish

Electro Zinc Plated & Chromate Coated

Range

2520 Series, straight.....0.125" outside diameter to 3.200" outside diameter Cord or Cable

2200 Series, 45°.....0.125" outside diameter to 1.485" outside diameter Cord or Cable

2267 Series, 90°.....0.125" outside diameter to 1.875" outside diameter Cord or Cable

2900 and 4900 Ranger® Series.....0.250" cable range

Cord/Cable Type.....S, SO, SV, ST, STO, SJ, SJO, SJT, SJTO, SVO & SVT

Listings/Compliances

UL File No. E-13938

CSA LR-589, LR-4484

UL 514

CSA. 22.2 No. 18

ANSI C33.84, NFPA 70-1978 (ANSI)

				SVO, SV, SVT	SJ, SJO, SJT, SJTO			S, SO, ST, STO						
CAT. NO	SIZE	MIN.	MAX.	#18	#18	#16	#14	#18	#16	#14	#12	#10	#8	#6
2 Conductor														
2920	½"	.125	.375	X	X	X	X							
2921	½"	.310	.560			X	X	X	X	X				
2922	½"	.500	.750				X	X	X	X	X	X		
2930	¾"	.125	.375	X	X	X	X							
2931	¾"	.310	.560			X	X	X	X	X				
2932	¾"	.500	.750				X	X	X	X	X	X		
2940	1"	.310	.560			X	X	X	X	X				
2941	1"	.500	.750				X	X	X	X	X	X		
2942	1"	.700	.950				X						X	X
3 Conductor														
2920	½"	.125	.375	X	X	X								
2921	½"	.310	.560		X	X	X	X	X					
2922	½"	.500	.750							X	X	X		
2930	¾"	.125	.375	X	X	X								
2931	¾"	.310	.560		X	X	X	X	X					
2932	¾"	.500	.750							X	X	X		
2940	1"	.310	.560			X	X	X	X					
2941	1"	.500	.750		X					X	X	X		
2942	1"	.700	.950									X	X	
4 Conductor														
2920	½"	.125	.375	X										
2921	½"	.310	.560		X	X	X	X	X					
2922	½"	.500	.750							X	X			
2930	¾"	.125	.375	X										
2931	¾"	.310	.560		X	X	X	X	X					
2932	¾"	.500	.750							X	X			
2940	1"	.310	.560		X	X	X	X	X					
2941	1"	.500	.750							X	X			
2942	1"	.700	.950								X	X		

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www.tnb.com

Metallic Liquidtight Cord and Cable Connectors

The Ranger® Series of Steel Liquidtight Cord Connectors

The Ranger® Series Steel Liquidtight Connector takes twice the cable range of most ordinary strain-relief connectors.
T&B's Ranger Connectors enable you to reduce your inventory and save time with one connector that can do the work of two.



Application

- Provide means for passing a cord cable into an enclosure, through a bulkhead or into a rigid conduit
- Form a mechanical grip and water- and/or oil-resistant seal for cord
- Form a non-slip connection or termination for flexible cord

Cord & Cable Type

- S, SO, SV, ST, STD, SJ, SJO, SJT, SJTO, SVD

Features

- Extended range with superior strain relief
- Reduced overall size, fits into tighter spaces
- Gland nut designed to restrict cable bending

Materials

Body: Steel — 2920 series, Malleable Iron — 4920 & 4960 series

Gland Nut, Grip: Steel — all series
Bushing: Rubber

Environment Classification

- Ordinary locations
- Wet or dry locations

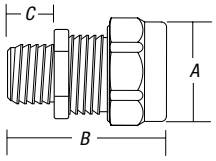
Range

Cord Range: .125" to .950"

Hub Size Range: ½" to 1"

Steel Liquidtight Strain Relief Connectors — Straight

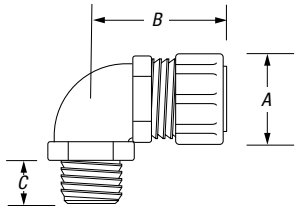




CAT. NO.	HUB SIZE	THROAT DIA.	CORD RANGE	DIMENSIONS (IN.) A	B	C
2920	½"	47/64"	.125–.375	1⅛	1¾	⅝
2921	½"	47/64"	.310–.560	1⅛	1¾	⅝
2922	½"	47/64"	.500–.750	1⅜	1¾	⅝
2930	¾"	13/16"	.125–.375	1⅜	1 25/32	⅝
2931	¾"	13/16"	.310–.560	1⅜	1 25/32	⅝
2932	¾"	13/16"	.500–.750	1⅜	1 25/32	⅝
2940	1"	1 1/16"	.310–.560	1⅜	1¾	¾
2941	1"	1 1/16"	.500–.750	1⅜	1¾	¾
2942	1"	31/32"	.700–.950	1⅝	1⅞	31/32

Steel Liquidtight Strain Relief Connectors — 90° Angle





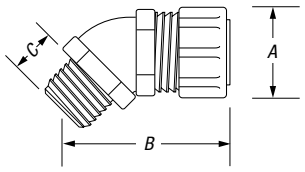
CAT. NO.	HUB SIZE	THROAT DIA.	CORD RANGE	DIMENSIONS (IN.) A	B	C
4960	½"	19/32	.125–.375	1⅛	1¾	⅝
4961	½"	19/32	.310–.560	1⅛	1¾	⅝
4962	½"	19/32	.500–.750	1⅜	1 23/64	⅝
4970	¾"	25/32	.125–.375	1⅜	1 25/32	11/16
4971	¾"	25/32	.310–.560	1⅜	1 25/32	11/16
4972	¾"	25/32	.500–.750	1⅜	1 25/32	11/16
4980	1"	1	.310–.560	1⅜	2 1/32	13/16

All items shown on this page are suitable for use in hazardous locations where general-purpose equipment is specifically permitted by the NEC®. NEC 501-4(b).

UL File No. E-13938 *CSA File No. 52391*

Steel Liquidtight Strain Relief Connectors — 45° Angle





CAT. NO.	HUB SIZE	THROAT DIA.	CORD RANGE	DIMENSIONS (IN.) A	B	C
4920	½"	37/64	.125–.375	1⅛	1 5/16	47/64
4921	½"	37/64	.310–.560	1⅛	1 5/16	47/64
4922	½"	37/64	.500–.750	1⅜	1 7/16	47/64
4930	¾"	25/32	.125–.375	1⅜	1 7/16	⅝
4931	¾"	25/32	.310–.560	1⅜	1 7/16	⅝
4932	¾"	25/32	.500–.750	1⅜	1 7/16	⅝

For wire mesh grips, refer to page E-142.

Metallic Liquidtight Cord and Cable Connectors

The Ranger® Series of Non-Metallic Liquidtight Cord Connectors

The Ranger® Series Non-Metallic Liquidtight Cord Connector takes twice the cable range of most ordinary strain-relief connectors. T&B's Ranger Connectors enable you to reduce your inventory and save time with one connector that can do the work of two. The sturdy nylon material adds corrosion resistance to your installation.



Application

- Provide means for passing a cord into an enclosure or through a bulkhead or into a rigid conduit
- Form a mechanical grip and water- and/or oil-resistant seal for cord
- Form a nonslip connection or termination for flexible cord, cable (armored or unarmored)

Cord & Cable Type

- S, SO, SV, ST, STD, SJ, SJO, SJT, SJTO, SVD

Features

- Extended range with superior strain relief
- Reduced overall size, fits into tighter spaces
- Gland nut designed to restrict cable bending

Materials

Weather-stabilized nylon, temperature rated -34° C to 105° C

Bushing: Rubber

Environment Classification

Ordinary locations

Wet or dry locations

Range

Cord Range: Straight — .125" to .950"

90° — .125" to .750"

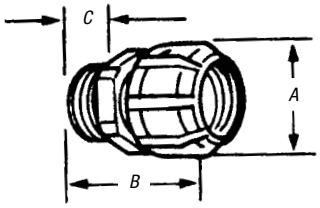
Hub Size Range: Straight — ½" to 1"

90° — ½" to ¾"

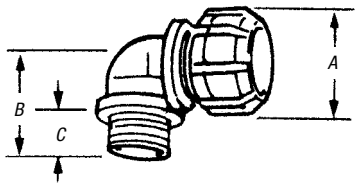
Listings/Compliances

UL Type 6 and 4X









Non-Metallic Liquidtight Strain Relief Connector — Straight

CAT. NO.	TRADE OR HUB SIZE	THROAT DIA.	CORD RANGE	DIMENSIONS (IN.) A	B	C
2920NM	½"	.55	.125–.375	1 1/32	2 1/8	5/8
2921NM	½"	.55	.310–.560	1 1/32	2 1/8	5/8
2922NM	½"	.55	.500–.750	1 13/32	2 5/32	5/8
2930NM	¾"	.79	.125–.375	1 13/32	2 3/16	5/8
2931NM	¾"	.79	.310–.560	1 13/32	2 3/16	5/8
2932NM	¾"	.79	.500–.750	1 13/32	2 3/16	5/8
2940NM	1"	.98	.310–.560	1 13/32	2 11/32	25/32
2941NM	1"	.98	.500–.750	1 13/32	2 11/32	25/32
2942NM	1"	.98	.700–.950	1 43/64	2 3/8	25/32

Non-Metallic Liquidtight Strain Relief Connector — 90° Elbow

CAT. NO.	TRADE OR HUB SIZE	THROAT DIA.	CORD RANGE	DIMENSIONS (IN.) A	B	C
4960NM	½"	.55	.125–.375	1 1/32	1 1/4	5/8
4961NM	½"	.55	.310–.560	1 1/32	1 1/4	5/8
4970NM	¾"	.79	.125–.375	1 13/32	1 3/8	5/8
4971NM	¾"	.79	.310–.560	1 13/32	1 3/8	5/8
4972NM	¾"	.79	.500–.750	1 13/32	1 3/8	5/8

UL File No. E 13938

CSA File No. 52391

Meets Coast Guard CG293

Thomas&Betts

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Metallic Liquidtight Cord and Cable Connectors

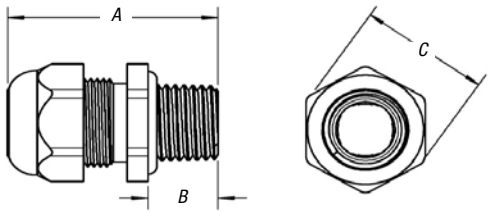
Type 304 stainless construction for your harshest environments!

The Ranger® Series of Stainless Steel Liquidtight Cord Connectors

Until now, there's been no ideal solution for liquidtight connections of portable cord to a box or enclosure in corrosive environments. Steel connectors rust, and non-metallic connectors can't withstand high temperatures or ultraviolet exposure.

In response to customer demand, Thomas & Betts has developed the latest addition to its high-performance line of Ranger® Cord Connectors. Made of Type 304 stainless steel, Ranger® Stainless Steel Liquidtight Cord Connectors stand up to highly corrosive environments — such as washdown areas in food and beverage or pharmaceutical processing — as well as high temperatures and UV exposure.





Application

- Provide means for passing a cord cable into an enclosure, through a bulkhead or into a rigid conduit
- Form a mechanical grip and water- and/or oil-resistant seal for cord
- Form a non-slip connection or termination for flexible cord

Cord & Cable Type

- SJ, SJE, SJEO, SJEOO, SJO, SJOW, SJOO, SJOOW, SJT, SJTW, SJTO, SJTOW, SJTOO, SJTOOW, SO, SOW, SOO, SOOW, SV, ST, STD, SVD

Features

- Extended range with superior strain relief
- Reduced overall size, fits into tighter spaces
- Gland nut designed to restrict cable bending

Materials

Body, Gland Nut, Grip ..... Type 304 stainless steel
Bushing..... Thermoplastic rubber
Grip Ring..... Nylon
O-Ring (supplied)..... Buna N

Environment Classification

Ordinary locations (wet or dry)
Temperature Rating .....-20° C to 105° C (-4° F to 221° F)

Range

Cord Range ..... .125" to .950"
Hub Size Range ..... ½" to 1"

Listings/Compliances

¼" and ⅜" Sizes ..... UL Recognized
½" through 1" Sizes .....UL Listed and CSA Certified for use with portable cord; UL514B liquidtight cord connectors; UL Type 6 and 4X

Stainless Steel Cable Glands — ¼"–⅜" Hub Sizes

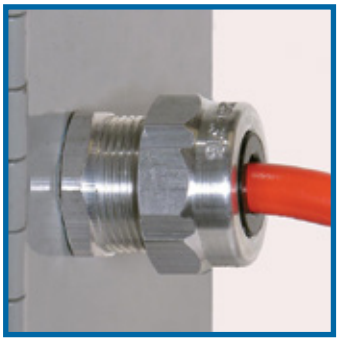
CAT. NO.	HUB SIZE (IN.)	CORD DIA. RANGE (IN.)	DIMENSIONS (IN.) A	B	C	STD. PKG. QTY.
2918SST	¼	.118–.256	1.000	.250	.625	25
2919SST	⅜	.157–.315	1.313	.438	.750	25

Stainless Steel Liquidtight Strain-Relief Cord Connectors — ½"–1" Hub Sizes

CAT. NO.	HUB SIZE (IN.)	CORD DIA. RANGE (IN.)	DIMENSIONS (IN.) A	B	C	STD. PKG. QTY.
2920SST	½	.125–.375	1.935	.610	1.125	25
2921SST	½	.310–.560	1.935	.610	1.125	25
2922SST	½	.500–.750	2.003	.610	1.125	25
2930SST	¾	.125–.375	2.063	.630	1.125	10
2931SST	¾	.310–.560	2.063	.630	1.125	10
2932SST	¾	.500–.750	2.063	.630	1.125	10
2940SST	1	.310–.560	2.178	.785	1.500	10
2941SST	1	.500–.750	2.218	.785	1.500	10
2942SST	1	.700–.950	2.218	.785	1.500	10

Metallic Liquidtight Cord and Cable Connectors

The Ranger® Series of Aluminum Liquidtight Cord Connectors



Application

- A liquidtight connector to connect flexible cord to an enclosure and provide adequate strain relief
- Form a mechanical grip and water and liquidtight seal
- Form a non-slip connection or termination for flexible cord

Cord & Cable Type

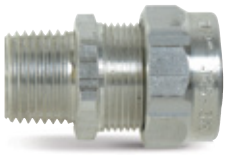
- SJ, SJE, SJEW, SJEO, SJEOO, SJEOOW, SJO, SJOW, SJOO, SJOOW, SJT, SJTW, SJTO, SJTOW, SJTOO, SJTOOW, SO, SOW, SOO, SOOW, SV, ST, STD, SVD

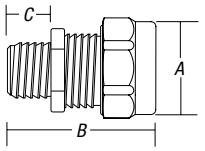
Features

- Available in straight or 90° designs
- Designed to accept a wide range of cables, offering nine fittings that cover cord ranges from .125" through .950"
- Slotted design gland nut to accommodate securing in tight spaces
- Installer can simply use screwdriver to get into the hard-to-reach area and secure the gland nut
- Marked with cable ranges and conduit hub sizes

Material

Body .....Copper-Free Aluminum
Gland Nut, Grip..... Copper-Free Aluminum — All Series
Bushing..... Thermoplastic Rubber
Grip Ring..... Nylon





Environment Classification

Ordinary locations

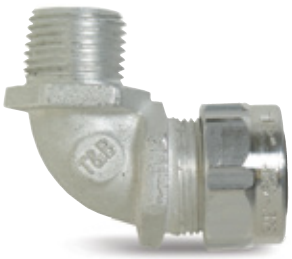
Wet or dry locations

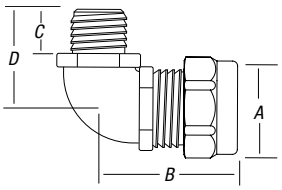
Temperature Range: -20° C to 105° C (-4° F to 221° F)

Range

Cord Range: .125" to .950"

Hub Size Range: ½" to 1"





Aluminum Liquidtight Strain-Relief Connectors

CAT. NO.	HUB SIZE	CORD RANGE (IN.)	DIMENSIONS (IN.) A	B	C	D	STD. PKG. QTY.	WT. PER 100
Straight								
2920AL	½"	.125–.375	1⅛	1¾	⅝	—	25	8.50
2921AL	½"	.310–.560	1⅛	1¾	⅝	—	25	8.05
2922AL	½"	.500–.750	1⅛	1¾	⅝	—	25	9.95
2930AL	¾"	.125–.375	1⅝	1 25/32	⅜	—	10	12.30
2931AL	¾"	.310–.560	1⅝	1 25/32	¾	—	10	11.90
2932AL	¾"	.500–.750	1⅝	1 25/32	¾	—	10	11.50
2940AL	1"	.310–.560	1⅝	1¾	1 1/16	—	10	18.00
2941AL	1"	.500–.750	1⅝	1¾	1 1/16	—	10	16.00
2942AL	1"	.700–.950	1 3/16	1⅞	3 1/32	—	10	16.70
90° Elbow								
4960AL	½"	.125–.375	1⅛	1¾	⅝	1 5/16	50	23.60
4961AL	½"	.360–.560	1⅛	1¾	⅝	1 5/16	50	11.60
4970AL	¾"	.125–.375	15/16	1 25/32	1 1/16	1 15/32	50	17.2
4971AL	¾"	.310–.560	15/16	1 25/32	1 1/16	1 15/32	50	30.00
4972AL	¾"	.500–.750	15/16	1 25/32	1 1/16	1 15/32	50	33.09
4980AL	1"	.310–.560	15/16	2 1/32	1 3/16	1¾	25	21.50
4981AL	1"	.500–.750	15/16	2 1/32	1 3/16	1¾	25	22.36
4982AL	1"	.700–.950	15/16	2 11/16	1 3/16	2	25	18.20

** It may be necessary to remove sufficient outer covering of cable to permit conductors to pass through connector body.*

All items shown on this page are suitable for use in hazardous locations where general-purpose equipment is specifically permitted by the NEC®. NEC 501-4(b).

UL File No. E-13938 CSA File No. 52391

For wire mesh grips, refer to page E-142.

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Technical Services
Tel: 888.862.3289

www.tnb.com

Metallic Liquidtight Cord and Cable Connectors

T&B® Liquidtight Strain-Relief Cord Connectors



The T&B Steel Liquidtight Strain Relief Cord Connector is suited for most general control and power cable applications. This series features sturdy neoprene bushings and tapered hub threads.

Application

- Provide means for passing a cord cable (armored or unarmored) into an enclosure, through a bulkhead or into a rigid conduit
- Form a mechanical grip and water- and/or oil-resistant seal for cord and unarmored or jacketed armored round cables
- Form a non-slip connection or termination for flexible cord, cable (armored or unarmored)
- Provide grounding continuity of cable armor

Cord & Cable Type

- S, SO, SV, ST, STD, SJ, SJO, SJT, SJTO, SVD

Features

- Extended range with superior strain relief
- Reduced overall size, fits into tighter spaces
- Gland nut designed to restrict cable bending

Materials

Body..... Cat. Nos. 2516–2519 — Steel
Cat. Nos. 2520–2596 — Malleable Iron or Die-Cast Zinc
2200 Series — Malleable Iron

Gland.....Steel

Bushing..... Neoprene

Environment Classification

Ordinary locations

Wet or dry locations

Fittings used in a trade size knockout requiring a NEMA 3R, 4, 6 or 13 listing require a 5262 Series sealing ring

UL Listed as liquidtight strain relief and outlet bushing.
CSA certified watertight.

UL File No. E 13938

CSA File No. 589 & 4484

† UL not applicable.

** Remove sufficient outer covering of cable to permit conductors to pass through connector body.*

Complies with JIC standards.

Temperature rating 105° C.

Suitable for hazardous locations use where general-purpose equipment is specifically permitted per NEC® Section 501-4(b).

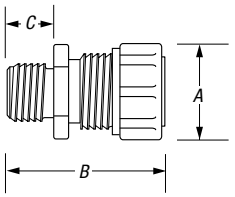


Fig. 1

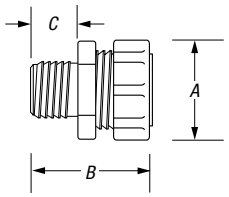


Fig. 2

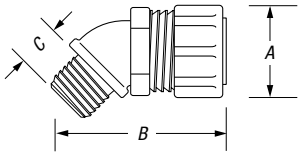


CAT. NO.	CABLE SIZE (IN) RANGE MIN.–MAX.	HUB SIZE	THROAT DIA. (MIN.)	FIG.	DIMENSIONS (IN. A	B	C	BUSHING PART NO.	GLAND-NUT MODEL NO.	RETAINER MODEL NO.	BODY MODEL NO.
2516†	.060–.125	¼"	23/64"	2	33/64	17/16	15/32	035-73377-5	035-73377-3	035-73377-9	035-73377-1
2517†	.120–.250	¼"	23/64"	2	13/64	17/16	15/32	035-73377-6	035-73377-3	035-73377-9	035-73377-1
2518†	.060–.150	⅜"	29/64"	2	31/32	1½	15/32	035-73377-7	035-73377-4	035-73377-9	035-73377-2
2519†	.150–.300	⅜"	29/64"	2	31/32	1½	15/32	035-73377-8	035-73377-4	035-73377-9	035-73377-2
2520	.125–.250	½"	9/16"	1		121/32	⅝	053-71411-1	053-71411-37	035-72735-1	053-71411-43
2521	.250–.375	½"	9/16"	1	1⅛	121/32	⅝	053-71411-2	053-71411-37	035-72735-1	053-71411-43
2522	.375–.500	½"	9/16"	1	1⅛	121/32	⅝	053-71411-3	053-71411-37	035-72735-2	053-71411-43
2523	.450–.560	½"	9/16"	1	1⅛	121/32	⅝	053-71411-4	053-71411-37	035-72735-2	053-71411-43
2524*	.500–.625	½"	⅝"	1	1⅜	1¾	⅝	053-71411-59	053-71411-38	035-72735-3	033-72259-21
2525*	.625–.750	½"	⅝"	1	1⅜	1¾	⅝	053-71411-60	053-71411-38	035-72735-3	033-72259-21
2530	.125–.250	¾"	13/16"	1	1⅜	1¾	9/16	033-72259-1	053-71411-38	035-72735-4	053-71411-44
2531	.250–.375	¾"	13/16"	1	1⅜	1¾	9/16	053-71411-5	053-71411-38	035-72735-4	053-71411-44
2532	.375–.500	¾"	13/16"	1	1⅜	1¾	9/16	053-71411-58	053-71411-38	035-72735-4	053-71411-44
2534	.500–.625	¾"	13/16"	1	1⅜	1¾	9/16	053-71411-59	053-71411-38	035-72735-3	053-71411-44
2535	.625–.750	¾"	13/16"	1	1⅜	1¾	9/16	053-71411-60	053-71411-38	035-72735-3	053-71411-44
2536*	.750–.880	¾"	¾"	1	1⅜	115/16	⅝	053-71411-61	053-71411-39	035-72735-5	033-72259-22
2541	.250–.375	1"	49/64"	1	111/16	123/32	9/16	053-71411-5	053-71411-38	035-72735-4	053-71411-45
2542	.375–.500	1"	49/64"	1	111/16	123/32	9/16	053-71411-58	053-71411-38	035-72735-4	053-71411-45
2544	.500–.625	1"	49/64"	1	111/16	123/32	9/16	053-71411-59	053-71411-38	035-72735-3	053-71411-45
2545	.625–.750	1"	49/64"	1	111/16	123/32	25/32	053-71411-60	053-71411-38	035-72735-3	053-71411-45
2546	.750–.880	1"	63/64"	1	111/16	1⅞	9/16	053-71411-61	053-71411-39	035-72735-5	053-71411-46
2547	.875–.985	1"	63/64"	1	111/16	1⅞	9/16	053-71411-62	053-71411-39	035-72735-5	053-71411-46
2548*	.880–1.065	1"	29/32"	1	2116	2⅜	25/32	053-71411-63	053-71411-40	035-72735-6	033-72259-23
2549*	1.065–1.205	1"	29/32"	1	2116	2⅜	25/32	053-71411-64	053-71411-40	035-72735-6	033-72259-23
2558	.880–1.065	1¼"	117/64"	1	2⅛	25/32	⅝	053-71411-63	053-71411-40	035-72735-6	053-71411-47
2559	1.065–1.205	1¼"	117/64"	1	2116	25/32	⅝	053-71411-64	053-71411-40	035-72735-6	053-71411-47
2556*	1.187–1.375	1¼"	1¼"	1	2516	2½	13/16	053-71411-18	053-71411-41	035-72735-7	033-72259-24
2557*	1.375–1.485	1¼"	1¼"	1	2516	2½	13/16	033-72259-2	053-71411-41	035-72735-7	033-72259-24
2562	.812–1.000	1½"	17/16"	1	2516	2½	13/16	033-72259-3	053-71411-41	035-72735-7	053-71411-48
2563	1.000–1.187	1½"	17/16"	1	2516	217/16	11/16	053-71411-17	053-71411-41	035-72735-7	053-71411-48
2564	1.187–1.375	1½"	17/16"	1	2¼	217/16	11/16	053-71411-18	053-71411-41	035-72735-7	053-71411-48
2565*	1.375–1.625	1½"	129/64"	1	2¾	2⅝	13/16	053-71411-65	053-71411-42	035-72735-8	033-72259-25
2573	1.125–1.375	2"	1⅞"	1	2¾	2⅝	13/16	053-71411-66	053-71411-42	035-72735-8	053-71411-49
2574	1.375–1.625	2"	1⅞"	1	2¾	2⅝	13/16	053-71411-65	053-71411-42	035-72735-8	053-71411-49
2575	1.625–1.875	2"	1⅞"	1	2¾	3½	13/16	053-71411-67	053-71411-42	035-72735-8	053-71411-49
2576*	1.750–1.965	2"	129/32"	1	3732	3½	13/16	033-72259-5	033-72259-17	035-72735-9	033-72259-26
2577*	1.937–2.187	2"	129/32"	1	3732	3½	13/16	033-72259-6	033-72259-17	035-72735-9	033-72259-26
2584	1.750–1.965	2½"	2"	1	3732	3¾	11/32	033-72259-5	033-72259-17	035-72259-14	033-72259-27
2585	1.937–2.187	2½"	2"	1	3732	3¾	11/32	033-72259-6	033-72259-18	033-72259-14	033-72259-27
2586*	2.156–2.360	2½"	25/32"	1	3516	4¼	11/32	033-72259-7	033-72259-19	033-72259-15	033-72259-28
2587*	2.350–2.565	2½"	25/32"	1	3516	4¼	11/32	033-72259-8	033-72259-19	033-72259-15	033-72259-28
2592	2.156–2.360	3"	213/32"	1	3516	4¼	11/32	033-72259-7	033-72259-19	033-72259-15	033-72259-29
2593	2.350–2.565	3"	213/32"	1	3516	4¼	11/32	033-72259-8	033-72259-19	033-72259-15	033-72259-29
2594	2.535–2.750	3"	213/32"	1	3516	41/4	11/32	033-72259-9	033-72259-19	033-72259-15	033-72259-29
2595*	2.735–2.985	3"	215/16"	1	4116	4316	1⅛	033-72259-10	033-72259-20	033-72259-16	033-72259-30
2596*	2.970–3.220	3"	215/16"	1	4116	4316	1⅛	033-72259-11	033-72259-20	033-72259-16	033-72259-30

Metallic Liquidtight Cord and Cable Connectors

Liquidtight Strain-Relief Connectors — 45°



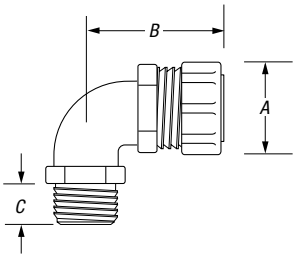


For wire mesh grips, refer to page E–142.

CAT. NO.	CABLE–SIZE MIN.–MAX. (IN.)	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA.
2200	.125–.250	½"	1⅛	1 9/32	9/16	37/64
2201	.250–.375	½"	1⅛	1 9/32	9/16	37/64
2202	.375–.500	½"	1⅛	1 9/32	9/16	37/64
2203	.450–.560	½"	1⅛	1 9/32	9/16	37/64
2204*	.500–.625	½"	1⅜	1 13/32	9/16	37/64
2205*	.625–.750	½"	1⅜	1 13/32	9/16	37/64
2206	.125–.250	¾"	1⅜	1 13/32	⅝	25/32
2207	.250–.375	¾"	1⅜	1 13/32	⅝	25/32
2208	.375–.500	¾"	1⅜	1 13/32	⅝	25/32
2209	.500–.625	¾"	1⅜	1 13/32	⅝	25/32
2210	.625–.750	¾"	1⅜	1 13/32	⅝	25/32
2213	.375–.500	1"	1⅜	1½	25/32	15/16
2214	.500–.625	1"	1⅜	1½	25/32	15/16
2215	.625–.750	1"	1⅜	1½	25/32	15/16
2216	.750–.875	1"	1 11/16	1 15/32	25/32	15/16
2217*	.875–.985	1"	1 11/16	1 15/32	25/32	15/16
2218*	.880–1.065	1"	2 1/16	1 31/32	25/32	15/16
2219*	1.065–1.205	1"	2 1/16	1 31/32	25/32	15/16
2220*	.880–1.065	1¼"	2 1/16	1 29/32	1 3/16	15/16
2221*	1.065–1.205	1¼"	2 1/16	1 29/32	1 3/16	15/16
2222*	1.187–1.375	1¼"	2 1/16	2¼	1 3/16	1 21/64
2223*	1.375–1.485	1¼"	2 1/16	2¼	1 3/16	1 21/64

Liquidtight Strain-Relief Connectors — 90°





CAT. NO.	CABLE–SIZE MIN.–MAX. (IN.)	HUB SIZE	DIMENSIONS (IN.) A	B	C	THROAT DIA.
2268	.250–.375	½"	1⅛	1 23/32	⅝	19/32
2269	.375–.500	½"	1⅛	1 23/32	⅝	19/32
2270	.450–.560	½"	1⅛	1 23/32	⅝	19/32
2250*	.500–.625	½"	1⅜	1 11/16	9/16	39/64
2251*	.625–.750	½"	1⅜	1 11/16	9/16	39/64
2252	.125–.250	¾"	1⅜	1¾	½	25/32
2271	.250–.375	¾"	1⅜	1⅝	½	25/32
2272	.375–.500	¾"	1⅜	1⅝	½	25/32
2273	.500–.625	¾"	1⅜	1⅝	½	25/32
2274*	.620–.750	¾"	1⅜	1⅝	½	25/32
2253*	.750–.880	¾"	1 11/16	1 31/32	9/16	25/32
2254	.375–.500	1"	1⅜	2	25/32	1
2255	.500–.625	1"	1⅜	2	25/32	1
2256*	.625–.750	1"	1⅜	2	25/32	1
2275	.750–.875	1"	1 11/16	2	⅝	1
2276	.875–.985	1"	1 11/16	2	⅝	1
2257*	.880–1.065	1"	2 1/16	2 21/32	25/32	1 5/16
2258*	1.065–1.205	1"	2 1/16	2 21/32	25/32	1 5/16
2277	.880–1.065	1¼"	2 1/16	2⅞	11/16	1 5/16
2278	1.065–1.205	1¼"	2 1/16	2⅞	11/16	1 5/16
2279*	1.187–1.375	1¼"	2 5/16	2 13/16	13/16	1 11/32
2280*	1.375–1.485	1¼"	2 5/16	2 13/16	13/16	1 11/32
2281	.812–1.000	1½"	2 5/16	2⅞	13/16	1 15/32
2282	1.000–1.187	1½"	2 5/16	2⅞	13/16	1 15/32
2283*	1.187–1.375	1½"	2 5/16	2⅞	13/16	1 15/32
2284	1.125–1.375	2"	2 25/32	3¼	27/32	1 31/32
2285	1.375–1.625	2"	2 25/32	3¼	27/32	1 31/32
2286	1.625–1.875	2"	2 25/32	3¼	27/32	1 31/32

UL Listed as liquidtight strain relief and outlet bushing. CSA certified watertight.

UL File No. E 13938

CSA File No. 589 & 4484

† UL not applicable.

** Remove sufficient outer covering of cable to permit conductors to pass through connector body.*

Complies with JIC standards.

Temperature rating 105° C.

Suitable for hazardous locations use where general–purpose equipment is specifically permitted per NEC®.

Thomas&Betts

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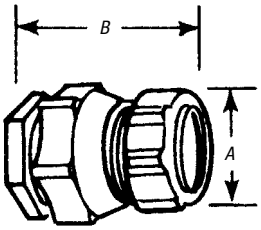
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www.tnb.com

Metallic Liquidtight Cord and Cable Connectors

CHASE® Liquidtight Cord Connectors





CAT. NO.	CABLE SIZE RANGE SIZE (IN.)	THROAT DIA.	CORD RANGE	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B
2631	.125–.250	½"	9⁄16"	1 1⁄16	1 5⁄8
2632	.250–.375	½"	9⁄16"	1 1⁄16	1 5⁄8
2633	.375–.500	½"	9⁄16"	1 1⁄16	1 5⁄8
2634	.450–.560	½"	9⁄16"	1 1⁄16	1 5⁄8
2637	.125–.250	¾"	25⁄32"	1 5⁄16	1 3⁄4
2638	.250–.375	¾"	25⁄32"	1 5⁄16	1 3⁄4
2639	.375–.500	¾"	25⁄32"	1 5⁄16	1 3⁄4
2640	.500–.625	¾"	25⁄32"	1 5⁄16	1 3⁄4
2641	.625–.750	¾"	25⁄32"	1 5⁄16	1 3⁄4
2646	.500–.625	1"	1"	1 5⁄8	1 13⁄16
2647	.625–.750	1"	1"	1 5⁄8	1 13⁄16
2648	.750–.880	1"	1"	1 5⁄8	1 13⁄16

Suitable for hazardous locations use in Class I, Div. 2; Class II, Div. 1 and 2; Class III, Div. 1 and 2, where general–purpose equipment is specifically permitted per NEC® Section 500–2(a).

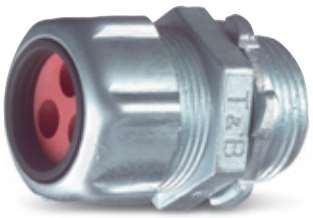
Complete with O–Ring seal and nylon insulated throat and neoprene bushing.

UL Listed as liquidtight strain relief and outlet bushing.
CSA certified watertight.

Temperature Rating: 105° C UL File No. E 13938

CSA File No. 589. CHASE® Liquidtight Cord Connectors are ideal for installation where space is limited inside the enclosure.

Multi-Hole Flexible Cord and Cable Connectors



CAT. NO.	HUB SIZE (IN.)	DIA. NO.	CORD. DIA. (IN.)
2520–2	½"	2	.220
2530–2	¾"	2	.220
2531–2	¾"	2	.260
2531–3	¾"	3	.260
2541–2	1"	2	.300
2542–2	1"	2	.375
2540–3	1"	3	.225
2541–3	1"	3	.300
2540–4	1"	4	.220
2555–2	1¼"	2	.500

Note: *Range of cord dia. ±.010.*

In many applications, you have only room for one fitting but you need to run two cables (for example, proximity switches). Now you can provide strain relief and liquidtight protection with T&B's new multi–hole liquidtight strain relief connectors. With the ever–increasing number of signal cables, now you have a solution to the problem of how to strain relieve multiple cables in one fitting.

Metallic Liquidtight Cord and Cable Connectors

The T&B WMG-PC Series Wire Mesh Grips for Portable Cord

T&B Wire Mesh grips are ordered separately and fit with your existing inventory of Ranger® connectors and liquidtight strain-relief connectors. There's no need to duplicate inventory.



Now Includes Ranger® Series

Application

- Provides high gripping strength for adequate cable support and strain relief without damage to the cable sheath
- Compression of a tapered neoprene bushing ensures the watertight integrity of the fittings
- To meet National Electrical Code (NEC®) requirements for electrical installations in hazardous atmospheres, a sealing fitting may be required in conjunction with the cable and cord fitting

Cord & Cable Type

- S, SO, SV, ST, STD, SJ, SJO, SJT, SJTO, SVD

Features

- Prevents severe cord bends and pullouts
- Used in aluminum and/or steel fittings

Materials

Wiremesh made of stainless steel.
Retaining rings made of aluminum

Environment Classification

Ordinary locations

How to select proper wiremesh grip:

1. Determine O.D. of portable cord, e.g., .200
2. Determine size of knockout or threaded hub, e.g. ½"
3. Select Cat. No. of strain relief connector, e.g., 2520, 2920AL.
4. Match up O.D. with grip range and strain relief to determine Cat. No. of Wiremesh Grip (e.g., .200 + 2520 = WMP-PC1)



2920 Series



2920AL Series



2516 Series

CAT. NO.	GRIP RANGE	STRAIN-RELIEF CONNECTOR							
		STRAIGHT			45°		90°		
		RANGER® STEEL	RANGER® ALUMINUM	T&B STEEL	RANGER® STEEL	T&B STEEL	RANGER® STEEL	RANGER® ALUMINUM	T&B STEEL
WMG-PC1	.187–.250	2920	2920AL	2520	4920	2200	4960	4960AL	2267
WMG-PC2	.250–.375	2920	2920AL	2521	4920	2201	4960	4960AL	2268
WMG-PC3	.375–.500	2921	2921AL	2522	4921	2202	4961	4961AL	2269
		2922	2922AL	2524	4922	2204	4962	4962AL	2250
WMG-PC4	.500–.625	2932	2932AL	2534	4932	2209	4972	4972AL	2273
		2941	2941AL	2544	4941	2214	4981	4981AL	2255
		2922	2922AL	2525	4922	2205	4962	4962AL	2251
WMG-PC5	.625–.750	2932	2932AL	2535	4932	2210	4972	4972AL	2274
		2941	2941AL	2545	4941	2215	4981	4981AL	2256
WMG-PC6	.187–.250	2930	2930AL	2530	4930	2206	4970	4970AL	2252
WMG-PC7	.250–.375	2930	2930AL	2531	4930	2207	4970	4970AL	2271
		—	—	2541	—	—	—	—	—
WMG-PC8	.375–.500	2931	2931AL	2532	4931	2208	4961	4961AL	2272
		2940	2940AL	2542	4940	2213	4980	4980AL	2254
WMG-PC9	.750–.875	—	—	2536	—	2211	—	—	2253
		2942	2942AL	2546	4942	2216	4982	4982AL	2275
WMG-PC10	.875–1.000	—	—	2547	—	2217	—	—	2276
WMG-PC11	.875–1.000	—	—	2548	—	2218	—	—	2257
		—	—	2558	—	2220	—	—	2277
		—	—	2548	—	2218	—	—	2257
WMG-PC12	1.000–1.125	—	—	2558	—	2220	—	—	2277
		—	—	2549	—	2219	—	—	2258
		—	—	2559	—	2221	—	—	2278
WMG-PC13	1.125–1.250	—	—	2549	—	—	2258	2258	2219
		—	—	2559	—	2221	—	—	2278
		—	—	2556	—	—	2279	2279	2222
WMG-PC14	1.125–1.250	—	—	2563	—	—	—	—	2282
		—	—	2564	—	—	—	—	2283
WMG-PC15	1.250–1.375	—	—	—	—	2222	—	—	2256
		—	—	2564	—	—	—	—	2283
WMG-PC16*	1.375–1.500	—	—	2557	—	2223	—	—	2280
WMG-PC17*	1.125–1.250	—	—	2573	—	—	—	—	2284
WMG-PC18*	1.250–1.375	—	—	2573	—	—	—	—	2284
WMG-PC19*	1.375–1.500	—	—	2565	—	—	—	—	2285
		—	—	2574	—	—	—	—	—
WMG-PC20*	1.500–1.625	—	—	2565	—	—	—	—	2285
		—	—	2574	—	—	—	—	—
WMG-PC21*	1.625–1.750	—	—	2575	—	—	—	—	2286
WMG-PC22*	1.750–1.875	—	—	2575	—	—	—	—	2286

**Replacement Gland Nut supplied with these catalog numbers only.*

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Fax: 901.252.1354

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Non-Metallic Liquidtight Flexible Cord Connectors — Black Beauty® Series

Application

- A liquidtight connector to connect flexible cord to a box or enclosure and provide adequate strain relief

Features

- Taper Thread hub seals in female hub (A)
- Neoprene bushing provides liquidtight installation (B)
- Hand tightens — no tools needed for assembly
- Segmented chuck provides high mechanical pullout performance — will not cut or damage cord jacket (C)
- Corrosion- and weather-resistant plastic is excellent for outdoor/indoor use
- Plastic parts improve dielectric strength and provide insulated throat (D)
- Wide range — reduces inventories

Standard Material

Body, Gland & Segmented Chuck ..... Weather-stabilized thermoplastic rated for -34° C (-29° F) to 105° C (221° F) application

Bushing.....Neoprene

Standard Finish

All parts as molded

Range

.250 Outside Diameter to 1.020 Outside Diameter .....Type S, SO, SV, ST, STO, SJ, SJO, SJT, SJTO, SVTO, SVO, SVT Flexible Cords & Cables

Listings/Compliances

UL (UL File No. E-23018)

CSA LR-2884, LR-4484

UL 514B

CSA C22.2 No. 18

NFPA 70

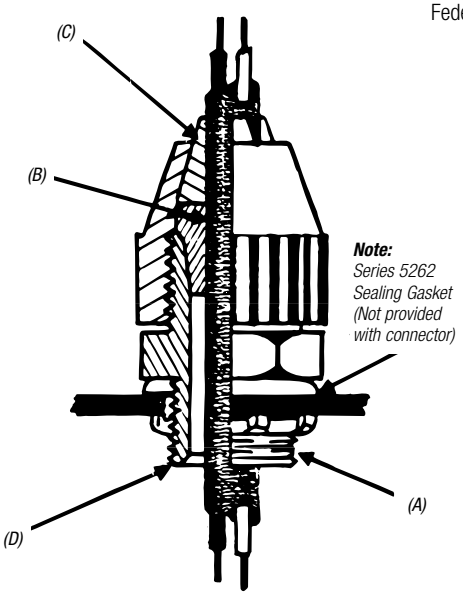
Federal Standard H-28 (Threads)



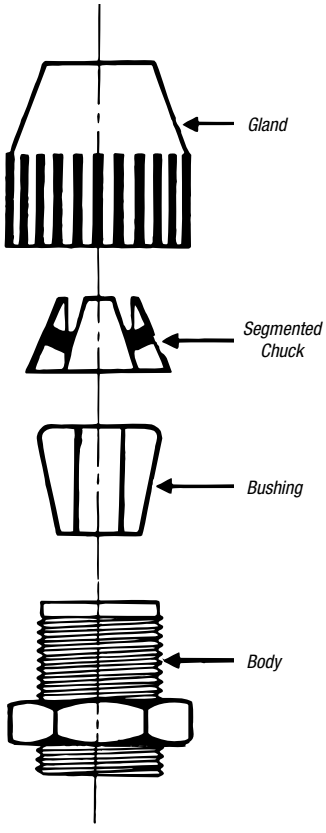
2672 Series



2682 Series



Typical Installation



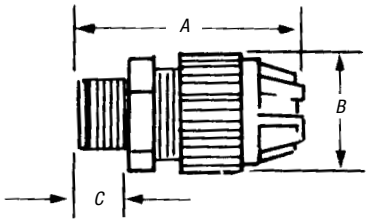
2672 Series

Non-Metallic Liquidtight Cord Connectors

Rugged, weather-stabilized nylon construction!

Black Beauty® Non-Metallic Liquidtight Strain-Relief Connector — Straight





CAT. NO.	TRADE OR HUB SIZE	THROAT DIA. (IN.)	CORD RANGE (IN.)	DIMENSIONS (IN.) A	B	C
2671	⅜"	.33	.125–.275	2.0	.90	.46
2690	½"	.33	.125–.275	2.3	.90	.60
2672	½"	.55	.250–.400	2.6	1.27	.60
2673*	½"	.55	.400–.560	2.6	1.27	.60
2691*	½"	.54	.560–.690	3.0	1.57	.60
2692*	½"	.54	.660–.780	3.0	1.57	.60
2693	¾"	.55	.250–.400	2.7	1.27	.62
2694*	¾"	.55	.400–.560	2.7	1.27	.62
2674	¾"	.79	.560–.690	3.0	1.57	.62
2675	¾"	.79	.660–.780	3.0	1.57	.62
2696*	¾"	.76	.770–.895	3.2	1.89	.62
2676	1"	.98	.660–.780	3.3	1.89	.77
2677	1"	.98	.770–.895	3.3	1.89	.77
2678*	1"	.98	.870–1.020	3.3	1.89	.77
2699	1"	.98	.890–1.090	4.2	2.58	.77
2702	1¼"	1.25	.890–1.090	4.2	2.58	.80
2703	1¼"	1.25	1.080–1.280	4.0	2.58	.80
2704	1¼"	1.25	1.270–1.470	4.0	2.58	.80
2705-TB	1½"	1.47	.890–1.150	4.2	2.95	.82
2706	1½"	1.47	1.140–1.400	4.3	2.95	.82
2707	1½"	1.47	1.390–1.650	4.3	2.95	.82
2708	2"	1.89	1.190–1.530	5.1	3.50	.84
2709	2"	1.89	1.520–1.860	4.9	3.50	.84
2710*	2"	1.89	1.850–2.190	4.9	3.50	.84

- UL 94-V2 flammability rated
- Temperature rating: -34° C to +105° C

**Remove sufficient outer covering of cable to permit conductors to pass thru connector body.*

UL File No. E 13938

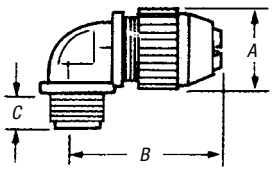
CSA File No. 52391

All items shown on this page are suitable for use in hazardous location where general-purpose equipment is specifically permitted by the NEC®. Class I, Div. 2. Class II, Div. 1 & 2. Class III, Div. 1 & 2.

90° angle with a standard-size body!

Black Beauty® Non-Metallic Liquidtight Strain-Relief Connector — 90° Elbow





CAT. NO.	TRADE OR HUB SIZE	THROAT DIA. (IN.)	CORD RANGE (IN.)	DIMENSIONS (IN.) A	B	C
2680	⅜"	.33	.125–.275	29/32	1¾	.460
2681	½"	.55	.250–.400	—	—	—
2682*	½"	.55	.400–.560	—	—	—
2683	¾"	.78	.560–.690	—	—	—
2684	¾"	.78	.660–.780	—	—	—
2688	1"	.98	.560–.690	1 27/32	3¼	.770
2685	1"	.98	.660–.780	1 27/32	3¼	.770
2686	1"	.98	.770–.895	1 27/32	3 3/16	.770
2687*	1"	.98	.870–1.020	1 27/32	3	.770

- Weather-stabilized nylon construction
- UL 94-V2 flammability rated
- Temperature rating: -34° C to +105° C
- Meets Coast Guard CG293

**Remove sufficient outer covering of cable to permit conductors to pass thru connector body. 90° angle, standard size body.*

UL File No. E 13938

CSA File No. 52391

All items shown on this page are suitable for use in hazardous locations where general-purpose equipment is specifically permitted by the NEC. Class I, Div. 2. Class II, Div. 1 & 2. Class III, Div. 1 & 2.

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Technical Services
Tel: 888.862.3289

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Non-Metallic Liquidtight Cord Connectors

Low-profile cable gland perfect for tight spots.

Non-Metallic Cable Glands

T&B Nylon Cable Glands have a sturdy cable sealing mechanism that results in superior strain relief. The compact size ensures quick and easy installation in cramped spaces. The non-metallic construction provides excellent corrosion, chemical and impact resistance. The glands have long threads and locknuts are available.



- Halogen free
- Flame-retardant UL94V-0
- UL® Listed*, CSA Certified for certain ranges of cable
- Working temperatures: -30° C (-22° F) to 80° C (176° F) Continuous, +150° C (276° F) Intermittent
- Meets VDE ratings

* Material not UV resistant. Sturdy Nylon 6 for strong, lightweight construction. Gray color shown; also available in black.

CAT. NO. FITTINGS	TRADE SIZE	COLOR	CORD RANGE IN.	CORD RANGE MM	LENGTH OF THREAD IN.	LENGTH OF THREAD MM	USE T&B LOCKNUT CAT. NO.	UNIT PKG.	STD. PKG.
NPT Threads									
CC-NPT38-B	⅜"	Black	.197–.394	5–10mm	.590	15mm	—	50	250
CC-NPT38-G	⅜"	Gray	.197–.394	5–10mm	.590	15mm	—	50	250
CC-NPT12-B	½"	Black	.394–.551	10–14mm	.590	15mm	LN501	50	250
CC-NPT12-G	½"	Gray	.394–.551	10–14mm	.590	15mm	LN501	50	250
CC-NPT34-B	¾"	Black	.512–.709	13–18mm	.590	15mm	LN502	25	100
CC-NPT34-G	¾"	Gray	.512–.709	13–18mm	.590	15mm	LN502	25	100
CC-NPT1-B	1"	Black	.709–.984	18–25mm	.709	18mm	LN503	20	100
CC-NPT1-G	1"	Gray	.709–.984	18–25mm	.709	18mm	LN503	20	100
ISO/Metric Threads									
CC-ISO16-G	16"	Gray	.197–.394	5–10mm	.394	10mm	LN-ISO16-G	50	200
CC-ISO20-G	20"	Gray	.236–.473	6–12mm	.590	15mm	LN-ISO20-G	50	200
CC-ISO25-G	25"	Gray	.512–.709	13–18mm	.590	15mm	LN-ISO25-G	25	100
CC-ISO32-G	32"	Gray	.709–.984	16–25mm	.590	15mm	LN-ISO32-G	20	100
CC-ISO40-G	40"	Gray	.748–1.10	22–32mm	.709	18mm	LN-ISO40-G	15	75
PG Threads									
CC-PG7-G	7"	Gray	.118–.256	3–6.5mm	.315	8mm	LN-PG7-G	50	200
CC-PG9-G	9"	Gray	.157–.315	4–8mm	.315	8mm	LN-PG9-G	50	200
CC-PG11-G	11"	Gray	.197–.394	5–10mm	.315	8mm	LN-PG11-G	25	100
CC-PG135-G	13½"	Gray	.236–.473	6–12mm	.354	9mm	LN-PG135-G	25	100
CC-PG16-G	16"	Gray	.394–.551	10–14mm	.394	10mm	LN-PG16-G	25	100
CC-PG21-G	21"	Gray	.512–.709	13–18mm	.433	11mm	LN-PG21-G	10	50
CC-PG29-G	29"	Gray	.709–.984	18–25mm	.433	11mm	LN-PG29-G	10	50
CC-PG36-G	36"	Gray	.867–1.26	22–32mm	.512	13mm	LN-PG36-G	10	50

Listed under UL file E13938, control #137B. NPT and PG threaded Cable Glands are UL Listed; ISO/Metric Threaded Cable Glands are not UL Listed.

Non-Metallic Liquidtight Cord Connectors

Non-Metallic Cable/Cord Fitting with Integral Strain-Relief

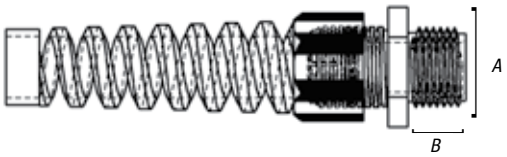
Thomas & Betts is pleased to announce the new non-metallic spiral cable/cord connector. T&B spiral cable/cord connectors are ideal in environments where maximum protection is needed against conductor fatigue caused by flexing cables.

- Strain-relief is integral to the fitting, saving time and costs of additional parts for cable/cord installations
- UL Listed
- Rated IP68, suitable for NEMA 4 enclosures
- Meets VDE ratings for European applications



Specifications

Materials	Polyamide 6 (Body, Cap), Neoprene (Sealing Ring)
Colors Available	Black, Gray
Protection Class	IP68, 5 Bar
Temperature Range	-30° C to 80° C permanent (-22° F to 176° F)
Operating Temperature	Up to +150° C (+276° F) continuous



CAT. NO.	TRADE SIZE	MIN. CABLE RANGE	MAX. CABLE RANGE	USE T&B LOCKNUT CAT. NO.	COLOR	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. PKG. QTY.
SP-NPT38-G	⅜"	.197	.394	—	Gray	.866	.590	25
SP-NPT38-B	⅜"	.197	.394	—	Black	.866	.590	25
SP-NPT12-G	½"	.394	.551	LN501	Gray	1.062	.590	25
SP-NPT12-B	½"	.394	.551	LN501	Black	1.062	.590	25
SP-NPT34-G	¾"	.512	.709	LN502	Gray	1.299	.590	25
SP-NPT34-B	¾"	.512	.709	LN502	Black	1.299	.590	25

Space and labor-saving cord fittings for panels.

Multi-Hole Cord Grip Connectors

- Ideal in limited-space environments where multiple cables run into an enclosure
- Small cables such as instrumentation wires, proximity device wiring and signal cables can run safely into the enclosure
- Rated IP68, suitable for NEMA 4 enclosures
- Easy to assemble, provide good strain relief, offer a wide clamping range and are simple to use



CAT. NO.	TRADE SIZE	NUMBER OF OPENINGS	CABLE RANGE MINIMUM	CABLE RANGE MAXIMUM	BODY LENGTH MINIMUM	BODY LENGTH MAXIMUM	LENGTH OF THREAD	STD. PKG. QTY.
CC-NPT12-G2	½"	2	.190"	.250"	1.051"	1.291"	.590"	50
CC-NPT12-G3	½"	3	.190"	.250"	1.051"	1.291"	.590"	50
CC-NPT34-G2	¾"	2	.230"	.290"	1.283"	1.492"	.590"	25
CC-NPT34-G3	¾"	3	.230"	.290"	1.283"	1.492"	.590"	25
CC-NPT34-G4	¾"	4	.230"	.290"	1.283"	1.492"	.590"	25

Thomas&Betts

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Suggested Specifications for Service Entrance Fittings

All service fittings shall be approved for the purpose by a nationally recognized testing laboratory, inspection agency or product evaluation organization.

Where service raceway consists of a rigid metal conduit, intermediate metal conduit, electrical metallic tubing or where service entrance cable is used as service conductors, a suitable raintight service head conforming to Federal Standard W-C-586 shall be provided.



Fastening



Series 4175
Pipe Strap (EMT)



Series 1275/1275AL
Pipe Strap (Rigid Metal Conduit & IMC)



Series 1350/1350AL
Pipe Spacer
(Rigid Metal Conduit IMC & EMT)

Service raceway shall be securely fastened in place to the supporting surface at intervals as specified by the Code using suitable straps and spacers; straps and spacers shall be of malleable iron or steel construction, hot dipped galvanized or electro zinc plated conforming to Canadian Standards Association Standard C22.2 No. 18 and as manufactured by Thomas & Betts: series 1275 or 4175 straps and series 1350 spacers; aluminum straps or spacers such as series 1275AL and series 1350AL may be substituted when installed in environmental conditions that are more than normally corrosive.

Threaded Rigid Metal



Series 1490
Entrance ELL

Where threaded rigid metal service raceway enters the building, the raceway shall be equipped with a cast malleable iron/copper-free aluminum entrance ell with a burr-free end stop and taper tapped holes as manufactured by Thomas & Betts, series 1490.

Grounding & Bonding



Series 3870
Bonding & Grounding Bushing — Insulated



Series 106
Bonding Locknut

For grounding and bonding of service raceway, end of raceway or the terminating fitting shall be equipped with bonding locknuts and insulated metallic grounding and bonding bushing as required.

Bonding locknuts shall be of hardened steel or malleable iron construction, electro zinc plated, and provided with hardened bonding screws as manufactured by Thomas & Betts, series 106 bonding locknuts.

Insulated metallic grounding and bonding bushing shall be of malleable iron/steel construction, electro zinc plated and assembled with an insulator listed or certified for 150° C/302° F service as manufactured by Thomas & Betts, series 3870.

Service Entrance Cable Fittings

Suggested Specifications for Service Entrance Fittings *(continued)*



Where service entrance cable is used as overhead service conductors and code requires use of a service head, entrance caps shall be installed; caps shall be cast metal type of suitable ferrous or non-ferrous metal equipped with thermoset insulators and proper knockout openings; caps when installed with proper drip loop must ensure raintight conditions.

At the point where the service cable enters the building, a suitable sill plate shall be provided; sill/wall plate shall be sealed to ensure raintight conditions.

Terminating Fittings



Series 2111
Service Entrance Cable Connector



Series 2116
Underground Feeder Cable Connector



Series 3302M
Two-Screw Connector (Insulated)

Terminating fittings for service entrance cable (Type SE or USE) or underground feeder and branch — circuit cable (Type UF) in locations where exposed to intermittent or constant moisture or in dry locations and subjected to mechanical strain shall be of watertight strain-relief type as manufactured by Thomas & Betts, series 2111 or 2116; fittings shall be constructed of ferrous or non-ferrous metal and equipped with taper threaded hub, beveled moisture-resistant/oil-resistant synthetic rubber bushing.

In dry locations, nylon-insulated two-screw type fittings of malleable iron/steel construction electro zinc plated inside outside, including threads such as series 3302M manufactured by Thomas & Betts may be substituted.

Gaskets



Series 5262
Sealing Gasket

Where service entrance cable is terminated into a threadless opening using hub-type fittings, a gasket shall be provided between the outside of box or enclosure and fitting shoulder; gasket shall be of moisture-resistant/oil-resistant synthetic rubber type adequately protected by and permanently retained to a metallic retainer as manufactured by Thomas & Betts, series 5262.

Supports



Series 1341
Cable Strap

Service entrance cable shall be adequately supported at intervals enumerated in code using cable straps conforming to requirements of Canadian Standards Association Standard CSA 22.2 No. 18; cable straps shall be of malleable iron/steel construction, hot-dipped galvanized or electro zinc plated as manufactured by Thomas & Betts, series 1341.

Thomas&Betts

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

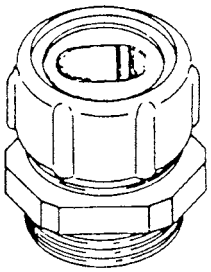
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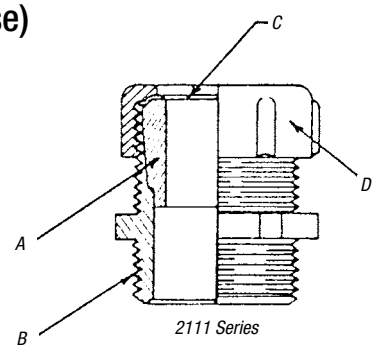
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Service Entrance Cable Fittings

Service Entrance Cable Connector

(Type SE/Type Use)





2111 Series

Application

- To connect service entrance cables to a meter box or an enclosure

Standard Material/Finish

Body	Zinc Die Cast/As Cast
Gland	Steel/Electro Zinc Plated & Chromate Coated
Retaining Ring	Stainless Steel/Passivated
Bushing	Neoprene/As Molded

Range

Oval (Flat) Cable Size	.260 x .500 thru 1.062 x 1.765
Type USE Cable Size	(3) #12 thru (3) 4/0 AWG Conductors
Hub Size	½" thru 2" NPT (taper pipe threads)

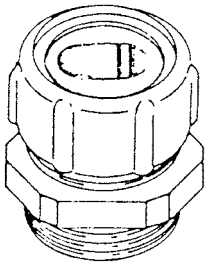
Features

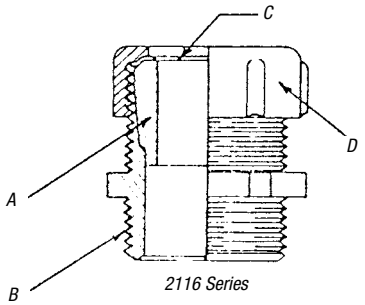
- Neoprene bushing, resists oil and water; grips cable the full length of the bushing, providing adequate strain relief without damaging outer jacket (A)
- Taper threaded body (B)
- Stainless steel retaining ring protects cable jacket against abrasion; reduces installing torque effort (C)
- Rugged ribbed steel gland construction (D)
- Suitable for Type SE & USE Service Entrance Cable

Listings/Compliances

UL (UL File No. E15170)
CSA (LR589, LR4484)
UL514, NEMA FB1, Federal Standard
H-28 (Threads), NFPA70

Underground Feeder Cable Connectors





2116 Series

Application

- To connect underground feeder cables to a box or an enclosure

Standard Material/Finish

Body	Zinc Die Cast/As Cast
Gland	Steel/Electro Zinc Plated & Chromate Coated
Retaining Ring	Stainless Steel/Passivated
Bushing	Neoprene/As Molded

Range

Oval (Flat) Cable Size	.235 x .500 thru .260 x .740
Hub Size	½" thru 1" NPT (tapered pipe threads)

Features

- Neoprene bushing resists oil and water; grips cable the full length of the bushing providing adequate strain relief without damaging outer jacket (A)
- Taper threaded body (B)
- Stainless steel retaining ring protects cable jacket against abrasion; reduces installing torque effort (C)
- Rugged ribbed steel gland construction (D)

Listings/Compliances

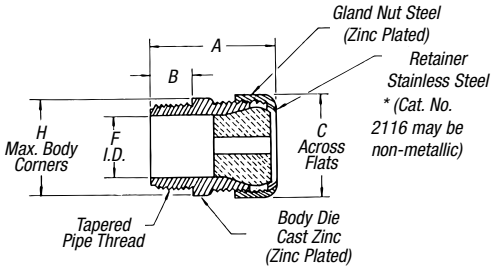
UL
CSA (LR2884)
UL514B, NEMA FB1, Federal Standard
H-28 (Threads), NFPA70

Service Entrance Cable Fittings

Oil- and water-resistant neoprene bushing specially designed for sealing around underground feeder cable!

Underground Liquidtight Feeder-Cable Fittings





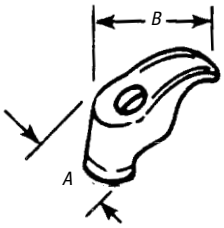
- Stainless steel retaining ring provides bearing surface for glandnut and eliminates cable twist
- Ribbed glandnut tightens easily with wrench to form high-strength connection

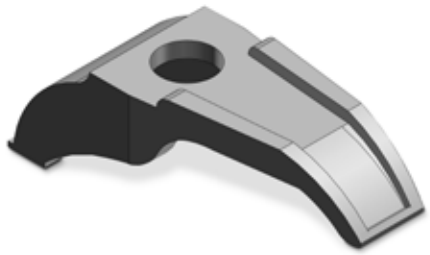
CAT. NO.	HUB SIZE	CABLE OPENING	DIMENSIONS (IN.) A	B	C	D MIN.	D MAX.	E MIN.	E MAX.	F	G	H
2116-TB*	½"	.235 x .500	1 11/16	5/8	1	.060	.235	.350	.500	9/16	1 1/8	1 1/8
2237	¾"	.230 x .430	1 9/16	9/16	1 7/32	.080	.230	.320	.430	13/16	1 3/8	1 3/8
2238	¾"	.235 x .465	1 9/16	9/16	1 7/32	.050	.235	.340	.465	13/16	1 3/8	1 3/8
2239	¾"	.240 x .685	1 9/16	9/16	1 7/32	.060	.240	.500	.685	13/16	1 3/8	1 3/8

** Not CSA Certified*
UL File No. E-23017
CSA File No. 2884

Rocking action of foot allows each strap to accept a wide range of wire sizes!

Cable Straps





- Hole for ¼" screw
- Hot-dipped galvanized malleable iron construction

CAT. NO.	WIRE SIZE	DIMENSIONS (IN.) A	B
1341-TB	2-#10	5/8	1 1/8
1344	3-#6 or 3-#8	5/8	1 15/16
1345*	3-#4 or 3-#2	13/16	1 59/64
1346	3-1/0	¾	2 7/16
1347	3-4/0	¾	2 25/32

** Steel, hot-dipped galvanized.*
UL not applicable
CSA Certified

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Service Entrance Cable Fittings

Two-taper design — one slow and one fast — enables connectors to accept varied cable sizes for maximum take-up!

Watertight Connectors for Oval Cable



- Tapered neoprene bushings resist oil, sunlight and water
- Hex gland and body take same wrench opening
- Stainless-steel slip ring prevents cable from twisting as gland ring is tightened
- Threads on body tapered for water-sealing

CAT. NO.	HUB SIZE	OVAL CABLE RANGE MAX.	OVAL CABLE RANGE MIN.
2111	½"	.420 x .560	.380 x .520
2232	¾"	.385 x .600	.260 x .500
2233	¾"	.500 x .750	.375 x .625
2234	¾"	.555 x .800	.490 x .675
2432	1"	.385 x .600	.260 x .500
2433	1"	.500 x .750	.375 x .625
2434	1"	.555 x .800	.430 x .675
2438	1"	.565 x .855	.440 x .730
2439	1"	.635 x .975	.510 x .850
2442	1¼"	.635 x .975	.510 x .850
2443	1¼"	.640 x 1.050	.490 x .900
2446	1¼"	.750 x 1.150	.565 x .965
2454	1½"	.840 x 1.275	.655 x 1.090
2447	1½"	.880 x 1.425	.695 x 1.240
2448	2"	.968 x 1.500	.790 x 1.390
2449	2"	1.062 x 1.765	.850 x 1.550
2450	2"	1.820 x 1.190	1.700 x 1.050

UL File No. E-15170

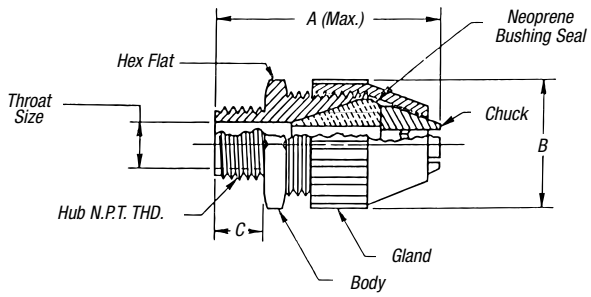
CSA File No. 589

Note: *These may be obsoleted and replaced.*

Hand tightens — no tools required!

Nylon UF-Cable Fittings for Corrosive Environments





- Tapered threaded hub
- Liquidtight and dust tight
- Corrosion- and weather-resistant nylon construction for both outdoor and indoor applications

CAT. NO.	HUB SIZE	UF CABLE RANGE MAX.	UF CABLE RANGE MIN.	A MAX.	B ±.060	C ±.060
2827	½"	.550 x .280	.400 x .190	2.60	1.270	.600
2828	¾"	.675 x .280	.525 x .190	3.00	1.570	.620
2829	¾"	.775 x .280	.625 x .190	3.00	1.570	.620

UL File No. 15170

CSA File No. 589

MC and AC Cable Fittings

Metal-Clad Cable, Armored Cable and Flexible Metal Conduit

Armored Cable (Type AC) — Ref. NEC® Article 320

National Electrical Code® defines type AC armored cable as, "A fabricated assembly of insulated conductors in a flexible metallic enclosure."

ACT Indicates an armored cable employing conductors having thermoplastic (Type T) insulation.

AC Indicates an armored cable employing conductors having rubber insulation of code grade.

ACH Indicates an armored cable employing conductors having rubber insulation of the heat-resistant (75° C) grade.

ACHH Indicates an armored cable employing conductors having rubber insulation of the heat-resistant (90° C) grade.

ACU Indicates an armored cable employing conductors having rubber insulation of latex grade.

"L" Used as a suffix, it indicates that a lead covering has been applied over the conductor assembly.

All armored cables may employ copper or aluminum or copperclad aluminum conductors with the following sizes and are rated for 600 volts or less:

No. 14 AWG to No. 1 AWG Copper

No. 12 AWG to No. 1 AWG Aluminum or Copperclad Aluminum

Type AC cables except ACL carry an internal bonding strip of copper or aluminum in intimate contact with the armor for its entire length. Armored cable can be used for both exposed or concealed locations. With lead-covered conductors (Type ACL), the cable can be embedded in masonry or concrete and can be used in damp locations or where exposed to oil.

Armored cable is not permitted in locations where it will be subjected to physical damage or corrosive fumes. Armored cable cannot be used for direct burial in earth.

With minor exceptions, armored cable is also not permitted to be used in hoists or elevators, storage battery rooms, any hazardous locations, in commercial garages and in theaters or similar locations.

Codes require that cable shall be supported with straps or staples without damaging conductors and also limit the minimum bend radius to five times the diameter of type AC cable. Certain precautions are prescribed in code where cable is installed through joist rafters or similar wood members.

According to NEC 320 where armored cable is terminated, a fitting is required to protect conductors from abrasion. In addition, a bushing is required between the conductors and armor. Design of fitting has to be such that the insulating bushing is visible for inspection. Bushing is not required with lead-covered cables when properly installed.

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Please refer to the following for further details and complete information:

1. NEC Article 320…Armored Cable (Type AC Cable)
2. UL 4, ANSI C33.9…Safety Standards for Armored Cable
3. UL 514B, Safety Standards for Outlet Boxes and Fittings
4. A-A-50552…Federal Specification. Fittings for Cable, Power, Electrical and Conduit, Metal, Flexible
5. NEMA FB-1…Standards Publication. Fittings & Supports for Conduit and Cable Assemblies
6. CEC Section 12-700…Wiring Methods (Armored Cable)
7. CSA C22.2 No. 51…Safety Standards for Armored Cables
8. CSA C22.2 No. 18…Safety Standards for Outlet Boxes, Conduit Boxes and Fittings

Note: The materials herein, whether relating to the National Electrical Code, the Underwriters Laboratories, Inc. listing, to industry practice or otherwise, are not intended to provide all relevant information required for use and installation of our products. Refer to applicable codes, instructions and industry specifications prior to installation or use.

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MC and AC Cable Fittings

Flexible Metal Conduit — Ref. NEC® Article 348

Flexible metal conduit can be used for exposed or concealed work in dry locations. It can be used for wet locations provided conductors within are lead covered or other approved type.

Flexible metal conduit cannot be used underground or embedded in poured concrete or aggregate. With rubber covered conductors, the conduit cannot be exposed to oil, gasoline or other materials having a deteriorating effect on rubber.

With minor exceptions use of flexible metal conduit is not permitted in hoists, in storage battery rooms and in any hazardous locations. Use of flexible metal conduit is restricted to systems under 600 volts.

According to NEC® Article 348, flexible metal conduit no longer than six feet and containing circuit conductors protected by overcurrent device rated for 20 amps or less is suitable as a grounding means provided, it is terminated in fittings approved for the purpose.

Flexible metal conduit longer than six feet is permitted to be used as a grounding means provided the conduit and the fitting are approved for the purpose. To date, there is no flexible metal conduit approved for the purpose by the Underwriters Laboratories.

In Class I & II, Division 2 hazardous areas, the conduit itself cannot be used as the grounding means. A bonding jumper must be installed in accordance with NEC Section 250.102. Flexible metal conduit is available with steel or aluminum armor in trade size 5⁄16" to 4". With few exceptions where 5⁄16" and 3⁄8" trade sizes are used, Code prohibits use of conduit less than "d" trade size. Bends in concealed work are restricted to 360 degrees total. No angle connectors are permitted in concealed raceway installations.

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Please refer to the following for further details and complete information:

1. NEC Article 348…Flexible Metal Conduit
2. UL 1, ANSI C33.92…Safety Standards for Flexible Metal Conduit
3. UL 514B, Safety Standards for Outlet Boxes and Fittings
4. A-A-50552…Federal Specification. Fittings for Cable, Power, Electrical and Conduit, Metal Flexible
5. WW-C-566…Federal Specification. Conduit, Metal, Flexible
6. NEMA FB1…Standards Publication. Fittings and Supports for Conduit and Cable Assemblies
7. CEC 12-1100…Wiring Method (Rigid & Flexible Conduit)
8. CSA C22.2 No. 56…Safety Standards for Flexible Metallic Conduit and Liquidtight Flexible Metal Conduit
9. CSA C22.2 No. 18…Safety Standards for Outlet Boxes, Conduit Boxes and Fittings

Suggested Specifications for Armored Cable and Flexible Metal Conduit Fittings

- Armored cable (metal-clad cable type AC) and flexible metal conduit shall conform to provisions of following applicable standards:

  Armored Cable…UL 4/ANSI C33.9/ CSA 22.2 No. 51

  Flexible Metal Conduit…UL 1/ANSI C33.92/WW-C-566/CSA 22.2 No. 56

  Type of cable used and conductors within flexible metal conduit shall be suitable for conditions of use and location.

- Where approved armored cable or flexible metal conduit is used as an equipment grounding conductor, terminating fitting used shall be of the grounding type as manufactured by Thomas & Betts, series 3110

- Where armored cable or flexible metal conduit terminates into a threadless or threaded opening, it shall be assembled with approved fittings; fittings shall be of malleable iron/steel construction, electro zinc plated inside/outside, equipped with nylon insulated throat and shall be of angled saddle type as manufactured by Thomas & Betts, series 3110. Direct-bearing screw type fittings shall not be used

- Suitable bushing as manufactured by Thomas & Betts, series 422 or 390, shall be provided between the conductors and armor



Series 3110
Armored Cable Connector & Flexible Metal Conduit



Series 390
Anti-Short Bushing

MC and AC Cable Fittings

TITE-BITE® Connectors

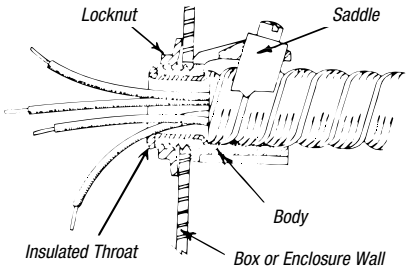
Application

- To connect and effectively bond metal-clad cables, armored cable or flexible metal conduit to a box or an enclosure

Features

- Provided with an angled saddle designed to:
- Insulated throat protects conductors during and after installation and reduces wire pull effort
- Heat-curled insulator in throat:
- Locknuts designed to provide effective bond between connector and box or enclosure, will not vibrate loose
- Designed with fewer installing screws — reduces installation time and labor cost
- Armor stop with viewing window
- Rugged all-steel or malleable iron construction
- Suitable as a grounding means per NEC® Article 348 for flexible metal conduit, NEC® Article 320 for armored cable and NEC® Article 330 for metal-clad cable
- Suitable for hazardous location use per Class 1 Division 2 NEC 501.10 (b)(2)

Typical Installation





3110 Series

Standard Material/Finish

Body . . . . . .Steel or Malleable Iron/ Electro Zinc Plated & Chromate Coated

Saddle. . . . . Steel/Electro Zinc Plated & Chromate Coated

Screws. . . . . Steel/Electro Zinc Plated & Chromate Coated

Insulator. . . . . Thermoplastic/As Molded

Listings/Compliances

UL 514B

CSA C22.2 No. 18

NEMA FB1

UL (UL File No. 23018)

CSA (LR-2884, LR-4484)

Super-Fast Installation!
Up to 2X faster than standard connectors!

Very High Cable Pull-Out Resistance!

Now UL Listed for New Interlocked Armor Ground Type Metal Clad Cable (MCI-A)!

RANGE	HUB SIZE	CONDUIT SIZE	CABLE OPENING
3110 Series Straight Connectors	½" to 4" NPS	⅜" to 4"	.470" to 4.560"
3130 Series 90° Connectors	½" to 4" NPS	⅜" to 4"	.470" to 4.560"

(All hubs provided with straight pipe threads NPS)

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MC and AC Cable Fittings

Designed to resist vibration and strain!

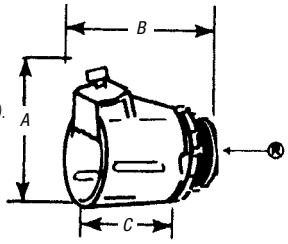
TITE-BITE® Connectors — Nylon Insulated



- Super-fast installation and extreme pull-out resistance due to angled saddle design
- Steel or malleable iron construction
- Tough, insulated lining and Tite-Bite® design make these connectors a "must" when conductors are subject to vibration or strain
- Look for the unique T&B blue color to ensure the highest quality fitting

CAT. NO.	CABLE OPENING (IN.) MAX.	CABLE OPENING (IN.) MIN.	TRADE SIZE	K.O. SIZE	DIMENSIONS (IN.) A†	DIMENSIONS (IN.) B	DIMENSIONS (IN.) C
2492*•#	.500	.370	3/8"	1/2"	1 3/16	1 3/8	7/16
3110-TB•**	.660	.470	3/8"	1/2"	1 1/4	1 1/8	7/8
3112#°	.920	.670	1/2"	1/2"	1 1/4	1 1/8	7/8
3115#	1.125	.906	3/4"	3/4"	1 25/32	1 3/4	1 7/32
3117#	1.468	1.250	1"	1"	2 3/8	1 3/4	1 1/8
3118* **	1.750	1.562	1 1/4"	1 1/4"	2 3/4	2	1 1/4
3119* **	2.031	1.812	1 1/2"	1 1/2"	3 1/8	2 5/8	1 3/4
3120* **	2.500	2.312	2"	2"	3 3/4	2 3/4	1 13/16
3121* **	3.062	2.812	2 1/2"	2 1/2"	4 3/8	3 1/4	2 1/4
3122* **	3.562	3.312	3"	3"	5	3 1/4	2 1/4
3123*†† **	4.060	3.620	3 1/2"	3 1/2"	—	—	—
3124*†† **	4.560	4.120	4"	4"	—	—	—

Material: Steel thru 3/4" trade size.
UL File No. E 23018
CSA File No. 2884
#UL Listed for Metal Clad Cable (MCI).
•UL Listed for new Interlocked Armor Ground Type Metal Clad Cable (MCI-A).
**Good for aluminum-sheathed cable.*
***UL Listed for Armored Cable and Metal Clad Cable.*
****UL Listed for Flexible Metal Conduit only.*
†Approximate dimension with screw at minimum height.
††CSA not applicable.



Easy to install!

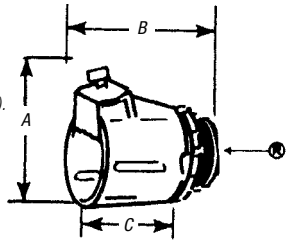
TITE-BITE® Connectors



- Easy to install with double-grip saddle
- 3/8" and 1/2" sizes made of formed steel, which produces uniform high quality and a smooth throat to protect conductor insulation
- 3/4" and larger size are malleable iron

CAT. NO.	CABLE OPENING (IN.) MAX.	CABLE OPENING (IN.) MIN.	TRADE SIZE	K.O. SIZE	DIMENSIONS (IN.) A†	DIMENSIONS (IN.) B	DIMENSIONS (IN.) C
300-TB•**	.660	.470	3/8"	1/2"	1 1/4"	1 5/16	7/16
301-TB*•	.781	.460	3/8"	1/2"	1 1/16	1 3/8	7/8
302-TB#•	.920	.670	1/2"	1/2"	1 5/8	1 11/16	1 7/64
304#	1.093	.906	3/4"	3/4"	1 7/8	1 11/16	1 7/32
306#	1.468	1.250	1"	1"	2 1/16	1 3/4	1 3/4
308* **	1.750	1.562	1 1/4"	1 1/4"	2 5/16	2 1/32	1 1/4
310* **	2.031	1.812	1 1/2"	1 1/2"	2 5/8	2 9/16	1 3/4
312* **	2.500	2.312	2"	2"	3 1/8	2 13/16	1 13/16
314* **	3.062	2.812	2 1/2"	2 1/2"	3 1/2	3 1/8	2 1/4
316* **	3.562	3.312	3"	3"	4 1/16	3 3/16	2 1/4
318*†† **	4.060	3.620	3 1/2"	3 1/2"	—	—	—
320*†† **	4.560	4.120	4"	4"	—	—	—

Material: Steel thru 1/2" trade size.
UL File No. E 23018
CSA File No. 2884
#UL Listed for Metal Clad Cable (MCI).
•UL Listed for new Interlocked Armor Ground Type Metal Clad Cable (MCI-A).
**Not UL Listed.*
***UL Listed for Armored Cable and Metal Clad Cable.*
****UL Listed for Flexible Metal Conduit only.*
†Approximate dimension with screw at minimum height.
††CSA not applicable.

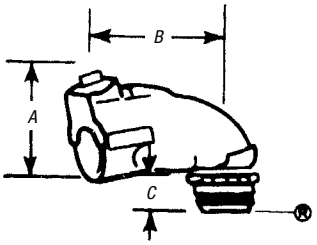


MC and AC Cable Fittings

The easiest and best connector to install when making sharp bends at the enclosure or equipment!

TITE-BITE® Connectors — 90° Angle Nylon Insulated

- Steel or malleable iron construction
- Offers all of the advantages of the straight connector with only one screw to tighten, except in the larger sizes, which have two
- Peep hole on top provides for easy inspection of ABC bushing
- Narrow design makes it easy to install connectors in adjacent knockouts



CAT. NO.	CABLE OPENING (IN.) MAX.	CABLE OPENING (IN.) MIN.	TRADE SIZE	K.O. SIZE	DIMENSIONS (IN.) A†	B	C
3130-TB#•	.660	.470	⅜"	½"	1 11/32	1 19/32	15/16
3132#•	.920	.670	½"	½"	1⅞	2 5/16	15/16
3135#	1.093	.906	¾"	¾"	2⅛	2⅛	9/16
3137#	1.468	1.250	1"	1"	2 21/32	2⅛	½
3138***	1.750	1.562	1¼"	1¼"	3 5/16	3 3/32	9/16
3139***	2.031	1.812	1½"	1½"	4	4⅛	11/16
3140***	2.500	2.312	2"	2"	4 15/16	5 1/16	11/16
3141***	3.062	2.812	2½"	2½"	6 9/32	6	¾
3142***	3.562	3.312	3"	3"	7 11/32	7 1/16	¾
3143***††	4.060	3.620	3½"	3½"	—	—	—
3144-TB***††	4.560	4.120	4"	4"	—	—	—

UL File No. E 23018

CSA File No. 2884

#UL Listed for Metal Clad Cable (MCI).

•UL Listed for new Interlocked Armor Ground Type Metal Clad Cable (MCI-A).

****UL Listed for flexible metal conduit only.*

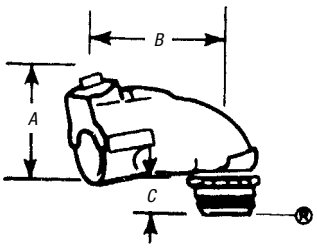
†Approximate dimension with screw at minimum height.

††CSA not applicable.

Angle clip provides secure mechanical grip that tightens under tension or vibration!

TITE-BITE® Connectors — 90° Angle

- Throat is long enough to install in cast housing knockouts
- ⅜" and ½" sizes of steel construction
- ¾" and larger sizes made of malleable iron



CAT. NO.	CABLE OPENING (IN.) MAX.	CABLE OPENING (IN.) MIN.	TRADE SIZE	K.O. SIZE	DIMENSIONS (IN.) A†	B	C
321#•	.660	.470	⅜"	½"	1 11/32	1½	⅜
323#•	.920	.670	½"	½"	1⅞	2⅜	17/32
325#	1.093	.906	½"	¾"	2⅛	2⅛	½
326-TB#	1.468	1.250	1"	1"	2 21/32	2⅛	1
327-TB***	1.750	1.562	1¼"	1¼"	3⅛	3⅜	—
328***	2.031	1.812	1½"	1½"	4⅛	4⅛	—
329***	2.500	2.312	2"	2"	4⅜	4 31/32	—
330-TB***	3.062	2.812	2½"	2½"	6½	6	—
331***	3.562	3.312	3"	3"	5 25/32	7	—
332††	4.060	3.620	3½"	3½"	—	—	—
333††	4.560	4.120	4"	4"	—	—	—
3144-TB***††	4.560	4.120	4"	4"	—	—	—

UL File No. E 23018

CSA File No. 2884

#UL Listed for Metal Clad Cable (MCI).

•UL Listed for new Interlocked Armor Ground Type Metal Clad Cable (MCI-A).

****UL Listed for flexible metal conduit only.*

†Approximate dimension with screw at minimum height.

††CSA not applicable.

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Technical Services
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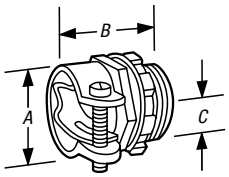
www.tnb.com

MC and AC Cable Fittings

Fits every size of armored cable, metal-clad cable and flexible metal conduit!

Squeeze Connectors — Straight





- Malleable iron or steel construction
- Catalog Nos. 252, 253-TB, 254-TB and 255 are steel
- Add "I" suffix for insulated throat

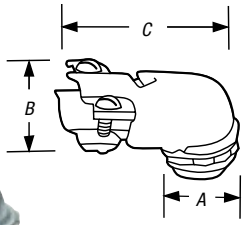
CAT. NO.	INS. CAT. NO.	CABLE OPENING (IN.) MAX.	CABLE OPENING (IN.) MIN.	TRADE SIZE	K.O. SIZE	DIMENSIONS (IN.) A†	B	C
252***	—	.531	.437	5/16"	3/8"	13/16	25/32	11/32
253-TB**††	253-I-TB**††	.585	.455	3/8"	1/2"	31/32	1 13/64	5/8
254-TB	254-I-TB	.938	.812	1/2"	1/2"	1 7/32	1 3/8	13/32
255	255-I	1.094	.938	3/4"	3/4"	1 1/4	1 17/32	7/16
256	256-I	1.375	1.250	1"	1"	1 19/32	1 5/8	1/2
257***	257-I***	1.656	1.500	1 1/4"	1 1/4"	1 7/8	1 23/32	17/32
258***	258-I***	1.875	1.688	1 1/2"	1 1/2"	2 1/4	1 7/16	9/16
259***	259-I***	2.500	2.313	2"	2"	2 31/32	2 5/8	11/16
249***	249-I***	3.062	2.812	2 1/2"	2 1/2"	3 5/16	2 11/16	3/4
277***	277-I***	3.563	3.312	3"	3"	3 13/16	2 7/8	3/4
278-TB***††	278-I-TB***††	4.370	3.200	3 1/2"	3 1/2"	6 5/8	5 1/4	1 5/16
281-TB***††	281-I-TB***††	4.600	3.500	4"	4"	7 1/4	5 3/4	1 5/8

*** UL Listed for armored cable only. Fitting material steel.*
**** UL Listed for flexible metal conduit only.*
† Approximate dimension with screw at minimum height.
†† cULus Certified
.485"–.660" cable opening range for 253-I-TB.
UL File No. E 23018
CSA File No. 2884

Only two screws to tighten!

Squeeze Connectors — 90° Angle





- Cap lifts off simply by loosening screws partway
- 3/8" and 1/2" sizes made of steel
- 3/4" and larger sizes made of malleable iron
- Add "I" suffix for insulated throat

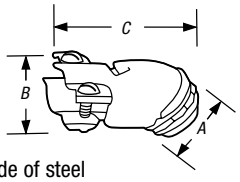
CAT. NO.	INS. CAT. NO.	CABLE OPENING (IN.) MAX.	CABLE OPENING (IN.) MIN.	TRADE SIZE	K.O. SIZE	DIMENSIONS (IN.) A†	B	C
266-TB	266-I-TB	.656	.406	3/8"	1/2"	1 1/2	1 13/32	1 7/16
272**	272-I**	.812	.688	3/8"	1/2"	1 9/16	1 7/8	—
268-TB	268-I-TB	.937	.813	1/2"	1/2"	1 11/16	1 13/16	1 7/8
279	279-I	1.000	.875	3/4"	3/4"	1 13/16	2 1/16	1 13/16
270	270-I	1.125	1.000	3/4"	3/4"	1 7/8	1 3/4	1 13/16
273-TB	273-I-TB	1.406	1.187	1"	1"	2 3/8	2 7/32	2 7/16
274***	274-I***	1.656	1.375	1 1/4"	1 1/4"	3	3	3
275***	275-I***	1.875	1.625	1 1/2"	1 1/2"	3 3/8	3 5/16	4
276***	276-I***	2.500	2.125	2"	2"	4 1/2	3 13/16	4 7/8
282-TB***††	282-I-TB***††	3.100	2.520	2 1/2"	2 1/2"	4 5/16	5 1/16	7 5/16
283-TB***††	283-I-TB***††	3.640	3.100	3"	3"	5 1/16	6 5/16	8 15/16
284-TB***††	284-I-TB***††	4.220	3.700	3 1/2"	3 1/2"	6 13/16	8 5/16	11 1/4
285-TB***††	285-I-TB***††	4.600	4.100	4"	4"	7 1/4	8 7/8	12 3/8

*** UL Listed for armored cable only.*
**** UL Listed for flexible metal conduit only.*
† Approximate dimension with screw at minimum height.
†† cULus Certified
UL File No. E23018
CSA File No. 2884

Fast and easy installation — simply loosen screws partway to lift off cap!

Squeeze Connectors — 45° Angle





- 3/8" and 1/2" sizes made of steel
- 3/4" size made of malleable iron
- Add "I" suffix for insulated throat

CAT. NO.	INS. CAT. NO.	CABLE OPENING (IN.) MAX.	CABLE OPENING (IN.) MIN.	TRADE SIZE	K.O. SIZE	DIMENSIONS (IN.) A†	B	C
265	265-I	.656	.406	3/8"	1/2"	1 17/32	15/32	1 1/8
267	267-I	.937	.813	1/2"	1/2"	1 23/32	1/2	1 1/4
269	269-I	1.125	1.000	3/4"	3/4"	2	17/32	1 9/16

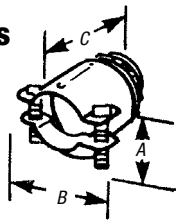
UL File No. E-23018
CSA File No. 2884
UL Listed for armored cable and flexible metal conduit.
† Approximate dimension with screw at minimum height.

MC and AC Cable Fittings

Armor-gripping saddle stays open by itself when cable is being inserted!

Two-Screw Connectors

- Formed steel body
- Carefully round bushing

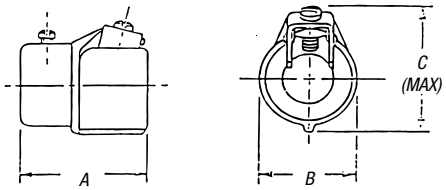


CAT. NO.	CABLE OPENING (IN.) MAX.	CABLE OPENING (IN.) MIN.	TRADE SIZE	K.O. SIZE	DIMENSIONS (IN.) A†	B	C
3301-TB**	.656	.250	⅜"	½"	31/32	1 5/16	1 1/16
3312-TB	.937	.500	½"	½"	1 3/32	1 5/8	1 3/8

** UL Listed for armored cable only. UL File No. E 1383 CSA File No. 2884

TITE-BITE® design holds flexible metal cable firmly in place with a single screw!

Adapter — EMT to Flex



CAT. NO.	SIZE FLEX TO EMT	DIMENSIONS (IN.) A	B	C
503TB	½" – ½"	1 21/32	1 3/16	1⅞
504	¾" – ¾"	1 25/32	1 7/16	2⅛
505-TB	1" – 1"	2 1/32	2 1/16	2⅝

CSA File No. 8994 UL File No. E-23018

Smooth plastic bushing protects conductor insulation from rough edges of armored cable and flexible metal conduit!

Anti-Short Bushing



CAT. NO.	SIZE (AWG)
390	#14-2, #14-3, #12-2
391	#14-4, #12-3, #6-1, and #4-1
392	#12-4, #10-2, #10-3 and #2-1
393	#10-4, #8-2, #8-3, and #1-1
394	#8-4, #6-2, #6-3, #4-2, #4-3, and #6-4

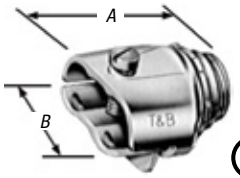
Colorized. CSA File No. 589

Temperature Rating: 240° F. UL not applicable.

For flexible metal conduit and armored cable.

Duplex Clamp Connector

- Malleable iron construction

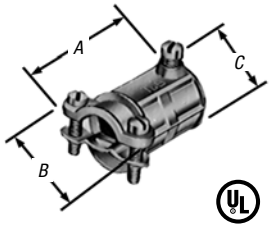


CAT. NO.	K.O. SIZE	DIMENSIONS (IN.) A	B
291-TB	½"	1 13/32"	1 11/16"

UL File No. E 1383 CSA File No. 2884

One-piece fitting couples ⅜" flexible metal conduit to ½" EMT!

Combination Coupling



CAT. NO.	SIZE FLEX TO EMT	DIMENSIONS (IN.) A	B	C
449-TB	⅜" – ½"	1 21/32	1 11/32	15/16

Cable opening: max. .656, min. .250. UL File No. E-23018 CSA File No. 2884

Fast and easy installation!

Strap

- Elongated bolt hole makes alignment easy, even when holes in mounting surface are off center
- Snap-on design holds strap in place



CAT. NO.	SIZE
65-TB	⅜" Flex

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Fax: 901.252.1354
Technical Services
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Tray Cable Fittings

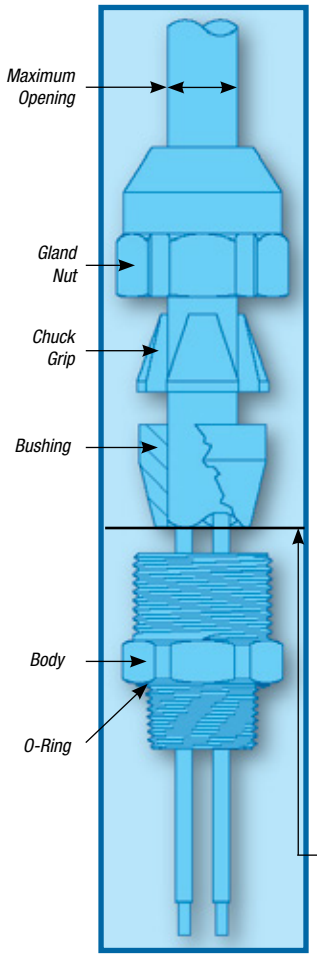
Now Available in Stainless up to 1"

Increase safety for hazardous locations.

Silver Grip® TCF® Series — Tray Cord Fitting

Introducing the Silver Grip® Tray Cord Fitting — the safe, yet cost-efficient choice for increased safety when terminating portable cord and tray cable in hazardous locations. Designed for use in Class I, Gas and Vapor environments, the Silver Grip® Tray Cord Fitting provides efficient strain relief for cables entering enclosures and raceways, and for cords used on portable equipment.

- Now available in stainless steel in hub sizes from ½" to 1"
- Corrosion-resistant, non-magnetic aluminum construction
- Tapered neoprene bushing and O-ring seal out moisture and dirt ingress
- Chuck grip provides high mechanical pull-out performance. Exceeds applicable requirements
- Hand-tightens — no tools required





*When cord will not fit through body, strip cord jacket and trim fillers if required. Insert cable, ensuring the outer jacket reaches the end of the bushing as shown. Tighten gland nut onto body.

Applications

Tray Cable: Complies with IEC requirements for Class I, Zone 2 locations when used with enclosures containing no arcing or sparking devices. For enclosures with arcing or sparking devices, TCF® fittings must be used in combination with a certified Class I hazardous location sealing fitting.

Portable Cord: Complies with IEC requirements for Class I, Zone 1 locations when used with enclosures containing no arcing or sparking devices. For enclosures with arcing or sparking devices, TCF® fittings must be used in combination with a certified Class I hazardous location sealing fitting.

Note: *Tray cable is not suitable for use in Zone 1 locations. Portable cord can be used in Zone 1 applications only when installed on portable equipment.*

- CSA File Number LR4484
- Class 4418-03 Fittings for Hazardous Locations
- Class 4418-03 Fittings for Hazardous Locations — Certified to U.S. Standards
- Class I, Zone 1, AEx e II

CAT. NO.	HUB SIZE NPT	THROAT DIA. (IN.)	MIN. CABLE DIA. (IN.)	MAX. OPENING (IN.)	STD. PKG. QTY.
TCF050-27AL	½	.330	.150	.270	25
TCF050-40AL	½	.540	.250	.400	25
TCF050-54AL	½	.540	.400	.540	25
TCF050-67AL	½	.540	.540	.670	10
TCF050-78AL	½	.540	.660	.780	10
TCF075-40AL	¾	.540	.250	.400	15
TCF075-54AL	¾	.540	.400	.540	15
TCF075-67AL	¾	.780	.540	.670	10
TCF075-78AL	¾	.780	.660	.780	10
TCF075-88AL	¾	.765	.770	.880	10
TCF100-78AL	1	.980	.660	.780	10
TCF100-88AL	1	.980	.770	.880	10
TCF100-100AL	1	.980	.870	1.000	10
TCF125-109AL	1¼	1.255	.800	1.090	4
TCF125-128AL	1¼	1.255	1.080	1.280	4
TCF125-147AL	1¼	1.255	1.270	1.470	4
TCF150-115AL	1½	1.470	.890	1.150	2
TCF150-140AL	1½	1.470	1.140	1.400	2
TCF150-165AL	1½	1.470	1.390	1.650	2
TCF200-153AL	2	1.896	1.190	1.530	2
TCF200-186AL	2	1.896	1.520	1.860	2
TCF200-219AL	2	1.896	1.850	2.190	2
TCF250-252AL	2½	2.466	2.120	2.520	—
TCF300-278AL	3	2.780	2.380	2.780	—
TCF300-304AL	3	3.037	2.640	3.040	—
TCF300-330AL	3	3.068	2.900	3.300	—

For stainless steel (316), replace AL with SS6 (up to 1" only)

Non-Metallic Sheathed Cable

Ref. NEC® Article 334

Code defines non-metallic sheathed cable as, "A factory assembly of two or more insulated conductors having an outer sheath of moisture resistant, flame retardant, non-metallic material."

Non-metallic sheathed cable is constructed of insulated conductors (#14 to #2 AWG Copper or #12 to #2 AWG Aluminum or Copperclad Aluminum), and an outer non-metallic sheath classified as Type NM or Type NMC.

Non-metallic sheathed cable is provided with or without a bare or insulated equipment grounding conductor. Non-metallic sheathed cable is rated for 60° C service with voltage limitation of 600 volts.

Type NM — has flame-retardant moisture resistant sheath.

Type NMC — has flame-retardant, moisture-resistant, fungus-resistant and corrosion-resistant sheath.

Non-metallic sheathed cable is permitted by code to be used exposed or concealed in one, two or multifamily dwellings or other structures not exceeding three floors. Use of Type NM cable is restricted to dry locations whereas Type NMC can be used in dry, moist, damp or corrosive environments.

Non-metallic sheathed cable (both Type NM & NMC) is not permitted to be used as a service conductor, in commercial garages, in hoists or cannot be embedded in cement, concrete or aggregate. With minor exceptions, use of non-metallic sheathed cable is also prohibited in theaters or any hazardous locations.

NEC® Section 334.30 requires that cable be secured in place by suitable means so as not to injure the cable. Adequate protection for cable is also required when run is exposed, through joists or rafters, through floors, in unfinished basements and accessible attics.

Cable bends are limited to a minimum of five times the diameter of the cable.

NEC® 300.4(B) requires that cable be protected from physical damage when it passes through factory or field punched, cut or drilled holes in metal members. A bushing or grommet firmly secured in place is recommended.

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Please refer to the following for further details and complete information:

1. NEC® Article 334…Non-Metallic Sheathed Cable (Type NM & NMC)
2. NEC® Article 300…Wiring Methods
3. UL 719, ANSI C33.56…Safety Standards for Non-Metallic Sheathed Cable
4. UL 514B, Safety Standards for Outlet Boxes and Fittings
5. NEMA FB-1…Standards Publication. Fittings and Supports for Conduit and Cable Assemblies
6. CEC Section 12-600…Wiring Methods (Non-Metallic Sheathed Cable)
7. CSA C22.2 No. 48…Safety Standards for Non-Metallic Sheathed Cable
8. CSA C22.2 No. 18…Safety Standards for Outlet Boxes, Conduit Boxes and Fittings

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Note:

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Thomas&Betts

United States
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Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

www.tnb.com

Suggested Specifications for Non-Metallic Sheathed Cable Fittings

- Where non-metallic sheathed cable or flexible cord terminates into a threaded or threadless opening, terminating fittings used shall be approved for the purpose by nationally recognized laboratory, inspection agency or product evaluation organization.
- Terminating fittings shall be of malleable iron, steel or thermoplastic construction designed to provide adequate strain relief and positively prevent damage to jacket or conductor insulation such as series 3300 or 3302M manufactured by Thomas & Betts.
- Ferrous metal fittings shall be electro zinc plated inside/outside including threads and bushed with a nylon insulated throat.
- Thermoplastic material used for connector construction shall be of high impact strength suitable for 105° C/221° F service with a UL flammability rating of 94V-1.
- Where non-metallic sheathed cable passes through either factory or field punched, cut or drilled holes in metallic members, the cable shall be protected by thermoplastic bushing such as series 3210 manufactured by Thomas & Betts. Bushing shall be firmly secured in opening. Nylon bushed metallic fittings such as Thomas & Betts series 1942 may be substituted as required.

Series 3300
Non-Metallic Sheathed Cable and Flexible Cord Connectors (All Plastic)





Series 3302M
Non-Metallic Sheathed Cable and Flexible Cord Connectors (Steel)



Series 3210
Knockout Bushings



Series 1942
Insulated Nipples

Non-Metallic Sheathed Cable and Flexible Cord Connectors (All Plastic)

Application

- To connect non-metallic sheathed cable and flexible cord to a box or an enclosure

Features

- Design provides strain relief by partially deflecting cable (A); therefore:
  - (1) Connector will not damage outer covering or jacket of cable, or conductor insulation; designed to give safe trouble free installation
  - (2) Holding power and cable strain relief are not affected by surface finish of outer covering or cable jacket
  - (3) Connector provides superior holding power far in excess of listing agency requirements
- Snap-in one-piece design; accommodates variation in knockout dimensions, saves installation time (B).
- All high-impact thermoplastic construction provides:
  - (1) Insulated throat; conductors are protected from abrasion
  - (2) Improved dielectric strength, and eliminates potential shorts
  - (3) Corrosion resistance
- Wide range — reduces inventories
- Connector may be pre-installed in box K.O. or on cable

Standard Material

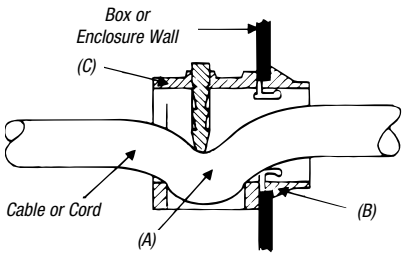
All high-impact polycarbonate — UL Class 94V-1 suitable for 105° C application

Standard Finish

As molded (Black)

Listings/Compliances

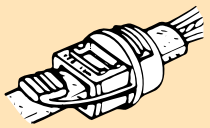
UL (UL File No: E-23017)
CSA (Cat. #3201, 3350) for factory installation (LR-589, LR-2884)
UL 514B
CSA C22.2 #18 (Where applicable)
ANSI C33.84, NFPA 70



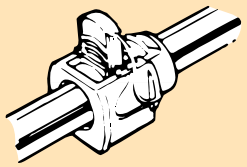


3300 Series

Typical Installation



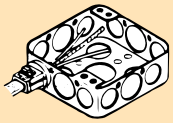
1. Remove sheath from end of cable (4" or more as required). Insert cable through connector as shown (Cable under button).



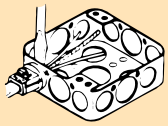
2. Insert button into cavity.



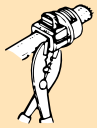
3. With grooved pliers or parallel jaw type pliers (commercially available), squeeze button into cord orwires as far into connector bodyas possible.
Note: *It may be necessary to re-adjust pliers to ensure button is properly installed.*



4. Snap connector into knockout box. If desired, this step can be done prior to Step 1.



5. To remove from knockout box, depress ears.



6. To remove from cable, cut connector as shown.

Range

CAT. NO.	CABLE/KNOCKOUT SIZE	CORD RANGE
3300	½"	#10-2, #12-2 & #14-2 Type NM Cable; .125" to .300" outside diameter cord
3201 & 3350	½"	#10-3, #12-3, #14-3, #10-2, #12-2, #14-2 Type NM Cable; also multiple (2) #12-2 and #14-2 Type NM Cable; .300" to .600" outside diameter cord
3202	¾"	#8-3 and #6-3 type NM cables; also Multiple (2) #14-3 and #10-2 Type NM Cable; .500" to .850" outside diameter cord

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Non-Metallic Sheathed Cable and Flexible Cord Connectors (Steel)

Application

- To connect non-metallic sheathed cable and flexible cord to a box or an enclosure

Features

- Rugged all-steel/malleable iron construction (A)
- Rounded cable clamp grip provides superior mechanical holding power without damaging conductor insulation or outer jacket (B)
- Clamp designed to cover body opening for a neat and safe installation
- Screws thread into clamp and not body; screw heads are snug with body and ends of screws do not project beyond the body (C)
- Insulator firmly secured in place protects conductors and reduces wire pulling effort; protects threads from damaging during handling (D)
- Locknut designed to secure connector to a box or enclosure; will not vibrate loose

Standard Material

Body . . . . . ½" thru 1" Steel; 1¼" thru 2" Malleable Iron

Clamp . . . . . ½" thru 1¼" Steel; 1¼" thru 2" Malleable Iron

Locknut . . . . . All Steel

Insulator . . . . . Thermoplastic

Standard Finish

All steel and malleable iron parts — Electro Zinc Plated & Chromate Coated

Range

Hub Size. . . . . ½" thru 2" Hubs Provided with Straight Pipe Threads (NPS.)

Cable . . . . . (2) #14 thru (4) #4 Type NM

Cable Outside Diameter . . . . . .250" to 1.150"

Listings/Compliances

UL (UL File No: E-23017)

CSA (LR-589, LR-2884)

UL 514B

CSA C22.2 No. 18

NFPA 70

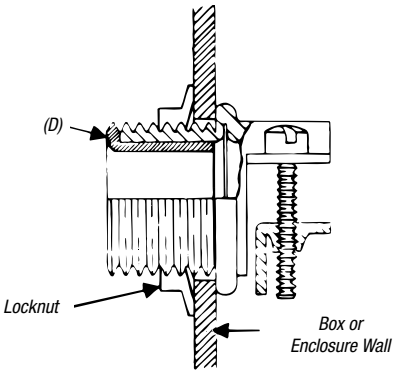
NEMA FB1

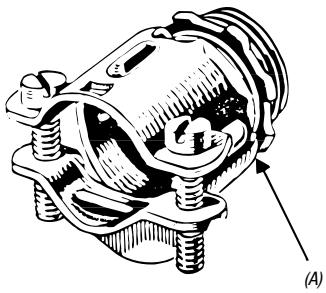
Federal Standard H-28 (Threads)

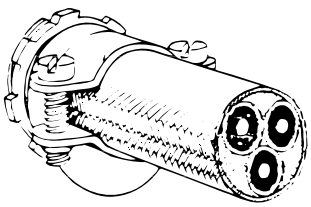


3302M Series
Non-Metallic Sheathed Cable Connector

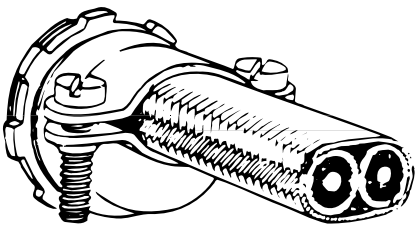
Typical Installation



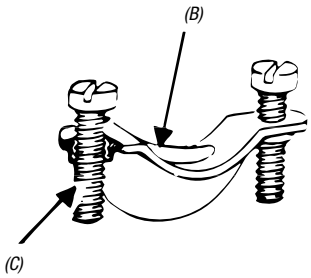




Typical Installation (Flexible Cord)



Typical Installation (NM-Sheathed Cable)



Non-Metallic Sheathed Cable Fittings

Steel or malleable iron

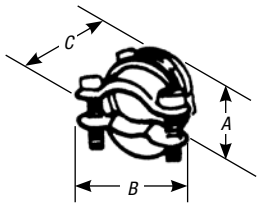
Two-Screw Connectors

Rounded cable grip and smooth bushing protect the cable sheath and wire insulation. Because saddle is threaded, screws do not travel or extend beyond the connector body as it is clamped to the cable. An extra lip on the saddle closes the unused part of the connector opening.

- Threaded saddle means screws don't travel or extend beyond connector body as it's clamped to cable
- Extra lip on saddle closes unused part of connector opening
- Steel or malleable iron construction
- Look for the unique T&B blue color ensuring the highest quality fitting







NON-INSULATED CAT. NO.	INSULATED CAT. NO.	K.O. SIZE	UL LISTED & CSA CERTIFIED: SINGLE NM & NMC CABLE	UL LISTED & CSA CERTIFIED: PAIRS OF NM & NMC CABLE	UL LISTED & CSA CERTIFIED: SERVICE ENTRANCE CABLES	IN. A	IN. B	IN. C	INSULATED CABLE OPENING (IN.) MAX.	INSULATED CABLE OPENING (IN.) MIN.
3302-TB*	**3302M-TB**	½"	(2) #14, (2) #12, (2) #10, (3) #14, (3) #12, (3) #10	(2) #14, (2) #12	(2) #12 thru (2) #4, (3) #12, (3) #10	1	1 13/32	1	.590	.250
3303-TB	**3303M**	¾"	(2) #8, (2) #6, (3) #8, (3) #6, (3) #4	(2) #12, (2) #10, (2) #8, (3) #14	(2) #8 thru (2) 1/0, (3) #8, (3) #6, (2) #6 + #8 GND, (2) #1, (2) 1/0, (3) #6 thru (3) #2	1¼	1⅝	1⅛	.750	.530
3304	**3304M**	1"	(3) #8, (3) #6, (3) #4	(2) #8, (3) #10	(2) #4 + #6 GND, (2) #3 + #5 GND, (2) #2 + #4 GND (3) #2 thru (3) 2/0, (2) #1 + #3 GND	1½	1⅞	1¼	.990	.690
3305	**3305M**	1¼"	—	(2) #8, (2) #6, (2) #4, (3) #8	(2) 1/0 + #2 GND, (2) 2/0 + #1 GND	1 29/32	2¼	1¼	1.320	.850
3306	**3306M**	1½"	(3) #4, (3) #6	—	(3) 3/0, (3) 4/0, (2) 3/0 + 1/0 GND, (2) 4/0 + 2/0 GND	2 3/16	2⅝	1 5/16	1.530	.930
3307	**3307M**	2"	Max. 1.98", Min. 1.15"	Max. 1.98", Min. 1.15"	—	2¾	3¼	1⅞	—	—
3308†	**—**	2½"	Max. 2.38", Min. 1.5"	Max. 2.38", Min. 1.5"	—	3¼	3 15/16	2 3/16	—	—
3309†	**—**	3"	Max. 2.88", Min. 1.75"	Max. 2.88", Min. 1.75"	—	3 13/16	4 9/16	2 9/16	1.980	1.150
3310†	**—**	3½"	Max. 3.38", Min. 2.25"	Max. 3.38", Min. 2.25"	—	4 7/16	5¼	2 27/32	—	—
3311†	**—**	4"	Max. 3.88", Min. 2.5"	Max. 3.88", Min. 2.5"	—	4⅞	5 15/16	3 3/32	—	—

**UL Listed for use with rubber and thermoplastic flexible cords (both single and multiple cords and two oval cables).*

UL Listed for multiple cords and cables.

CSA File No. 2884

UL File No. E-23013 – ½" – 1½"; U.L. File No. E-15170 – 2"

† Not UL Listed or CSA certified.

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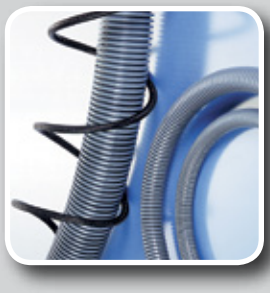
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PMA®

PMA® Nylon Flexible Conduit Systems

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PMA® Nylon Flexible Conduit Systems

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Overview

Areas of Application

Mechanical Engineering



A considerable number of PMA® cable protection systems are used in mechanical engineering. A few examples illustrate how varied the range of mechanical engineering applications is. You will find our products in machine tools, packaging machines, printing machines, as well as heating, ventilation, conveyer and filling systems. PMA® products also make a vital contribution to the smooth operation of high-voltage and emergency power systems, can production machinery and woodworking machines, etc. PMA® cable protection solutions safeguard cables, wires and data links against heat, cold, tensile stress, pressure stress and other external influences in the important mechanical engineering industry.

Automation



In the field of automation, there is a need for products that can withstand the stress of motion-intensive applications. Solutions developed by PMA® fully meet these requirements. Special conduit designs, supports and abrasion-protection sleeves provide optimal protection along the entire length of all moving elements, enabling engineers to achieve a massive reduction in torsional forces. There is a good reason why leading robotics manufacturers rely on PMA® technology.

Railway/Railway Infrastructure

PMA® products have proven their dependability in railway construction projects around the world. This is the reason why large corporations including Siemens, Alstom, Bombardier, Deutsche Bahn and SNCF have chosen us as supplier over a period of many years. Our special railway engineering product line provides protection and safety on signalling systems, couplings, trucks and gangways, as well as with roof and underfloor equipment. The range of applications is very extensive. PMA® products contribute to the safe operation of trams, locomotives, freight cars, high-speed trains and even roller coasters.





Countless Applications

PMA® cable protection products can be used in an extremely wide range of applications. The list is virtually endless and includes industries such as telecommunications, construction equipment and medical equipment. Wherever there is a need for cable protection, the PMA® product portfolio provides safe, dependable, forward-looking solutions. We can also develop custom solutions to meet your individual needs.







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Overview

PMAFIX® Pro





Connectors

State-of-the-Art Design and Manufacturing Procedure for Highest Sealing Performance

The PMAFIX® Pro fitting series employs two-component injection-molding technology in a radical new design to set new standards for the cable protection industry in critical performance parameters, particularly sealing security.

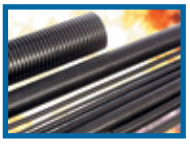
Connectors: Male and female threads in polyamide and metal, straight, 45°, 90° and strain-relief types

Conduits: The PMAFIX® Pro system is compatible with the entire PMAFLEX® Pro and PMAFLEX® conduit range

Modes of Protection: IP68 and IP69K both in static and dynamic installations

PMA® EX-SYSTEM





Connectors, Conduits and Accessories

Electrostatic load discharging for explosion-endangered areas

The EX-System includes conduits, fittings and accessories for flexible protection of cables, wires and hoses against mechanical damage, UV-radiation and weathering in explosion-endangered areas classified as zones 1/21 (gas/dust) according to ATEX 137.

Connectors: Straight, 45° elbow, 90° elbow and 90° curved elbow, distributors

Conduits: Highly flexible, conduit sizes from Ø 10mm to 50mm

Applications: Areas where combustible gases, liquids or solids and (atmospheric) oxygen can form an explosive atmosphere and where any form of ignition has to be avoided

Installation: Simple push-in installation (IP66), safety and sealing system (IP68)

PMAFIX®/PMAFLEX®





Connectors and Conduits

Best selling and very popular

This product line offers solutions that meet the highest expectations: IP66–IP69K. It is based on a perfected system technology that makes installation easy. You can choose from a very large, varied range of connectors and conduit that has demonstrated its dependability in all types of applications for more than 20 years.

Connectors: Male and female thread in polyamide or metal, straight, 45° elbow, 90° elbow and 90° curved elbow, distribution

Conduits: More than 20 different types of conduit: light to heavy, flexible to highly flexible, conduit size from Ø 6mm to 125mm

Safety System: Unique safety clip system for connection with PMA conduit

Modes of Protection: IP66, IP68GT, IP68, IP69K

PMA® SMART LINE





Connectors and Conduits

Modern, versatile and attractive

One-piece design, IP66 protection and simple, fast installation are the outstanding features of the Smart Line. Other characteristics, including a modern, functional design and an excellent price/performance ratio, make this product line a very attractive solution.

Connectors: Straight, 45° elbow and 90° elbow

Conduits: Conduit types made of PA6, PA12 and PP

Modes of Protection: IP66

AUTOMATION





Accessories and Robotics

Protection and dependability in automation applications

PMA® products provide optimal cable protection in all automation applications. They give you dependable protection against abrasion, and they prevent wearing through the insulation. They are very flexible and deliver long service life in motion-intensive applications.

Applications:
Special conduit and accessories for robotics and automation applications provide:
– Reduced mechanical stress
– Longer service life
– Flexible design for motion-intensive applications

PMAJACK





Braided Hose, Terminators and Fittings

Braided protection

Polyamide/polyester and metal braids made of copper and steel provide dependable protection, bundling and shielding of electrical cables.

Applications: Mechanical cable protection, shielding of electromagnetic radiation

EMC/EMV





Connectors, Braided Hose and Shielding

Reliable shielding

This product line contains metal braids made of tin-plated copper as well as fittings made of nickel-plated aluminium or nickel-plated brass. The braid is designed to provide protection against electromagnetic interference. The fittings guarantee excellent clamping of the braid and good contact between the shielding braid and the conduit system.

Applications: The proven PMA® conduit system provides a high-grade shield for protection against electromagnetic radiation combined with mechanical cable protection

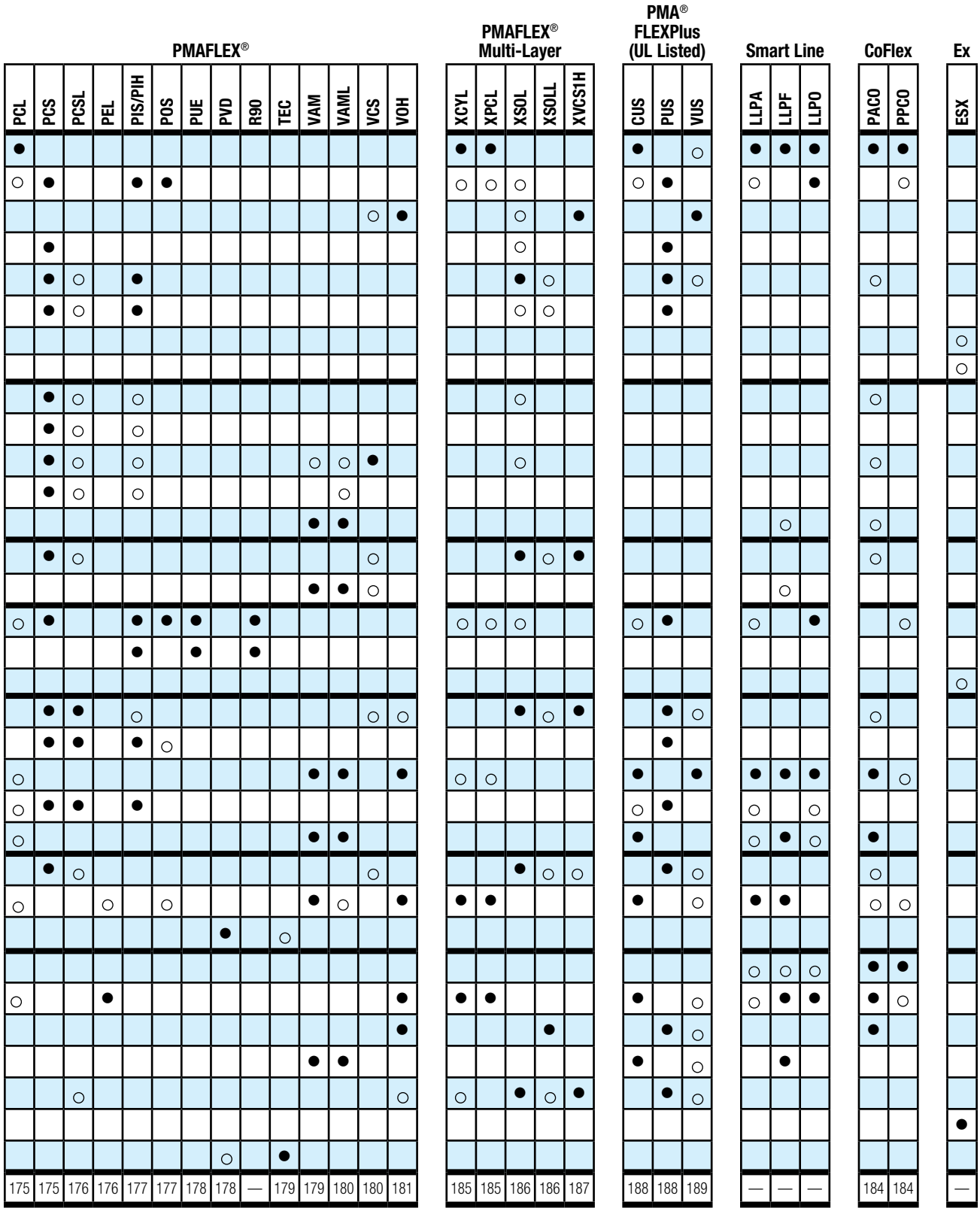
Nylon Flexible Conduits

Key: ● **recommended**
○ **suitable (application details to be considered)**

Application Areas				PMAFLEX® Pro				PMAFLEX®				
				PHT	PLU	POH	PSX	CYF	CYFH	CYL	ESD	ESDP
Machine Building	General Applications	static								●		
		dynamic	●							○		
	Heavy Loads	static										
		dynamic										
	Outdoor Applications	static										
		dynamic										
	Antistatic Requirements	static									●	●
		dynamic									●	●
Traction	Outdoor Applications with Sunlight Exposure	static										
		dynamic										
	Outdoor Applications	static	○									
		dynamic	○									
	Indoor Applications	static		●	●							
Traction Infra	Outdoor Applications with Sunlight Exposure	static										
	Indoor and Tunnel Applications	static		●								
Automation	Moving Systems	static	●							○		
	Systems with Extreme Movements	static										
	Moving Systems with Antistatic Requirements	static									●	●
Ship + Off-Shore	Outdoor General Applications	static										
		dynamic	○									
	Indoor Applications	static								○		
		dynamic								○		
	Passenger Area	static			○					○		
Energy	Outdoor Applications with Sunlight Exposure	static										
	Indoor Applications	static			○					○		
	Exposed to Radiation	static				●						
Others	Vehicle Building	static	○					●	●			
	Telecommunications	indoor								○		
		outdoor										
	Building Construction	indoor			●							
		outdoor										
	Ex Hazardous Areas (ATEX)	static									○	
	High-Temperature Applications	static	○			●						
	Find on page E-		182	182	183	183	173	173	173	174	174	

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Nylon Flexible Conduits



Nylon Flexible Conduits

Key: √ = correct		PMAFLEX® Pro				PMAFLEX®				
		PHT (PAE)	PLU (PO)	POH (PO)	PSX (PEI)	CYF (PA6)	CYFH (PA6)	CYL (PA6)	ESD (PA12)	ESDP (PO)
	Ductility	▬	▬	▬	▬	▬	▬	▬	▬	▬
	Reverse Bending Resistance	▬	—	▬	—	▬	▬	▬	▬	▬
	Compression Resistance	▬	▬	▬	▬	▬	▬	▬	▬	▬
	Low-Temperature Performance	▬	▬	▬	▬	▬	▬	▬	▬	▬
	High-Temperature Performance	▬	▬	▬	▬	▬	▬	▬	▬	▬
	Resistance to Weathering	▬	▬	▬	▬	▬	▬	▬	▬	▬
Approvals	UL Recognition File							√		
	Bi-National Recognition File UL1696 & CSA C22.2 No. 227.3-05							√		
	Bi-National Recognition File UL1660 & CSA C22.2 No. 227.2.1									
	Free from Halogens and Cadmium	√	√	√	√	√	√	√	√	√
	Non Flame Propagating EN61386				√	√	√	√		
	EN45545			√						
	NF F 16-101 + 102			√						
	BS6853		√	√						
	DIN 5510-2			√						
	UNI CEI 11170-3 Ed. 2005			√						
	NFPA130 (ASTM E162 - ASTM E662 - ASTM E1354) BSS7239/SMP 800-C									
	DNV (Type approved)		√					√	√	
	Lloyd's Register (Type approved)		√					√	√	
	Bureau Veritas (Type approved)		√					√	√	
Temp. Range	Continuous Operating Temperature (Acc. to DO 9.21-4510) Min.	-50	-25	-25	-100	-30	-30	-40	-40	-20
	Continuous Operating Temperature (Acc. to DO 9.21-4510) Max.	135	95	95	170	90	90	105	90	90
	Short-Term Max. Operating Temperature 168h (Acc. to DO 9.21-4360)	180		120	200	125	125	160	150	
Sizes	Nominal Widths Min.	07	10	10	10	07	23	07	07	10
	Nominal Widths Max.	48	48	48	48	17	48	125	95	48
	Metric Size Min.	10	12	12	12	10	25	10	10	12
	Metric Size Max.	50	50	50	50	20	50	146	106	50

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Nylon Flexible Conduits

PMAFLEX®													
PCL (PA6)	PCS (PA12)	PCSL (PA12)	PEL (PE)	PIS/PIH (PA12)	POS (PO)	PUE (TPU)	PVD (PVDF)	R90 (PA12)	TEC (PFA)	VAM (PA6)	VAML (PA6)	VCS (PA6)	VOH (PA6)
√	√			√								√	√
√	√			√								√	
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-50	-50	-50	-50	-50	-25	-60	-60	-40	-200	-40	-40	-50	-40
105	95	95	60	95	95	50	150	95	200	105	105	105	105
160	150	150		150	130			150	260	160	160	160	160
07	07	07	10	07	07	12	10	29	10	07	07	07	07
125	95	48	48	125	95	70	29	70	29	48	125	95	125
10	10	10	12	10	10	16	12	32	12	10	10	10	10
146	106	50	50	146	106	80	32	80	32	50	146	106	146

PMAFLEX® Multi-Layer				
XCYL (PA6/PA6)	XPCL (PA6/PA6)	XSOL (PA12/PA6)	XSOLL (PA12/PA6)	XVCS1H (PA6/PO)
		√		√
		√		√
√	√	√	√	√
√	√	√	√	
		√		
-40	-50	-50	-40	-50
105	105	95	95	90
160	160	150	150	120
12	12	12	12	12
48	48	48	48	48
16	16	16	16	16
50	50	50	50	50

PMA® FLEXPlus (UL Listed)		
CUS (PA6)	PUS (PA12)	VUS (PA6)
√	√	√
√	√	√
-40	-50	-50
105	95	105
160	150	160
17	17	17
48	48	48
20	20	20
50	50	50

Smart Line		
LLPA (PA6)	LLPF (PA6)	LLPO (PO)
√		
√		
√	√	√
√	√	√
	√	
	√	√
√	√	√
√	√	√
√	√	√
-40	-40	-20
105	105	90
160	160	130
07	07	07
125	48	48
10	10	10
146	50	50

CoFlex	
PACO (PA6)	PPCO (PP)
√	
√	√
√	
√	
√	
-40	-20
100	95
150	120
07	07
70	70
10	10
80	80

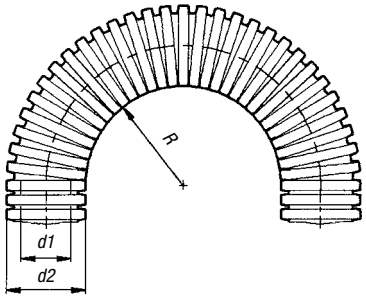
Ex
ESX (PA11)
√
√
√
√
-50
90
150
10
48
12
50

PMAFLEX® Conduits

PMAFLEX® covers more than 20 different conduit types for a variety of applications in cable protection. The PMAFLEX® range offers conduits for technically demanding applications and special requirements.

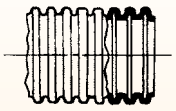
Conduit sizes range from 6mm to 125mm diameters, from lightweight to heavyweight, and pliable to highly flexible. Standard colors are black and gray.

Many conduits are specially approved, e.g. CSA, UL Recognition, NF, SNCF, DB, etc.



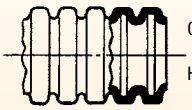
** stat. R = lowest recommended bending radius for static (fixed) installation.

*** dyn. R = lowest recommended bending radius for dynamic (flexible) installation.



Fine profile T

Tight bending radius



Coarse profile G

High pull-out strength

X P C T - 12SG

Multi-Layer Conduit	Type	Profile	Nominal Width	Color	Color Inner Layer
		T = Fine Profile **D** = Fine Profile **G** = Coarse Profile		**B** = Black **S** = Gray	**G** = Green **B** = Blue



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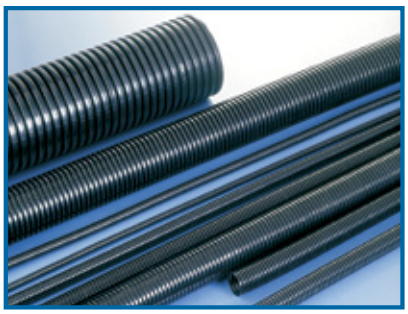
Nylon Flexible Conduits

CYF/CYFH Flexible, Medium/Heavy

- Use in automobile and truck industries
- High-grade, specially modified polyamide 6
- CYF: medium-wall (NW 07 to 17); CYFH: heavy-wall (NW 23 to 48)
- Self extinguishing
- Free from halogens and cadmium
- Good impact strength at low temperatures and in dry conditions

Temperature range: -30° C to 90° C; Short term to 125° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.



CAT. NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS †	PU METER
CYFT-07B	7	10	6.2mm	10.0mm	15mm	100
CYFT-10B	10	12	9.6mm	13.0mm	20mm	100
CYFT-12B	12	16	12.0mm	15.8mm	30mm	100
CYFT-17B	17	20	16.2mm	21.2mm	40mm	100
CYFHG-23B	23	25	21.4mm	28.5mm	50mm	50
CYFHG-29B	29	32	27.2mm	34.4mm	60mm	50
CYFHG-36B	36	40	35.8mm	42.4mm	70mm	50
CYFHG-48B	48	50	46.8mm	54.4mm	80mm	50



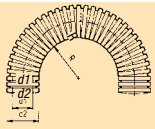
Fine profile T

Tight bending raduis



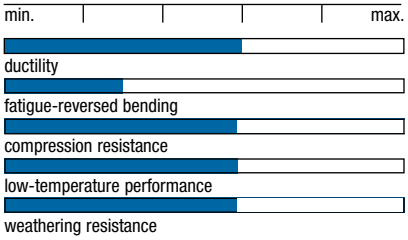
Coarse profile G

High pull-out strength

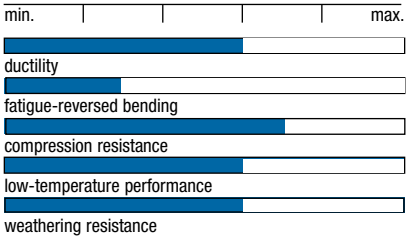


† stat. R = lowest recommended bending radius for static (fixed) installation.

CYF Index



CYFH Index



CYL Very Flexible, Medium

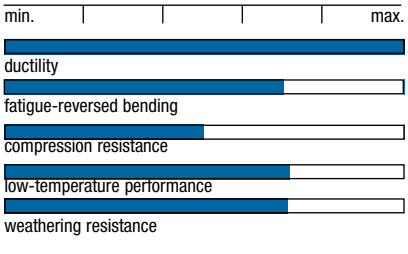
- Use in machine building and installation industries
- High-grade, specially formulated polyamide 6
- Very good flexibility
- Good impact strength at low temperatures and in dry conditions
- Self extinguishing
- Free from halogens and cadmium

CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS †	PU METER
CYLT-07B	CYLT-07S	7	10	6.2mm	10.0mm	15mm	50
CYLT-10B	CYLT-10S	10	12	9.6mm	13.0mm	20mm	50
CYLT-12B*	CYLT-12S*	12	16	12.0mm	15.8mm	30mm	50
CYLT-17B*	CYLT-17S*	17	20	16.2mm	21.2mm	40mm	50
CYLT-23B*	CYLT-23S*	23	25	22.6mm	28.5mm	45mm	50
CYLT-29B*	CYLT-29S*	29	32	29.0mm	34.5mm	55mm	50
CYLT-36B*	CYLT-36S*	36	40	36.5mm	42.5mm	60mm	30
CYLT-48B*	CYLT-48S*	48	50	47.5mm	54.5mm	70mm	30
CYLG-23B*	CYLG-23S*	23	25	21.9mm	28.5mm	45mm	50
CYLG-29B*	CYLG-29S*	29	32	27.6mm	34.5mm	55mm	50
CYLG-36B*	CYLG-36S*	36	40	36.0mm	42.5mm	60mm	30
CYLG-48B*	CYLG-48S*	48	50	47.0mm	54.5mm	70mm	30
CYLG-56B	CYLG-56S	56	68	56.3mm	67.2mm	120mm	30
CYLG-70B	CYLG-70S	70	80	68.0mm	80.0mm	160mm	10
CYLG-95B	CYLG-95S	95	106	91.9mm	106.0mm	210mm	10
CYLG-125B	CYLG-125S	125	146	126.5mm	146.5mm	450mm	6

* *CSA certified*



CYL Index



Temperature range: -40° C to 105° C; Short term to 160° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc. (see **page E-266**)

Nylon Flexible Conduits

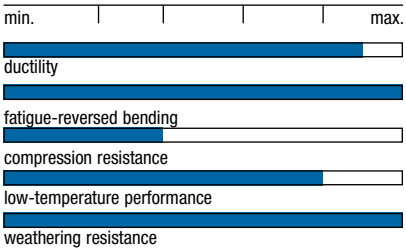
ESD Very Flexible, Medium

- For dynamic applications in robotics and automation where electrostatic charge and uncontrolled discharge need to be avoided
- High-grade, specially modified polyamide 12
- Prevents electrostatic charging
- For indoor and outdoor use (very good cold temperature performance)
- Excellent UV resistance and high dynamic-load resistance
- Free from halogens and cadmium



CAT NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
ESDT-07B	07	10	6.2mm	10.0mm	15mm	50
ESDT-10B	10	12	9.6mm	13.0mm	20mm	50
ESDT-12B	12	16	12.0mm	15.8mm	30mm	50
ESDT-17B	17	20	16.4mm	21.1mm	40mm	50
ESDT-23B	23	25	22.6mm	28.4mm	45mm	50
ESDT-29B	29	32	29.0mm	34.3mm	55mm	50
ESDT-36B	36	40	36.5mm	42.5mm	60mm	30
ESDT-48B	48	50	47.5mm	54.5mm	70mm	30
ESDG-56B	56	68	56.5mm	67.0mm	110mm	30
ESDG-70B	70	80	67.5mm	80.0mm	150mm	10
ESDG-95B	95	106	91.5mm	106.0mm	170mm	10

ESD Index



Temperature range: -40° C to 90° C; Short term to 150° C

Chemical Resistance: Fuels, mineral oils, fats, alkalies, acids, etc.

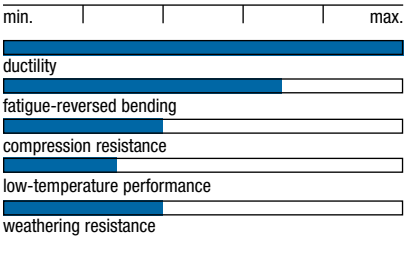
ESDP Very Flexible, Medium

- For dynamic applications in automation, electronics and clean rooms where electrostatic charging and uncontrolled discharge must be avoided
- High-grade, specially modified polyolefin
- Prevents electrostatic charging
- Minimal migration
- Very good dynamic load resistance and good impact resistance
- Free from halogens and cadmium



CAT NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
ESDPT-07B	7	10	6.2mm	10.0mm	15mm	50
ESDPT-10B	10	12	9.6mm	13.0mm	20mm	50
ESDPT-12B	12	16	12.0mm	15.8mm	30mm	50
ESDPT-17B	17	20	16.4mm	21.1mm	40mm	50
ESDPT-23B	23	25	22.6mm	28.4mm	45mm	50
ESDPT-29B	29	32	29.0mm	34.3mm	55mm	50
ESDPT-36B	36	40	36.5mm	42.5mm	60mm	30
ESDPT-48B	48	50	47.5mm	54.5mm	70mm	30

ESDP Index



Temperature range: -20° C to 90° C continuous

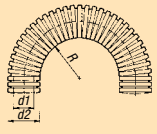
Chemical Resistance: Fuels, mineral oils, fats, alkalies, strong acids, etc.



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

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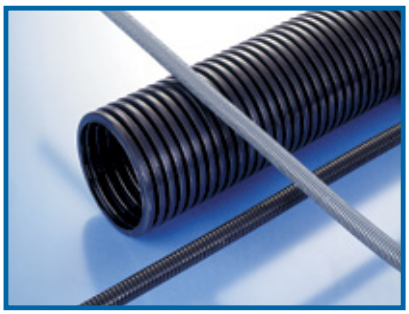
Nylon Flexible Conduits

PCL Very Flexible, Medium

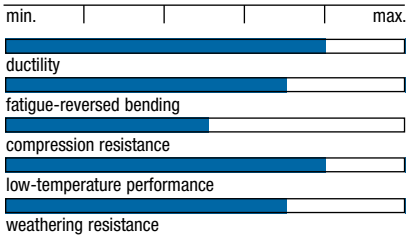
- Specially modified polyamide 6/6.6 for cold impact
- Very good flexibility
- Self extinguishing
- Free from halogens and cadmium
- High impact strength also at low temperatures

CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT RADIUS†	PU METER
PCLT-07B	PCLT-07S	7	10	6.2mm	10.0mm	15mm	50
PCLT-10B	PCLT-10S	10	12	9.6mm	13.0 mm	20mm	50
PCLT-12B*	PCLT-12S	12	16	12.0mm	15.8mm	30mm	50
PCLT-17B *	PCLT-17S*	17	20	16.2mm	21.2mm	40mm	50
PCLT-23B*	PCLT-23S*	23	25	22.6mm	28.5mm	45mm	50
PCLT-29B*	PCLT-29S*	29	32	29.0mm	34.5mm	55mm	50
PCLT-36B*	PCLT-36S*	36	40	36.5mm	42.5mm	60mm	30
PCLT-48B*	PCLT-48S*	48	50	47.5mm	54.5mm	70mm	30
PCLG-17B*	PCLG-17S*	17	20	15.3mm	21.2mm	40mm	50
PCLG-23B*	PCLG-23S*	23	25	21.9mm	28.5mm	45mm	50
PCLG-29B*	PCLG-29S*	29	32	27.6mm	34.5mm	55mm	50
PCLG-36B*	PCLG-36S*	36	40	36.0mm	42.5mm	60mm	30
PCLG-48B*	PCLG-48S*	48	50	47.0mm	54.5mm	70mm	30
PCLG-56B	PCLG-56S	56	68	56.3mm	67.2mm	130mm	30
PCLG-70B	PCLG-70S	70	80	67.5mm	80.0mm	160mm	10
PCLG-95B	PCLG-95S	95	106	91.5mm	106.0mm	210mm	10
PCLG-125B	PCLG-125S	125	146	126.5mm	146.5mm	450mm	6

**CSA certified.*



PCL Index



Temperature range: -50° C to 105° C; Short term to 160° C

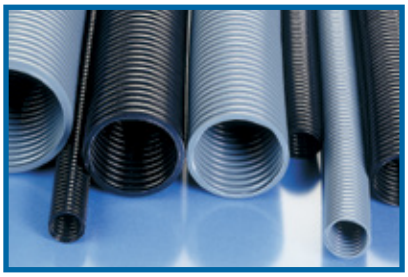
Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

PCS Highly Flexible, Heavy

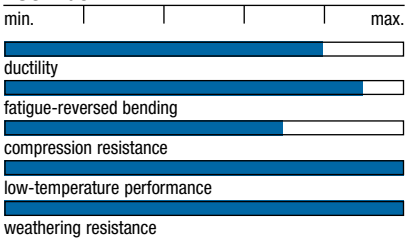
- High-grade, specially modified polyamide 12
- Excellent resistance to ultraviolet rays and atmospheric corrosion
- Excellent flexibility and is self extinguishing
- Good mechanical strength at low temperatures and dry conditions
- Free from halogens and cadmium

CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT RADIUS†	PU METER
PCST-07B	PCST-07S	7	10	6.0mm	10.0mm	15/40mm	100
PCST-10B	PCST-10S	10	12	9.2mm	13.0mm	20/50mm	50
PCST-12B*	PCST-12S*	12	16	11.8mm	15.8mm	25/70mm	50
PCST-17B*	PCST-17S*	17	20	16.0mm	21.2mm	35/80mm	50
PCSG-17B*	PCSG-17S*	17	20	15.2mm	21.2mm	35/85mm	50
PCSG-23B*	PCSG-23S*	23	25	22.0mm	28.5mm	40/110mm	50
PCSG-29B*	PCSG-29S*	29	32	27.7mm	34.4mm	50/130mm	50
PCSG-36B*	PCSG-36S*	36	40	35.8mm	42.4mm	60/180mm	30
PCSG-48B*	PCSG-48S*	48	50	46.8mm	54.4mm	70/220mm	30
PCSG-56B	PCSG-56S	56	68	56.1mm	67.2mm	130/280mm	30
PCSG-70B	PCSG-70S	70	80	66.5mm	80.0mm	170/360mm	10
PCSG-95B	PCSG-95S	95	106	91.0mm	106.0mm	250/470mm	10

**CSA certified.*



PSC Index

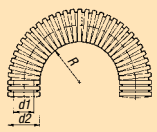


Temperature range: -50° C to 95 °C; Short term to 150° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.


Fine profile T
Tight bending radius


Coarse profile G
High pull-out strength

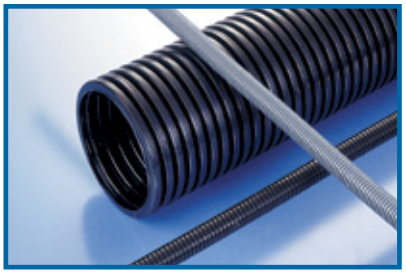


† stat. R = lowest recommended bending radius for static (fixed) installation.

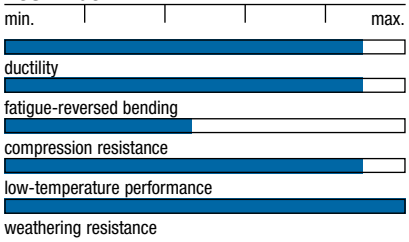
Nylon Flexible Conduits

PCSL Very Flexible, Medium-Duty

- Use in dynamic installations in railway vehicles, or in external applications like solar systems and signalling
- High-grade, specially modified polyamide 12
- Excellent resistance to ultraviolet rays and atmospheric corrosion
- Excellent flexibility
- Good mechanical strength at low temperatures and dry conditions
- Self-extinguishing properties
- Free from halogens and cadmium



PCSL Index



Temperature range: -50° C to 95° C; Short term to 150° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

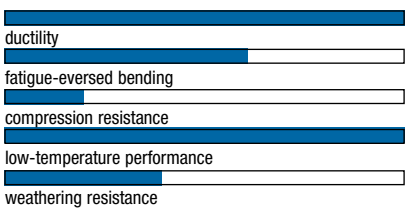
CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT RADIUS_	PU METER
PCSLT-07B	PCSLT-07S	7	10	6.2mm	10.0mm	15mm	50
PCSLT-10B	PCSLT-10S	10	12	9.6mm	13.0mm	20mm	50
PCSLT-12B	PCSLT-12S	12	16	11.9mm	15.8mm	25mm	50
PCSLT-17B	PCSLT-17S	17	20	16.4mm	21.1mm	30mm	50
PCSLG-17B	PCSLG-17S	17	20	15.2mm	21.1mm	30mm	50
PCSLG-23B	PCSLG-23S	23	25	21.7mm	28.4mm	40mm	50
PCSLG-29B	PCSLG-29S	29	32	27.4mm	34.3mm	50mm	50
PCSLG-36B	PCSLG-36S	36	40	35.8mm	42.3mm	60mm	30
PCSLG-48B	PCSLG-48S	48	50	46.7mm	54.2mm	70mm	30

PEL Highly Flexible, Light/Soft

- Use in electrical cabinets and appliance construction
- Specially modified polyethylene
- Self extinguishing
- Low stiffness



PEL Index



Temperature range: -50° C to 60° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, acids, etc.

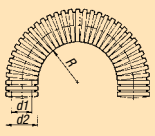
CAT. NO. GRAY	CAT. NO. GRAY, SLITTED	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT RADIUS	PU METER
PELT-10S	PELT-10SL	10	12	9.7mm	12.7mm	20mm	50
PELT-12S	PELT-12SL	12	16	11.5mm	15.5mm	30mm	50
PELT-17S	PELT-17SL	17	20	16.0mm	20.9mm	35mm	50
PELT-23S	PELT-23SL	23	25	22.5mm	27.5mm	40mm	30
PELT-29S	PELT-29SL	29	32	28.5mm	33.8mm	50mm	30
PELT-36S	PELT-36SL	36	40	34.0mm	41.6mm	60mm	30
PELT-48S	PELT-48SL	48	50	47.0mm	53.2mm	70mm	30



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



_stat. R = lowest recommended bending radius for static (fixed) installation.

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Nylon Flexible Conduits

PIS/PIH Highly Flexible, Medium- and Heavy-Duty

- Use in dynamic applications in robotics and automation
- High-grade, specially modified polyamide 12
- PIS: medium-wall (nominal width 07 to 48): after PIH: heavy-wall (nominal width 56 to 125)
- Excellent resistance to ultraviolet rays and atmospheric corrosion
- Self extinguishing
- Excellent flexibility
- Free from halogens and cadmium
- Good mechanical strength at low temperatures and dry conditions

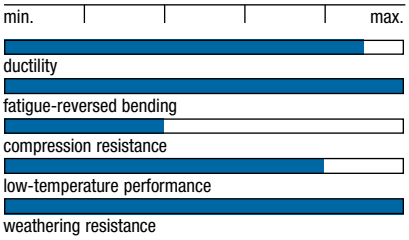
c UL us

CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT RADIUS†	PU METER
PIST-07B	PIST-07S	7	10	6.2mm	10.0mm	15/40mm	50
PIST-10B	PIST-10S	10	12	9.6mm	13.0mm	20/50mm	50
PIST-12B_	PIST-12S_	12	16	11.9mm	15.8mm	25/65mm	50
PIST-17B_	PIST-17S_	17	20	16.4mm	21.1mm	30/65mm	50
PIST-23B_	PIST-23S_	23	25	22.6mm	28.4mm	35/90mm	50
PIST-29B_	PIST-29S_	29	32	29.0mm	34.3mm	45/110mm	50
PIST-36B_	PIST-36S_	36	40	36.5mm	42.5mm	60/165mm	30
PIST-48B_	PIST-48S_	48	50	47.5mm	54.5mm	70/180mm	30
PISG-17B_	PISG-17S_	17	20	15.2mm	21.1mm	30/80mm	50
PISG-23B_	PISG-23S_	23	25	21.7mm	28.4mm	40/100mm	50
PISG-29B_	PISG-29S_	29	32	27.4mm	34.3mm	50/120mm	50
PISG-36B_	PISG-36S_	36	40	35.8mm	42.3mm	60/180mm	30
PISG-48B_	PISG-48S_	48	50	46.7mm	54.2mm	70/200mm	30
PIHG-56B	PIHG-56S	56	68	56.3mm	67.2mm	110/270mm	30
PIHG-70B	PIHG-70S	70	80	67.2mm	79.6mm	150/350mm	30
PIHG-95B	PIHG-95S	95	106	91.3mm	106.0mm	170/450mm	30
PIHG-125B	PIHG-125S	125	146	126.5mm	146.5mm	350/480mm	20

_ UL Recognized Component.



PIS/PIH Index



Temperature range: -50° C to 95° C; Short term to 150° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

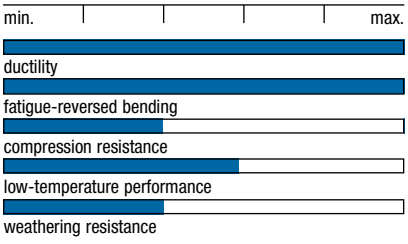
POS Very Flexible, Medium-Duty

- Use in automation as well as in machine building and industrial installations, especially where continuous movements occur
- High-grade, specially modified polyolefin
- Excellent reversed bending performance and flexibility
- Very good insulating characteristics
- Good impact resistance
- Free from halogens and cadmium

CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT RADIUS†	PU METER
POST-07B	POST-07S	7	10	6.2mm	10.0mm	15mm	50
POST-10B	POST-10S	10	12	9.6mm	13.0mm	20mm	50
POST-12B	POST-12S	12	16	11.9mm	15.8mm	30mm	50
POST-17B	POST-17S	17	20	16.2mm	21.2mm	35mm	50
POST-23B	POST-23S	23	25	22.6mm	28.5mm	40mm	50
POST-29B	POST-29S	29	32	29.0mm	34.5mm	50mm	50
POST-36B	POST-36S	36	40	36.5mm	42.5mm	60mm	30
POST-48B	POST-48S	48	50	47.5mm	54.5mm	70mm	30
POSG-29B	POSG-29S	29	32	27.6mm	34.5mm	50mm	50
POSG-36B	POSG-36S	36	40	36.0mm	42.5mm	60mm	30
POSG-48B	POSG-48S	48	50	47.0mm	54.5mm	70mm	30
POSG-70B	POSG-70S	70	80	67.2mm	79.6mm	150mm	30
POSG-95B	POSG-95S	95	106	91.3mm	106.0mm	170mm	30



POS Index



Temperature range: -25° C to 95° C; Short term to 130° C

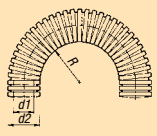
Chemical resistance: Strong acids



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



†stat. R = lowest recommended bending radius for static (fixed) installation.

Nylon Flexible Conduits

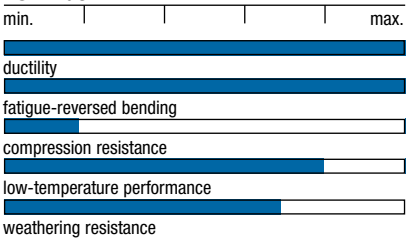
PUE Highly Flexible, Medium

- Use in dynamic applications in robotics and automation
- Specially modified polyurethane
- Free from halogens and cadmium
- Excellent chafing properties

CAT. NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
PUET-12B	12	16	11.8mm	15.8mm	25/45mm	50
PUET-17B	17	20	16.0mm	21.2mm	30/50mm	50
PUET-23B	23	25	22.4mm	28.5mm	35/70mm	50
PUET-29B	29	32	28.8mm	34.5mm	40/90mm	30
PUET-36B	36	40	35.8mm	42.4mm	50/120mm	30
PUET-48B	48	50	48.6mm	54.5mm	60/130mm	21
PUEG-56B	56	68	56.3mm	67.2mm	90/170mm	30
PUEG-70B	70	80	68.2mm	80.5mm	100/220mm	30



PUE Index



Temperature range: -60° C to 50° C

Chemical resistance: Fuels, mineral oils and fats, etc.

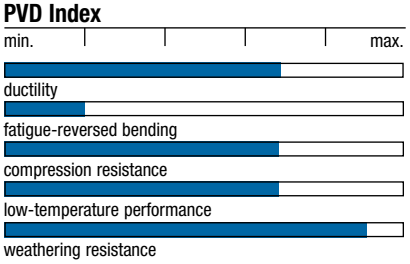
PVD Pliable, Medium

- Use in machine building applications with long-term high-temperature requirements as well as in the chemical and food industries
- Specially formulated PVDF
- Excellent chemical resistance also at high temperatures
- Self extinguishing and free from cadmium
- Excellent UV resistance and very good abrasion resistance
- High stiffness

CAT. NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
PVDT-10P	10	12	9.5mm	12.6mm	10mm	50
PVDT-12P	12	16	11.8mm	15.5mm	30mm	50
PVDT-17P	17	20	16.0mm	20.8mm	40mm	50
PVDT-23P	23	25	22.6mm	28.0mm	45mm	50
PVDT-29P	29	32	29.0mm	34.1mm	50mm	50



PVD Index



Temperature range: -60° C to 150° C

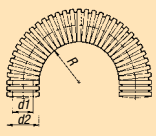
Chemical resistance: Fuels, mineral oils, fats, alkalies, strong acids, etc.



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

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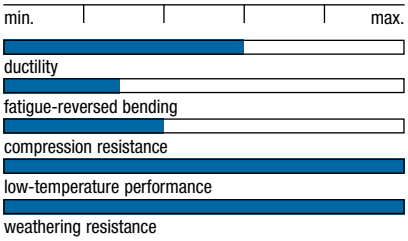
Nylon Flexible Conduits

TEC Flexible, Light-Duty

- Use in chemical installations or applications with increased temperature requirements
- Specially formulated PFA
- Very good resistance to extreme low and high temperatures
- Self extinguishing
- Excellent resistance to highly corrosive chemicals



TEC Index



Temperature range: -200° C to 200° C; Short term to 260° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, strong acids, etc.

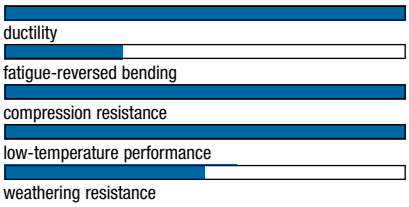
CAT NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
TECT-10B	10	12	9.9mm	13.0mm	9mm	50
TECT-13B	13	—	12.5mm	16.0mm	12mm	50
TECT-17B	17	20	16.8mm	21.1mm	15mm	25
TECT-23B	23	25	23.8mm	28.8mm	26mm	25
TECT-29B	29	32	28.2mm	33.0mm	30mm	25

VAM Flexible, Heavy

- In passenger areas of railway vehicles
- Excellent fire safety characteristics allow application in public buildings like hospitals, hotels, airports, train and subway
- High-grade, specially formulated polyamide 6
- Good resistance to ultraviolet rays and weathering
- High impact and compression strength
- High stiffness
- Free from halogens and cadmium
- Outstanding self-extinguishing characteristics
- Minimal development of smoke and gases



VAM Index



Temperature range: -40° C to 105° C; Short term to 160° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

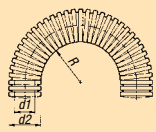
CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
VAMT-07B	VAMT-07S	7	10	6.0mm	10.0mm	20mm	50
VAMT-10B	VAMT-10S	10	12	9.2mm	13.0mm	25mm	50
VAMT-12B	VAMT-12S	12	16	11.8mm	15.8mm	30mm	50
VAMT-17B	VAMT-17S	17	20	16.0mm	21.2mm	40mm	50
VAMG-17B	VAMG-17S	17	20	15.2mm	21.2mm	40mm	50
VAMG-23B	VAMG-23S	23	25	22.0mm	28.5mm	50mm	50
VAMG-29B	VAMG-29S	29	32	27.7mm	34.4mm	60mm	50
VAMG-36B	VAMG-36S	36	40	35.8mm	42.4mm	70mm	30
VAMG-48B	VAMG-48S	48	50	46.8mm	54.4mm	80mm	30



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

Nylon Flexible Conduits

VAML Flexible, Medium

- Use in passenger areas of railway vehicles
- Excellent fire safety characteristics for public buildings
- Specially modified polyamide 6
- Good impact strength
- Good resistance to ultra violet rays and weathering
- Outstanding self-extinguishing characteristics
- Minimal development of smoke and gases
- Free from halogens and cadmium

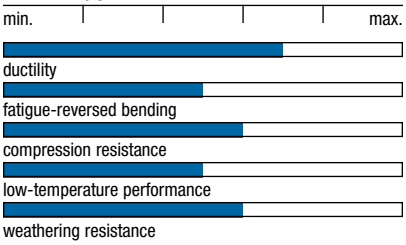
CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
VAMLT-07B	VAMLT-07S	7	10	6.2mm	10.0mm	15mm	50
VAMLT-10B	VAMLT-10S	10	12	9.6mm	13.0mm	20mm	50
VAMLT-12B	VAMLT-12S	12	16	12.0mm	15.8mm	30mm	50
VAMLG-17B	VAMLG-17S	17	20	15.3mm	21.2mm	40mm	50
VAMLG-23B	VAMLG-23S	23	25	22.6mm	28.5mm	45mm	50
VAMLG-29B	VAMLG-29S	29	32	27.6mm	34.5mm	55mm	50
VAMLG-36B	VAMLG-36S	36	40	36.0mm	42.5mm	65mm	30
VAMLG-48B	VAMLG-48S	48	50	47.0mm	54.5mm	75mm	30
VAMLG-56B	VAMLG-56S	56	68	56.3mm	67.2mm	140mm	30
VAMLG-70B	VAMLG-70S	70	80	67.5mm	80.0mm	160mm	10
VAMLG-95B	VAMLG-95S	95	106	91.5mm	106.0mm	210mm	10
VAMLG-125B	VAMLG-125S	125	148	126.0mm	146.5mm	450mm	6



Temperature range: -40° C to 105° C; short-term to 160° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

VAML Index

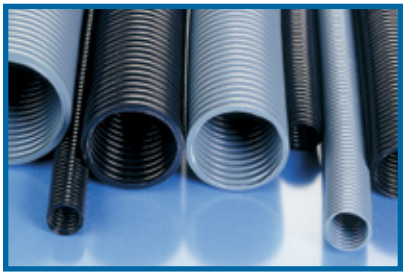


VCS Flexible, Heavy

- Use in external applications, static installations in railway vehicles
- High-grade, specially formulated polyamide 6
- Very good resistance to ultraviolet rays and weathering
- Good flexibility
- Self extinguishing
- High compression and impact strengths at low temperature and low humidity
- Free from halogens and cadmium

CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
VCST-07B	VCST-07S	7	10	6.0mm	10.0mm	20mm	100
VCST-10B	VCST-10S	10	12	9.2mm	13.0mm	25mm	50
VCST-12B*	VCST-12S*	12	16	11.8mm	15.8mm	30mm	50
VCST-17B*	VCST-17S*	17	20	16.0mm	21.2mm	40mm	50
VCSG-17B*	VCSG-17S*	17	20	15.2mm	21.2mm	40mm	50
VCSG-23B*	VCSG-23S*	23	25	22.0mm	28.5mm	50mm	50
VCSG-29B*	VCSG-29S*	29	32	27.7mm	34.4mm	60mm	50
VCSG-36B*	VCSG-36S*	36	40	35.8mm	42.4mm	70mm	30
VCSG-48B*	VCSG-48S*	48	50	46.8mm	54.4mm	80mm	30
VCSG-56B	VCSG-56S	56	68	56.1mm	67.2mm	150mm	30
VCSG-70B	VCSG-70S	70	80	66.5mm	80.0mm	200mm	10
VCSG-95B	VCSG-95S	95	106	91.0mm	106.0mm	300mm	10

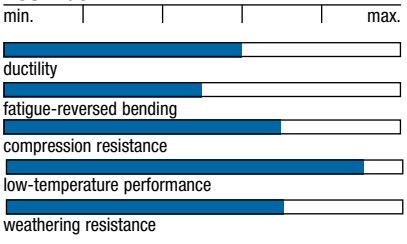
** CSA Certified*



Temperature range: -50° C to 105° C; short-term to 160° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

VCS Index

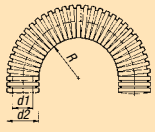




Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

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Nylon Flexible Conduits

VOH Pliable, Very Heavy

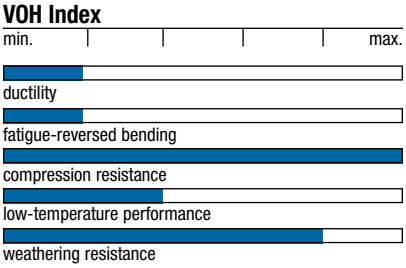
- Use to make exterior connections on heavy machine equipment
- High-grade specially modified polyamide 6
- High degree of mechanical protection and outstanding pull-out resistance
- For exterior applications in machinery and installations from nominal width 17 according to UL standards
- Self extinguishing
- Robust construction
- Free from halogens and cadmium



Temperature range: -40° C to 105° C; short-term to 160° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

VOH Index



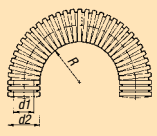
CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
VOHD-07B	VOHD-07S	7	10	5.8mm	10.0mm	30mm	50
VOHD-10B	VOHD-10S	10	12	9.0mm	13.0mm	35mm	50
VOHD-12B	VOHD-12S	12	16	11.6mm	15.8mm	40mm	50
VOHG-17B	VOHG-17S	17	20	14.5mm	21.0mm	60mm	50
VOHG-23B	VOHG-23S	23	25	21.1mm	28.5mm	70mm	50
VOHG-29B	VOHG-29S	29	32	26.6mm	34.5mm	80mm	50
VOHG-36B	VOHG-36S	36	40	35.0mm	42.5mm	90mm	30
VOHG-48B	VOHG-48S	48	50	46.5mm	54.5mm	100mm	30
VOHG-56B	VOHG-56S	56	68	55.5mm	67.2mm	135mm	30
VOHG-70B	VOHG-70S	70	80	67.0mm	80.0mm	200mm	10
VOHG-95B	VOHG-95S	95	106	90.5mm	106.0mm	300mm	10
VOHG-125B	VOHG-125S	125	146	126.0mm	146.5mm	300mm	6



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

Nylon Flexible Conduits

PHT Highly Flexible, Medium/Heavy-Duty

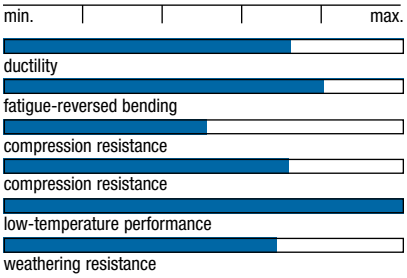
- For applications at high and very low temperatures
- For dynamic applications
- High-grade, specially formulated polyamide elastomer
- High resistance to ultra violet rays and atmospheric corrosion
- Excellent flexibility and high compress strength
- Extremely good impact resistance at very low temperatures
- Enhanced temperature range compared to standard polyamides
- Free from halogens and cadmium



CAT. NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT./DYN. RADIUS*	PU METER
PHTT-07B	07	10	6.2mm	10.0mm	15/40mm	50
PHTT-10B	10	12	9.6mm	13.0mm	20/55mm	50
PHTT-12B	12	16	12.0mm	15.8mm	30/65mm	50
PHTT-17B	17	20	16.2mm	21.2mm	40/70mm	50
PHTT-23B	23	25	22.6mm	28.5mm	45/95mm	50
PHTG-17B	17	20	15.2mm	21.2mm	40/75mm	50
PHTG-23B	23	25	22.0mm	28.5mm	45/100mm	50
PHTG-29B	29	32	27.7mm	34.5mm	55/120mm	50
PHTG-36B	36	40	35.8mm	42.5mm	60/180mm	30
PHTG-48B	48	50	46.8mm	54.5mm	70/200mm	30

Temperature range: -50° C to 135° C; short term: 180° C

PHT Index



PLU Flexible, Medium-Duty, Semi-Rigid, for Static Applications

- For static applications with the highest fire safety performance requirements (e.g. London Underground)
- Specially modified polyolefin
- Excellent flammability characteristics
- Self-extinguishing properties
- Very good insulating characteristics
- Very good flexibility
- Impact resistance
- Free from halogens and cadmium

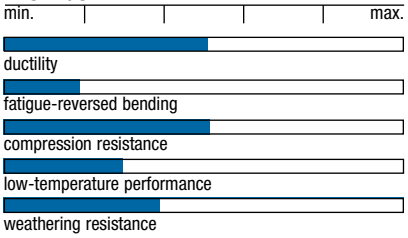


CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
PLUT-10B	PLUT-10S	10	9.5mm	13.0mm	20mm	50	50
PLUT-12B	PLUT-12S	12	11.8mm	15.8mm	30mm	50	50
PLUG-17B	PLUG-17S	17	15.3mm	21.2mm	40mm	50	50
PLUG-23B	PLUG-23S	23	22.2mm	28.5mm	45mm	50	50
PLUG-29B	PLUG-29S	29	28.7mm	34.5mm	55mm	50	50
PLUG-36B	PLUG-36S	36	36.3mm	42.5mm	65mm	50	30
PLUG-48B	PLUG-48S	48	47.3mm	54.5mm	70mm	50	30

Temperature range: -25° C to 95° C

Chemical resistance: Strong acids and alkalies

PLU Index

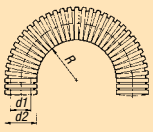




Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



* stat. R = lowest recommended radius for static (fixed) installation.

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Nylon Flexible Conduits

POH Very Flexible, Very Supple, Very High Stability, Medium-Duty, Highest Levels of Fire and Passenger Safety

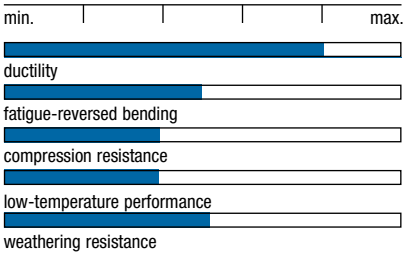
- For applications with the highest fire safety performance requirements
- Specially modified polyolefin
- Excellent fire safety characteristics
- Self extinguishing
- Free from halogens and cadmium
- High ductility and formability enable easy installation
- Very good flexibility
- Very good insulating characteristics
- Impact resistance



Temperature range: -25° C to 95° C; short term +120° C

Chemical resistance: Strong acids and alkalies

POH Index



CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
POHT-10B	POHT-10S	10	12	9.2mm	13.0mm	13.0mm	50
POHT-12B	POHT-12S	12	16	11.8mm	15.8mm	15.8mm	50
POHG-17B	POHG-17S	17	20	15.7mm	21.2mm	21.2mm	50
POHG-23B	POHG-23S	23	25	22.0mm	28.5mm	28.5mm	50
POHG-29B	POHG-29S	29	32	27.4mm	34.4mm	34.4mm	50
POHG-36B	POHG-36S	36	40	35.8mm	42.4mm	42.4mm	30
POHG-48B	POHG-48S	48	50	46.8mm	54.5mm	54.5mm	30

PSX Flexible, Light-Wall

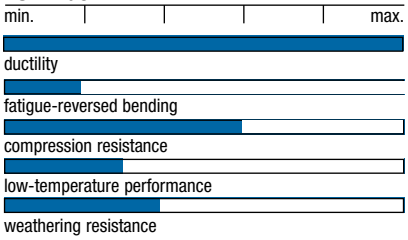
- For applications with the highest fire safety performance requirements
- For applications with extreme temperature conditions
- For applications exposed to radiation
- Specially modified polyethermide
- Excellent fire safety characteristics
- Self extinguishing
- Very good insulating characteristics
- High radiation resistance
- Good flexibility
- Impact resistant
- Low smoke density and toxicity
- Free from halogens and cadmium
- High impact strength also at low temperatures



Temperature range: -100° C to 170° C; short term to 200° C

Chemical resistance: Oils, fats, acids, alcohols and hot water

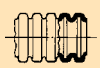
PSX Index



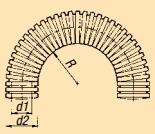
CAT. NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
PSXT-10B	07	10	9.8mm	13.0mm	20mm	50
PSXT-12B	10	12	12.2mm	15.8mm	30mm	50
PSXG-17B	12	17	15.8mm	21.2mm	40mm	50
PSXG-23B	17	23	22.3mm	28.5mm	45mm	50
PSXG-29B	23	29	28.0mm	34.5mm	55mm	50
PSXG-36B	17	36	36.5mm	42.5mm	60mm	50
PSXG-48B	23	48	47.5mm	54.5mm	70mm	30



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



* stat. R = lowest recommended radius for static (fixed) installation.

Nylon Flexible Conduits

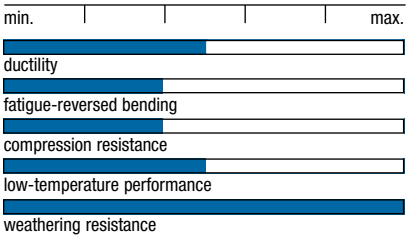
PACO Flexible, Divisible

- Use in machine building and plant construction
- Specially modified polyamide 6
- Easy installation and trouble-free retrofitting, applicable also for repairs
- Can be opened and closed again in longitudinal direction any time
- Self extinguishing
- Free from halogens and cadmium



CAT NO. BLACK	CONDUIT SIZE NW	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
PACO-07B	07	6.5mm	10.1mm	45mm	50
PACO-10B	10	8.8mm	13.5mm	55mm	50
PACO-12B	12	11.3mm	16.3mm	60mm	50
PACO-14B	14	13.2mm	18.7mm	75mm	50
PACO-17B	17	16.5mm	21.8mm	90mm	50
PACO-20B	20	20.2mm	25.7mm	105mm	50
PACO-23B	23	23.9mm	31.3mm	125mm	50
PACO-29B	29	27.8mm	35.9mm	150mm	25
PACO-37B	37	32.5mm	41.9mm	170mm	25
PACO-45B	45	43.0mm	54.2mm	200mm	25
PACO-70B	70	66.5mm	79.8mm	300mm	10

PACO Index



Temperature range: -40° C to 100° C;
Short term to 150° C

Chemical resistance:

Fuels, mineral oils, fats, alkalies, weak acids, etc.

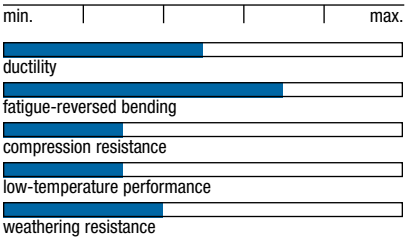
PPCO Flexible, Divisible

- Use in machine building and plant construction
- Specially modified polypropylene PP
- Easy installation and trouble-free retrofitting, applicable also for repairs
- Can be opened and closed again in longitudinal direction any time



CAT NO. BLACK	CONDUIT SIZE NW	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
PPCO-07B	07	6.3mm	10.0mm	60 mm	50
PPCO-10B	10	8.4mm	13.4mm	70 mm	50
PPCO-12B	12	11.0mm	16.1mm	80 mm	50
PPCO-14B	14	12.5mm	18.5mm	95 mm	50
PPCO-17B	17	16.0mm	21.5mm	110 mm	50
PPCO-20B	20	19.2mm	25.3mm	130 mm	50
PPCO-23B	23	23.4mm	30.8mm	155 mm	50
PPCO-29B	29	27.3mm	35.5mm	180 mm	25
PPCO-37B	37	31.0mm	41.4mm	190 mm	25
PPCO-45B	45	42.7mm	54.0mm	205 mm	25
PPCO-70B	70	66.0mm	79.5mm	300 mm	10

PPCO Index



Temperature range: -20° C to 95° C;
Short term to 120° C

Chemical resistance:

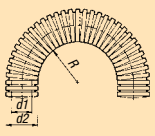
Fuels, mineral oils, fats, alkalies, weak acids, etc.



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

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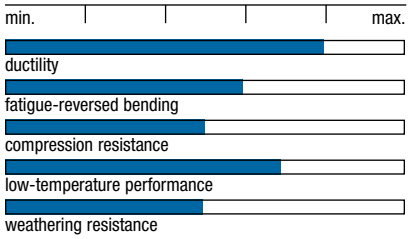
Nylon Flexible Conduits

XCYL Very Flexible, Medium-Duty

- Use in machine building and equipment
- Outer layer: high-grade, specially formulated polyamide 6
- Inner layer: specially modified polyolefin
- Very long lifetime — more than 20 years
- Excellent cold temperature performance
- Low-friction inner layer facilitates cable insertion
- Very good resistance to ultraviolet rays and atmospheric corrosion
- Very good mechanical strength while simultaneously highly flexible
- Impermeable to water and steam



XCYL Index



Temperature range: -40° C to +105° C; Short term to +160° C

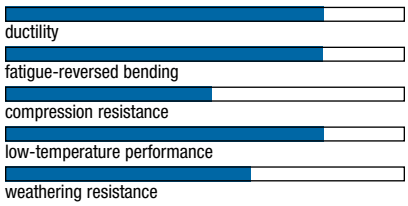
CAT NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
XCYLT-12BB	12	16	11.7mm	15.5mm	30mm	50
XCYLT-17BB	17	20	15.2mm	21.0mm	40mm	50
XCYLT-12BB	23	25	21.7mm	28.4mm	50mm	50
XCYLT-12BB	29	32	27.5mm	34.3mm	60mm	50
XCYLT-12BB	36	40	35.8mm	42.2mm	70mm	30
XCYLT-12BB	48	50	46.8mm	54.3mm	80mm	30

XPCL Highly Flexible, Medium-Duty

- Use in machine building and equipment with high requirements
- Outer layer: high-grade, specially formulated polyamide 6
- Intermediate layer: special bonding compound
- Inner layer: specially modified polyolefin
- Self extinguishing
- Very long lifetime, 15–20 years for standard applications
- Easy cable inseration, low-friction inner layer
- Impermeable to water and steam
- Excellent flexibility
- Good mechanical strength even at low temperatures and low humidity



XPCL Index



Temperature range: -50° C to +105° C; Short term to +160° C

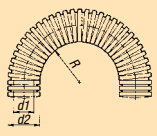
CAT NO. BLACK	CAT NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
XPCLT-12BB	**XPCLT-12SB**	12	16	11.8mm	15.6mm	30mm	50
XPCLT-17BB	**XPCLT-17SB**	17	20	16.6mm	21.0mm	40mm	50
XPCLG-17BB	**XPCLG-17SB**	17	20	15.6mm	20.9mm	40mm	50
XPCLG-23BB	**XPCLG-23SB**	23	25	21.9mm	28.5mm	45mm	50
XPCLG-29BB	**XPCLG-29SB**	29	32	27.6mm	34.5mm	55mm	50
XPCLG-36BB	**XPCLG-36SB**	36	40	36.0mm	42.5mm	60mm	30
XPCLG-48BB	**XPCLG-48SB**	48	50	47.0mm	54.5mm	70mm	30



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

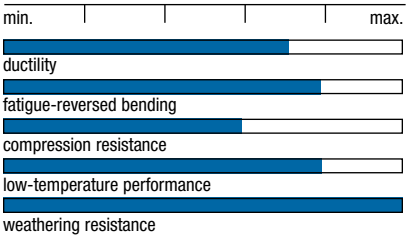
Nylon Flexible Conduits

XSOL Highly Flexible, Medium-Duty

- All-purpose, especially in long-term external applications, e.g. energy technology, transportation
- Outer layer: high-grade, specially formulated polyamide 12
- Intermediate layer: special bonding compound
- Inner layer: high-grade, specially modified polyamide 6
- Very long lifetime, up to 20–30 years
- Very high flexibility
- Very good mechanical strength
- High impact resistance at low temperature and humidity
- Excellent fire safety characteristics
- Excellent chemical resistance
- Free from halogens and cadmium



XSOL Index



Temperature range: -50° C to +95° C;
Short term to +150° C

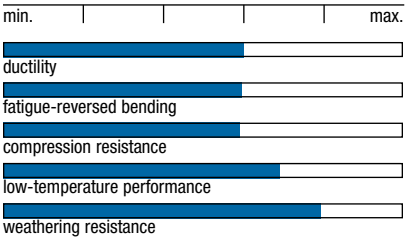
CAT. NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
XSOLT-12BG	12	16	11.8mm	15.6mm	50mm	50
XSOLG-17BG	17	20	15.2mm	21.0mm	50mm	50
XSOLG-23BG	23	25	22.0mm	28.5mm	50mm	50
XSOLG-29BG	29	32	27.5mm	34.5mm	50mm	50
XSOLG-36BG	36	40	35.8mm	42.5mm	30mm	30
XSOLG-48BG	48	50	46.8mm	54.5mm	30mm	30

XSOLL Highly Flexible, Medium-Duty

- All-purpose, especially in long-term external applications, e.g. energy technology, transportation, etc.
- Outer layer: high-grade, specially formulated polyamide 12
- Intermediate layer: special bonding compound
- Inner layer: high-grade, specially modified polyamide 6
- Very long lifetime — greater than 20 years
- Very good resistance to UV and weathering
- High flexibility and very good mechanical strength
- High impact resistance at low temperature and humidity
- Good fire safety characteristics
- Excellent chemical resistance
- Free from halogens and cadmium



XSOLL Index



Temperature range: -40° C to +95° C;
Short term to +150° C

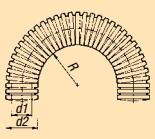
CAT. NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
XSOLLT-12BG	12	16	11.8mm	15.8mm	50mm	50
XSOLLG-17BG	17	20	15.2mm	21.2mm	50mm	50
XSOLLG-23BG	23	25	22.0mm	28.5mm	50mm	50
XSOLLG-29BG	29	32	27.7mm	34.4mm	50mm	50
XSOLLG-36BG	36	40	35.8mm	42.4mm	30mm	30
XSOLLG-48BG	48	50	46.8mm	54.4mm	30mm	30



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

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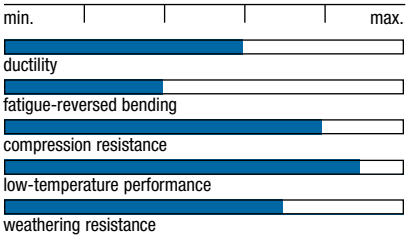
Nylon Flexible Conduits

XVCS1H Flexible, Heavy-Duty

- Use in track side applications
- Outer layer: high-grade, specially formulated polyamide 6
- Inner layer: specially modified polyolefin
- High conduit ductility and formability enable easy installation
- Very long lifetime — greater than 20 years
- Excellent cold temperature performance
- Low friction inner layer facilitates cable insertion
- Very good resistance to ultraviolet rays and atmospheric corrosion
- Very good mechanical strength while simultaneously highly flexible
- Impermeable to water and steam



XVCS1H Index



Temperature range: -50° C to +90° C;
Short term to +120° C

CAT. NO. BLACK	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
XVCS1H-12BG†	12	16	11.7 mm	15.5 mm	30 mm	50
XVCS1H-17BG	17	20	15.2 mm	21.0 mm	40 mm	50
XVCS1H-23BG	23	25	21.7 mm	28.4 mm	50 mm	50
XVCS1H-29BG	29	32	27.5 mm	34.3 mm	60 mm	50
XVCS1H-36BG	36	40	35.8 mm	42.2 mm	70 mm	30
XVCS1H-48BG	48	50	46.8 mm	54.3 mm	80 mm	30

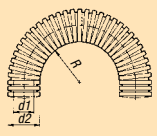
† XVCS1H-12BG is not a UL Recognized Component.



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

Nylon Flexible Conduits

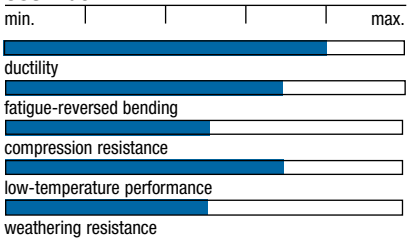
CUS Flexible, Heavy

- Use in machine building, installation industries and in electrical installations
- High-grade, specially modified polyamide 6
- Cost effective
- Very good flexibility
- Good impact strength also at low temperatures and dry conditions
- Self extinguishing
- Free from halogens and cadmium



CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
CUSG-17B	CUSG-17S	17	20	16.2mm	21.2mm	40mm	100
CUSG-23B	CUSG-23S	23	25	21.9mm	28.5mm	45mm	100
CUSG-29B	CUSG-29S	29	32	27.6mm	34.4mm	55mm	100
CUSG-36B	CUSG-36S	36	40	36.0mm	42.4mm	60mm	100
CUSG-48B	CUSG-48S	48	50	47.0mm	54.4mm	70mm	100

CUS Index



Temperature range: -40° C to 105° C;
Short term to 160° C

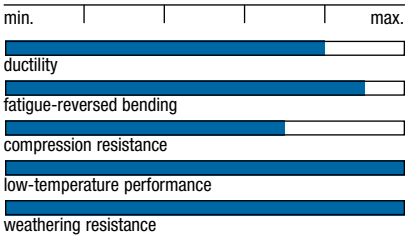
PUS Very Flexible, Heavy

- Use in long-term external and dynamic applications, like solar systems, signalling, CCTV
- High-grade, specially modified polyamide 12
- Excellent resistance to ultraviolet rays and atmospheric corrosion
- Excellent flexibility and is self extinguishing
- Good mechanical strength at low temperatures and dry conditions
- Free from halogens and cadmium



CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT./DYN RADIUS*	PU METER
PUSG-17B	PUSG-17S	17	20	15.2mm	21.2mm	35/85mm	100
PUSG-23B	PUSG-23S	23	25	22.0mm	28.5mm	40/110mm	100
PUSG-29B	PUSG-29S	29	32	27.7mm	34.4mm	50/130mm	100
PUSG-36B	PUSG-36S	36	40	35.8mm	42.4mm	60/180mm	100
PUSG-48B	PUSG-48S	48	50	46.8mm	54.4mm	70/220mm	100

PUS Index



Temperature range: -50° C to 95° C;
Short term to 150° C

Chemical resistance:

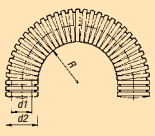
Fuels, mineral oils, fats, alkalies, weak acids, etc.



Fine profile T
Tight bending radius



Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

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Nylon Flexible Conduits

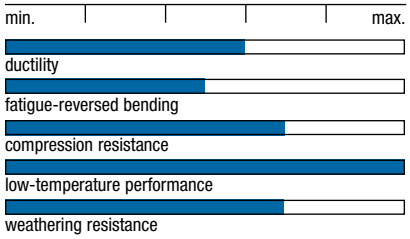
VUS Flexible, Heavy

- Meet high requirements in machine building and plant construction
- Use where high compression resistance is required
- Great for external applications
- High-grade, specially modified polyamide 6
- Very good resistance to ultraviolet rays and weathering
- Good flexibility and self-extinguishing
- High mechanical strength at low temperatures and low humidity
- Free from halogens and cadmium



CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
VUSG-17B	VUSG-17S	17	20	15.2mm	21.2mm	40mm	100
VUSG-23B	VUSG-23S	23	25	22.0mm	28.5mm	50mm	100
VUSG-29B	VUSG-29S	29	32	27.7mm	34.4mm	60mm	100
VUSG-36B	VUSG-36S	36	40	35.8mm	42.4mm	70mm	100
VUSG-48B	VUSG-48S	48	50	46.8mm	54.4mm	80mm	100

VUS Index



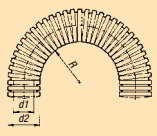
Temperature range: -50° C to 105° C;
Short term to 160° C

Chemical resistance:

Fuels, mineral oils, fats, alkalies, weak acids, etc.


Fine profile T
Tight bending radius


Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

Connectors for Nylon Flexible Conduits

PMAFIX® Connectors

B V N D - P 16 7 GT / 01

Colors
- **B** = Black
- **S** = Gray
- **N** = Black with Metal Thread
- **M** = Gray with Metal Thread
- **A** = Black – Anthracite
- **T** = Transparent
- **X** = Special Color

PMAFIX® Type
- **V** = Reinforced
- **S** = Series V with Swiveling Coupler
- **E** = Ex Certified

PMAFIX® Series
- **N** = Straight
- **W** = 90° Elbow
- **B** = 90° Curved Elbow
- **A** = 45° Elbow
- **O** = 90° Elbow with Flange
- **I** = With Female Thread
- **Y** = Y Piece
- **T** = T Piece
- **V** = V Piece

Mode of Ingress Protection (page C-324)
- **D** = Self-Sealing IP66
- **L** = With Seal Cap IP67 on Conduit
- **R** = With Seal Cap IP68 on Conduit
- **V** = With Gasket-Reinforced IP68
- **Z** = Add. combined Sealing with Strain Relief IP50/IP68

Code of Thread (pages C-326–C-327)
- **P** = PG Thread
- **M** = Metric Thread
- **F** = Metric Fine Thread
- **N** = NPT Thread (USA)
- **G** = Gas Thread (Italy)
- **U** = UNEF Round Connector

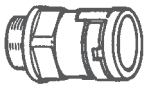
Side of Thread (Table 2)

Nominal-Width PMAFLEX® (Table 1)
- **7** = Nominal-Width Conduit

Safety Retaining Clip Type
- **GT** = Universal Safety Clip
- **..** = Oval Clip

Modification Code

PMAFIX® Connector Series



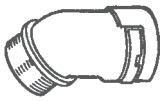
Series N



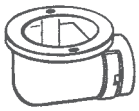
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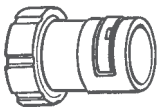
Series B



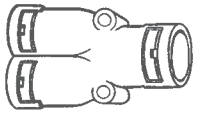
Series A



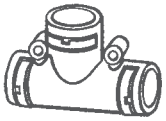
Series O



Series I



Series Y



Series T



Series V

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Connectors for Nylon Flexible Conduits

Thread Codes

Table 1
PMAFIX®/PMAFLEX® Code

NOMINAL WIDTH	UK SIZES	PMA CODE
7	10	**M**
10	12	**0**
12	16	**2**
17	20	**7**
23	25	**3**
29	32	**9**
36	40	**6**
48	50	**8**

Types of Connector for Female Thread Adapters

TYPE	PMA CODE
AMP	**A**
Souriau (ex BURNDY)	**B**
With O-Ring Groove (MIL C 5015)	**G**

Table 2
Thread Codes

THREAD METRIC	PMA CODE	THREAD PG	PMA CODE	THREAD GAS	PMA CODE	THREAD NPT	PMA CODE	THREAD UNEF	PMA CODE
M12x1.5	**M12**	PG07	**P07**	G ¼"	**G00**			⅜-28 UNEF	**U09**
M16x1.5	**M16**	PG09	**P09**	G ⅜"	**G01**			7/16-28 UNEF	**U10**
M20x1.5	**M20**	PG11	**P11**	G ½"	**G02**	N ½"	**N02**	½-28 UNEF	**U12**
		PG13.5	**P13**	G ¾"	**G04**	N ¾"	**N04**	9/16-24 UNEF	**U13**
M25x1.5	**M25**	PG16	**P16**	G 1"	**G06**	N 1"	**N06**	⅝-24 UNEF	**U15**
M32x1.5	**M32**	PG21	**P21**	G 1¼"	**G07**	N 1¼"	**N07**	11/16-24 UNEF	**U16**
M40x1.5	**M40**	PG29	**P29**	G 1½"	**G08**	N 1½"	**N08**	¾-20 UNEF	**U18**
M50x1.5	**M50**	PG36	**P36**	G 2"	**G09**	N 2"	**N09**	13/16-20 UNEF	**U20**
M63x1.5	**M63**	PG42	**P42**	G 2¼"	**G10**			⅞-20 UNEF	**U21**
		PG48	**P48**	G 2½"	**G11**			15/16-20 UNEF	**U23**
								1-20 UNEF	**U24**
M 8x1.0	**F08**							1 1/16-18 UNEF	**U26**
M12x1.0	**F12**							1 3/16-18 UNEF	**U29**
M18x1.0	**F18**							1¼-18 UNEF	**U30**
M30x1.5	**F30**							1 5/16-18 UNEF	**U32**
								1⅜-18 UNEF	**U34**
								1 7/16-18 UNEF	**U35**
								1⅝-18 UNEF	**U40**
								1 11/16-20 UN	**U41**
								1¾-18 UNS	**U43**
								2-18 UNS	**U50**
								2¼-16 UN	**U56**
								2⅜-12 UN	**U57**
								2½-16 UN	**U62**

Connectors for Nylon Flexible Conduits

PMAFIX® Connector Safety and Sealing Systems

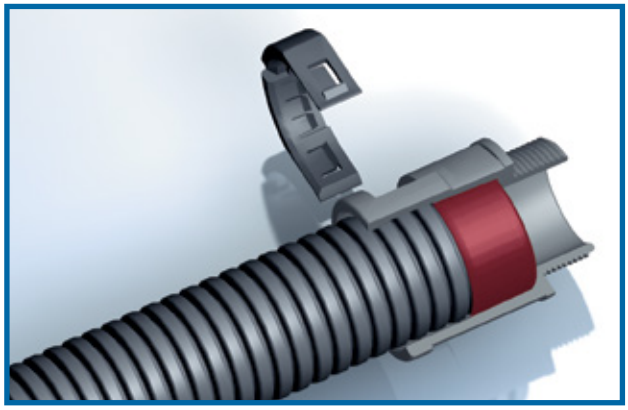
IP66 — IP66 Static, IP54 Dynamic



- One-piece fitting
- Conical sealing method
- Easy push-in installation
- Pre-installed safety clip AFN2
- Fits any type of conduit profile (T and G)
- Excellent pull-out strength
- Re-opening only possible with a screwdriver for safety reasons

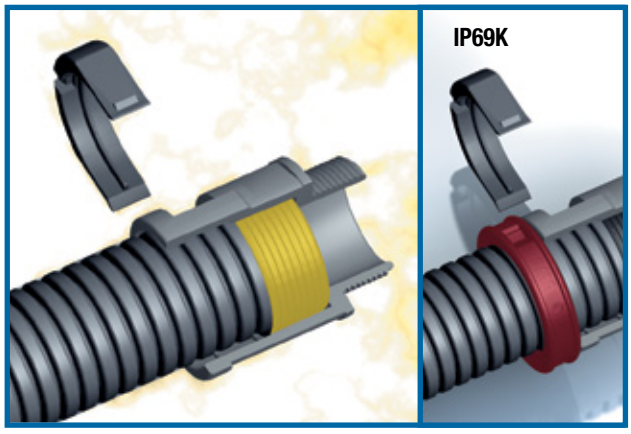
IP68GT — IP68 static, IP67 dynamic, IP69K

NEW!



- Single-piece PMAFIX® IP68GT fitting with integrated sealing cap and pre-installed locking clip
- Simple push-in assembly (as with the proven PMAFIX® IP66 system)
- Extra-long sealing cap guarantees the highest level of ingress protection
- Compatible with all types of PMA® conduits
- Identical approvals as with the PMAFIX® IP68 system
- The complete PMAFIX® IP68 product range is available as a GT single-component version
- Fast modification of specification drawings through simple addition of "GT" to the existing order number (e.g. BVNV-M257 becomes BVNV-M257GT)

IP68 — IP68 static, IP67 dynamic, IP69K



- High sealing through additional seal cap
- For highest dynamic applications
- Fits any type of conduit profile (T and G)
- Excellent pull-out strength
- Re-opening only possible with a screwdriver for safety reasons
- Additional water-protection ring WPS for IP69K ingress protection in conjunction with the IP68 system
- To be applied right after the IP68 connector onto the conduit

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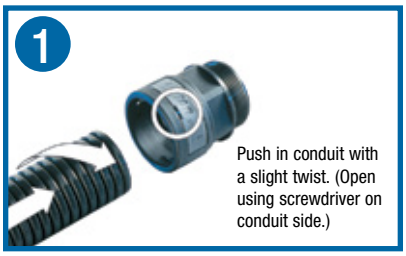
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Fax: 901.252.1354

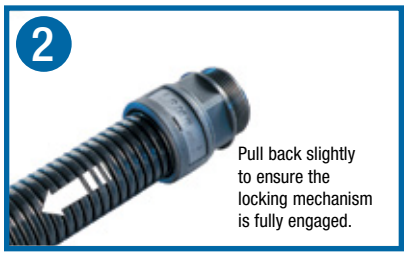
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Tel: 888.862.3289

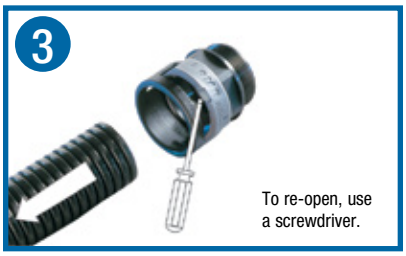
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Connectors for Nylon Flexible Conduits

IP66 Installation

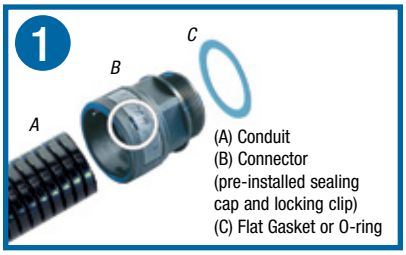


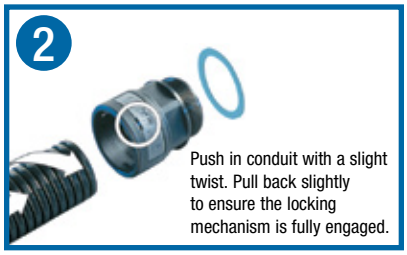


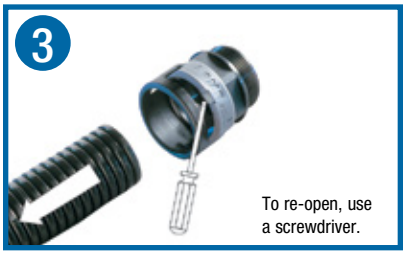


Locking clip pre-installed in all IP66 connectors

IP68GT Installation





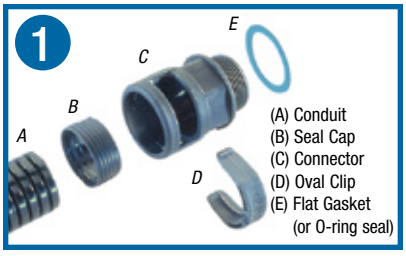


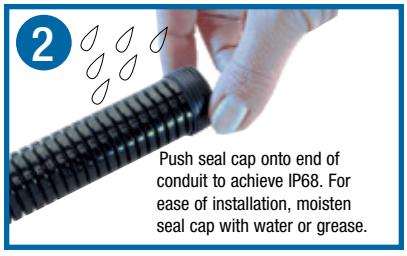
Pre-installed sealing cap and locking clip in all IP68GT connectors

**For safety reasons, oval clip will not fit if seal cap is not fully installed.*

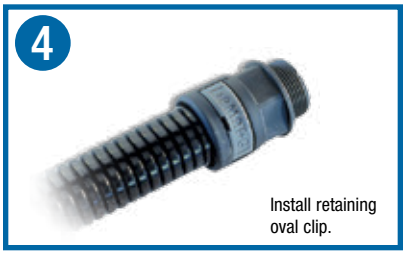
Follow O-ring manufacturer's guidelines when using O-rings for sealing purposes.

IP68 Installation (IP69K)

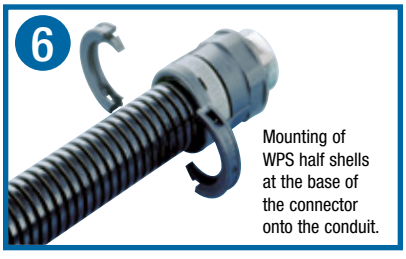












**For safety reasons, oval clip will not fit if seal cap is not fully installed. Follow O-ring manufacturer's guidelines when using O-rings for sealing purposes.*

Connectors for Nylon Flexible Conduits

VN Straight, Metric, Polymide

The designation PMAFIX® describes a very large range of connectors for PMA conduits with the patented PMA® safety clip system. Connectors are available for ingress protection IP66 and IP68. IP66 connectors are fitted with a pre-installed universal safety clip that ensures a quick push-in installation. IP68 connectors for increased requirements will be delivered with a special conduit seal cap. The new PMAFIX IP68GT fittings combine simplest push-in assembly with highest sealing performance.

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX conduits
- Easy mounting: simple conduit push-in installation
- High conduit pull-out strength
- Can be easily re-opened with a screwdriver
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



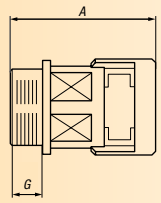
Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

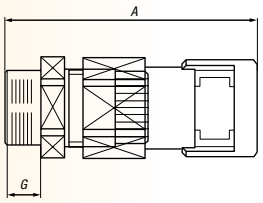
IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)



G Thread Length

A Overall Length



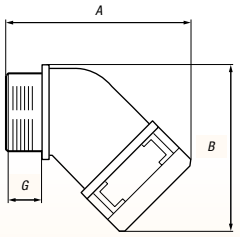
G Thread Length

A Overall Length

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD METRIC	FITS TO CONDUIT NW	FITS TO CONDUIT METRIC	THREAD LENGTH	OVERALL LENGTH
_VND-M12MGT	_VNV-M12M	M12x1.5	7	10	11.0mm	34.5mm
_VND-M120GT	_VNV-M120	M12x1.5	10	12	11.0mm	36.5mm
_VND-M160GT	_VNV-M160	M16x1.5	10	12	11.0mm	36.5mm
_VND-M162GT	_VNV-M162	M16x1.5	12	16	11.0mm	39.5mm
_VND-M200GT	_VNV-M200	M20x1.5	10	12	11.0mm	36.5mm
_VND-M202GT	_VNV-M202	M20x1.5	12	16	11.0mm	39.5mm
_VND-M207GT	_VNV-M207	M20x1.5	17	20	11.0mm	47.5mm
_VND-M203GT	_VNV-M203	M20x1.5	23	25	11.0mm	51.0mm
_VND-M257GT	_VNV-M257	M25x1.5	17	20	12.0mm	48.5mm
_VND-M253GT	_VNV-M253	M25x1.5	23	25	12.0mm	52.0mm
_VND-M323GT	_VNV-M323	M32x1.5	23	25	15.0mm	55.5mm
_VND-M329GT	_VNV-M329	M32x1.5	29	32	15.0mm	56.0mm
_VND-M409GT	_VNV-M409	M40x1.5	29	32	19.0mm	60.0mm
_VND-M406GT	_VNV-M406	M40x1.5	36	40	19.0mm	72.5mm
_VND-M506GT	_VNV-M506	M50x1.5	36	40	19.0mm	72.0mm
_VND-M508GT	_VNV-M508	M50x1.5	48	50	19.0mm	72.5mm
_VND-M638GT	_VNV-M638	M63x1.5	48	50	19.0mm	72.0mm

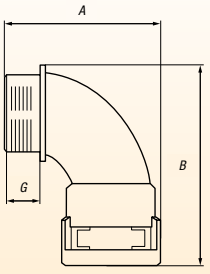
_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



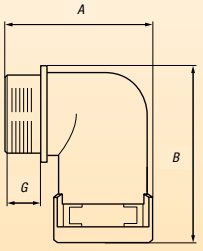
G Thread Length

A x B External dimensions



G Thread engtth

A x B External dimensions



G Thread Length

A x B External dimensions

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Connectors for Nylon Flexible Conduits

VNZ Straight, Metric, Strain Relief, Polyamide

- For cable protection systems in a wide range of applications
- For separation of damp and dry areas
- High-grade formulated polyamide 6, very high impact resistance
- Easy installation: simply push the conduit in
- High conduit pull-out strength
- Integrated strain relief optimally holds and seals cables
- If several conductors are used with the connector, multiple sealing inserts should be considered
- Very good chemical properties, free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2), strain-relief insert

IP68GT: Fitting with pre-assembled universal clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), strain-relief insert, conduit and thread seal (NVN3, SVN4)

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD METRIC	FITS TO CONDUIT NW	FITS TO CONDUIT METRIC	TERMINAL RANGE	THREAD LENGTH	OVERALL LENGTH
_VNDZ-M160GT	—	M16x1.5	10	12	5.0–10.0mm	8.0mm	62.0mm
_VNDZ-M162GT	_VNZ-M162S	M16x1.5	12	16	5.0–10.0mm	8.0mm	62.0mm
_VNDZ-M207GT	_VNZ-M207S	M20x1.5	17	20	10.0–14.0mm	8.0mm	71.5mm
_VNDZ-M253GT	_VNZ-M253S	M25x1.5	23	25	13.0–18.0mm	8.0mm	81.0mm
_VNDZ-M329GT	_VNZ-M329S	M32x1.5	29	32	18.0–25.0mm	10.0mm	85.0mm
_VNDZ-M406GT	_VNZ-M406S	M40x1.5	36	40	22.0–32.0mm	10.0mm	116.5mm
_VNDZ-M508GT	_VNZ-M508S	M50x1.5	48	50	30.0–38.0mm	12.0mm	120.5mm
_VNDZ-M638GT	_VNZ-M638S	M63x1.5	48	50	34.0–44.0mm	12.0mm	120.5mm

_ = Insert "B" to order black or "S" to order gray.

Note: *MDE multiple sealing inserts are available for this product.*

⚠ *IP68GT available. Please replace final "S" with "GT". (Functional description PMAFIX IP68GT,* ***pages E-192–E-193****).*

VA 45° Elbow, Metric, Polyamide

- For cable protection systems in a wide range of applications
- High-grade specially formulated polyamide 6
- Extremely high impact resistance
- Vibration-proof connection to PMAFLEX conduits
- Easy installation
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seals (NVN3, SVN4)

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD METRIC	FITS TO CONDUIT NW	FITS TO CONDUIT METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
_VAD-M120GT	—	M12x1.5	10	12	11.0mm	43.5 x 37.0mm
_VAD-M160GT	_VAV-M160	M16x1.5	10	12	11.0mm	43.5 x 38.0mm
_VAD-M162GT	_VAV-M162	M16x1.5	12	16	11.0mm	48.0 x 40.0mm
_VAD-M202GT	_VAV-M202	M20x1.5	12	16	11.0mm	48.0 x 41.5mm
_VAD-M207GT	_VAV-M207	M20x1.5	17	20	11.0mm	55.5 x 51.5mm
_VAD-M253GT	_VAV-M253	M25x1.5	23	25	12.0mm	65.0 x 58.5mm
_VAD-M329GT	_VAV-M329	M32x1.5	29	32	15.0mm	73.5 x 66.5mm
_VAD-M406GT	_VAV-M406	M40x1.5	36	40	19.0mm	92.5 x 85.5mm
_VAD-M506GT	_VAV-M506	M50x1.5	36	40	19.0mm	92.5 x 89.5mm
_VAD-M508GT	_VAV-M508	M50x1.5	48	50	19.0mm	100.0 x 96.0mm
_VAD-M638GT	_VAV-M638	M63x1.5	48	50	19.0mm	100.0 x 104.0mm

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT,* ***pages E-192–E-193****).*

Connectors for Nylon Flexible Conduits

VB 90° Curved Elbow, Metric, Polyamide

- For cable protection systems in a wide range of applications
- High-grade specially formulated polyamide
- Easy installation, high conduit pull-out strength
- Easy threading of wires and cables
- Self extinguishing
- Free from halogens and phosphor
- Excellent impact strength
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
_VBD-M207GT	_VBV-M207	M20x1.5	17	20	11.0mm	47.5 x 73.0mm
_VBD-M257GT	_VBV-M257	M25x1.5	17	20	12.0mm	48.5 x 76.0mm
_VBD-M253GT	_VBV-M253	M25x1.5	23	25	12.0mm	57.5 x 83.0mm
_VBD-M323GT	_VBV-M323	M32x1.5	23	25	15.0mm	61.0 x 87.5mm
_VBD-M329GT	_VBV-M329	M32x1.5	29	32	15.0mm	70.5 x 93.0mm
_VBD-M409GT	_VBV-M409	M40x1.5	29	32	19.0mm	74.5 x 98.5mm
_VBD-M406GT	_VBV-M406	M40x1.5	36	40	19.0mm	85.0 x 121.0mm
_VBD-M506GT	_VBV-M506	M50x1.5	36	40	19.0mm	85.0 x 125.0mm
_VBD-M508GT	_VBV-M508	M50x1.5	48	50	19.0mm	98.5 x 130.0mm
_VBD-M638GT	_VBV-M638	M63x1.5	48	50	19.0mm	98.5 x 138.0mm

_ = Insert with "B" to order black or "S" to order gray.

For smaller conduit sizes NW 07 to NW 12, appropriate standard elbows of type VW are available.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, (**pages E-192–E-193**).*



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

VW 90° Elbow, Metric, Polyamide

- For cable protection systems in a wide range of applications
- High-grade specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX conduits
- Easy installation: simply push the conduit in
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
_VWD-M12MGT	_VWV-M12M	M12x1.5	7	10	11.0mm	32.0 x 35.0mm
_VWD-M120GT	_VWV-M120	M12x1.5	10	12	11.0mm	34.0 x 39.5mm
_VWD-M160GT	_VWV-M160	M16x1.5	10	12	11.0mm	34.0 x 40.5mm
_VWD-M162GT	_VWV-M162	M16x1.5	12	16	11.0mm	38.5 x 46.0mm
_VWD-M200GT	—	M20x1.5	10	12	11.0mm	34.0 x 42.5mm
_VWD-M202GT	_VWV-M202	M20x1.5	12	16	11.0mm	38.5 x 47.5mm
_VWD-M207GT	_VWV-M207	M20x1.5	17	20	11.0mm	43.5 x 58.5mm
_VWD-M253GT	_VWV-M253	M25x1.5	23	25	12.0mm	54.0 x 65.0mm
_VWD-M329GT	_VWV-M329	M32x1.5	29	29	15.0mm	64.5 x 73.0mm
_VWD-M406GT	_VWV-M406	M40x1.5	36	36	19.0mm	78.0 x 96.0mm
_VWD-M508GT	_VWV-M508	M50x1.5	48	48	19.0mm	91.5 x 106.0mm

_ = Insert with "B" to order black or "S" to order gray.

For the sizes NW 17 to NW 48, curved elbows of type VB are available.

⚠ *IP68GT available. Please add "GT" after the Catallog no. (Functional description PMAFIX IP68GT, (**pages E-192–E-193**).*



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

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Connectors for Nylon Flexible Conduits

VN Straight, Metric, Metal

- Use in railway vehicle and heavy machine construction
- High-grade specially formulated polyamide, thread made of nickel-plated brass
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system connection strength
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4 or OR)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4 or OR)

CAT. NO. IP68, BLACK ⚠	CAT. NO. IP68, GRAY ⚠	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
NVNV-M120-10	**MVNV-M120-10**	M12x1.5	10	12	10.0mm	40.0mm
NVNV-M120-5	**MVNV-M120-5**	M12x1.5	10	12	5.0mm	35.0mm
NVNV-M160-10	**MVNV-M160-10**	M16x1.5	10	12	10.0mm	40.0mm
NVNV-M160-5	**MVNV-M160-5**	M16x1.5	10	12	5.0mm	35.0mm
NVNV-M162-10	**MVNV-M162-10**	M16x1.5	12	16	10.0mm	43.0mm
NVNV-M162-5	**MVNV-M162-5**	M16x1.5	12	16	5.0mm	38.0mm
NVNV-M202-10	**MVNV-M202-10**	M20x1.5	12	16	10.0mm	43.0mm
NVNV-M202-6	**MVNV-M202-6**	M20x1.5	12	16	6.0mm	39.0mm
NVNV-M207-10	**MVNV-M207-10**	M20x1.5	17	20	10.0mm	51.0mm
NVNV-M207-6	**MVNV-M207-6**	M20x1.5	17	20	6.0mm	47.0mm
NVNV-M257-11	**MVNV-M257-11**	M25x1.5	17	20	11.0mm	52.0mm
NVNV-M257-7	**MVNV-M257-7**	M25x1.5	17	20	7.0mm	48.0mm
NVNV-M253-11	**MVNV-M253-11**	M25x1.5	23	25	11.0mm	54.0mm
NVNV-M253-7	**MVNV-M253-7**	M25x1.5	23	25	7.0mm	50.0mm
NVNV-M323-13	**MVNV-M323-13**	M32x1.5	23	25	13.0mm	56.0mm
NVNV-M323-8	**MVNV-M323-8**	M32x1.5	23	25	8.0mm	51.0mm
NVNV-M329-13	**MVNV-M329-13**	M32x1.5	29	32	13.0mm	57.3mm
NVNV-M329-8	**MVNV-M329-8**	M32x1.5	29	32	8.0mm	52.3mm
NVNV-M409-13	**MVNV-M409-13**	M40x1.5	29	32	13.0mm	57.3mm
NVNV-M409-8	**MVNV-M409-8**	M40x1.5	29	32	8.0mm	52.3mm
NVNV-M406-13	**MVNV-M406-13**	M40x1.5	36	40	13.0mm	71.4mm
NVNV-M406-8	**MVNV-M406-8**	M40x1.5	36	40	8.0mm	66.4mm
NVNV-M506-14	**MVNV-M506-14**	M50x1.5	36	40	14.0mm	72.4mm
NVNV-M506-9	**MVNV-M506-9**	M50x1.5	36	40	9.0mm	67.4mm
NVNV-M508-14	**MVNV-M508-14**	M50x1.5	48	50	14.0mm	72.4mm
NVNV-M508-9	**MVNV-M508-9**	M50x1.5	48	50	9.0mm	67.4mm
NVNV-M638-14	**MVNV-M638-14**	M63x1.5	48	50	14.0mm	72.4mm
NVNV-M638-10	**MVNV-M638-10**	M63x1.5	48	50	10.0mm	68.4mm

⚠ *IP68GT available. Please add "GT" prior to the thread length (for example, NVNV-M120**GT**-10).*
*(Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

Connectors for Nylon Flexible Conduits

VNZ Straight, Metric, Strain Relief, Metal

PFLITSCH®

CAT. NO. COMPLETE, BLACK ⚠	CAT. NO. FITTING * ⚠	CAT. NO. INSERT	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	TERMINAL RANGE	THREAD LENGTH	OVERALL LENGTH
NVNZ-M120S/P1	NVNZ-M120R/P	DE-M120/P1	M12x1.5	10	12	4.0–6.5mm	5.0mm	48.5mm
NVNZ-M120S/P2		DE-M120/P2	M12x1.5	10	12	5.0–8.0mm	5.0mm	48.5mm
NVNZ-M120S/P3		DE-M120/P3	M12x1.5	10	12	6.5–9.5mm	5.0mm	48.5mm
NVNZ-M160S/P1	NVNZ-M160R/P	DE-M160/P1	M16x1.5	10	12	4.0–6.5mm	6.0mm	49.5mm
NVNZ-M160S/P2		DE-M160/P2	M16x1.5	10	12	5.0–8.0mm	6.0mm	49.5mm
NVNZ-M160S/P3		DE-M160/P3	M16x1.5	10	12	6.5–9.5mm	6.0mm	49.5mm
NVNZ-M202S/P1	NVNZ-M202R/P	DE-M202/P1	M20x1.5	12	16	4.0–6.5mm	6.0mm	54.0mm
NVNZ-M202S/P3		DE-M202/P3	M20x1.5	12	16	6.5–9.5mm	6.0mm	54.0mm
NVNZ-M202S/P4		DE-M202/P4	M20x1.5	12	16	7.0–10.5mm	6.0mm	4.0mm
NVNZ-M207S/P3	NVNZ-M207R/P	DE-M207/P3	M20x1.5	17	20	6.5–9.5mm	6.5mm	60.0mm
NVNZ-M207S/P4		DE-M207/P4	M20x1.5	17	20	7.0–10.5mm	6.5mm	60.0mm
NVNZ-M207S/P5		DE-M207/P5	M20x1.5	17	20	9.0–13.0mm	6.5mm	60.0mm
NVNZ-M253S/P5	NVNZ-M253R/P	DE-M253/P5	M25x1.5	23	25	9.0–13.0mm	7.5mm	72.5mm
NVNZ-M253S/P6		DE-M253/P6	M25x1.5	23	25	11.5–15.5mm	7.5mm	72.5mm
NVNZ-M257S/P4	NVNZ-M257R/P	DE-M257/P4	M25x1.5	17	20	7.0–10.0mm	7.5mm	61.5mm
NVNZ-M257S/P5		DE-M257/P5	M25x1.5	17	20	9.0–13.0mm	7.5mm	61.5mm
NVNZ-M257S/P6		DE-M257/P6	M25x1.5	17	20	11.5–15.5mm	7.5mm	61.5mm
NVNZ-M323S/P4	NVNZ-M323R/P	DE-M323/P4	M32x1.5	23	25	14.0–18.0mm	8.0mm	73.0mm
NVNZ-M323S/P5	NVNZ-M323R1/P	DE-M323/P5	M32x1.5	23	25	17.0–20.5mm	8.0mm	73.0mm
NVNZ-M329S/P2	NVNZ-M329R/P	DE-M329/P2	M32x1.5	29	32	14.0–18.0mm	8.0mm	73.0mm
NVNZ-M329S/P3		DE-M329/P3	M32x1.5	29	32	17.0–20.5mm	8.0mm	73.0mm
NVNZ-M329S/P4		DE-M329/P4	M32x1.5	29	32	20.0–25.0mm	8.0mm	73.0mm
NVNZ-M406S/P1	NVNZ-M406R/P	DE-M406/P1	M40x1.5	36	40	20.0–25.0mm	9.0mm	87.0mm
NVNZ-M406S/P2		DE-M406/P2	M40x1.5	36	40	24.0–28.0mm	9.0mm	87.0mm
NVNZ-M409S/P1	NVNZ-M409R/P	DE-M409/P1	M40x1.5	29	32	11.5–15.5mm	8.0mm	73.0mm
NVNZ-M409S/P2		DE-M409/P2	M40x1.5	29	32	14.0–18.0mm	8.0mm	73.0mm
NVNZ-M409S/P3		DE-M409/P3	M40x1.5	29	32	17.0–20.5mm	8.0mm	73.0mm
NVNZ-M409S/P4		DE-M409/P4	M40x1.5	29	32	20.0–25.0mm	8.0mm	73.0mm
NVNZ-M409S/P5		DE-M409/P5	M40x1.5	29	32	24.0–28.0mm	8.0mm	73.0mm
NVNZ-M506S/P1	NVNZ-M506R/P	DE-M506/P1	M50x1.5	36	40	27.0–32.0mm	9.0mm	89.5mm
NVNZ-M506S/P3		DE-M506/P3	M50x1.5	36	40	32.0–36.0mm	9.0mm	89.5mm
NVNZ-M508S/P2	NVNZ-M508R/P	DE-M508/P2	M50x1.5	48	50	32.0–36.0mm	9.0mm	92.0mm
NVNZ-M508S/P3		DE-M508/P3	M50x1.5	48	50	36.0–40.0mm	9.0mm	92.0mm
NVNZ-M638S/P1	NVNZ-M638R/P	DE-M638/P1	M63x1.5	48	50	35.0–40.0mm	10.0mm	90.5mm
NVNZ-M638S/P2		DE-M638/P2	M63x1.5	48	50	39.0–44.0mm	10.0mm	90.5mm

** = without insert*

***Note**: MDE multiple sealing inserts are available for this product.*

⚠ *IP68GT available. Please replace "S" or "R" with "GT" (for example, NVNZ-M120**GT**/P1, NVNZ-M120**GT**/P).*

*(Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



- Use in railway vehicle and heavy machine construction and for the separation of damp and dry areas
- High-grade, specially formulated polyamide 6, thread made of nickel-plate brass, sealing inserts are made from TPE-V
- Very high impact resistance
- Integrated strain relief and optimal ingress protection at the cable (up to IP68/10 bar)
- High thread and system connection strength
- Vibration-resistant connection to PMAFLEX conduits
- Easy assembly
- High conduit pull-out strength
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Excellent impact strength
- Fits fine (T) and coarse (G) conduit profiles
- For several conductors, multiple sealing inserts are available (MDE)

Temperature range: -40° C to 105° C; Short term to 135° C

Content of delivery:

IP68GT:

Complete: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); sealing insert, O-ring (OR)

Fitting*: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); O-ring (OR)

IP68:

Complete: Fitting with oval clips (OVN2), sealing insert, conduit seal (NVN3), O-ring (OR)

Fitting*: Fitting with oval clips (OVN2), conduit seal (NVN3), O-ring (OR)

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Connectors for Nylon Flexible Conduits

VNZ Straight, Metric, Strain Relief, Metal (continued)



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CAT. NO. ⚠ COMPLETE, BLACK	CAT. NO. ⚠ FITTING *	CAT. NO. INSERT	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	TERMINAL RANGE	THREAD LENGTH	OVERALL LENGTH
NVNZ-M160S/P1-L	NVNZ-M160R/P-L	DE-M160/P1	M16x1.5	10	12	4.0–6.5mm	15.0mm	58.5mm
NVNZ-M160S/P2-L		DE-M160/P2	M16x1.5	10	12	5.0–8.0mm	15.0mm	58.5mm
NVNZ-M160S/P3-L		DE-M160/P3	M16x1.5	10	12	6.5–9.5mm	15.0mm	58.5mm
NVNZ-M202S/P1-L	NVNZ-M202R/P-L	DE-M202/P1	M20x1.5	12	16	4.0–6.5mm	15.0mm	62.5mm
NVNZ-M202S/P3-L		DE-M202/P3	M20x1.5	12	16	6.5–9.5mm	15.0mm	62.5mm
NVNZ-M202S/P4-L		DE-M202/P4	M20x1.5	12	16	7.0–10.5mm	15.0mm	62.5mm
NVNZ-M207S/P3-L	NVNZ-M207R/P-L	DE-M207/P3	M20x1.5	17	20	6.5–9.5mm	15.0mm	68.5mm
NVNZ-M207S/P4-L		DE-M207/P4	M20x1.5	17	20	7.0–10.5mm	15.0mm	68.5mm
NVNZ-M207S/P5-L		DE-M207/P5	M20x1.5	17	20	9.0–13.0mm	15.0mm	68.5mm
NVNZ-M257S/P5-L	NVNZ-M257R/P-L	DE-M257/P5	M25x1.5	17	20	9.0–13.0mm	15.0mm	69.0mm
NVNZ-M257S/P6-L		DE-M257/P6	M25x1.5	17	20	11.5–15.5mm	15.0mm	69.0mm
NVNZ-M323S/P4-L	NVNZ-M323R/P-L	DE-M323/P4	M32x1.5	23	25	14.0–18.0mm	15.0mm	80.0mm
NVNZ-M323S/P5-L	NVNZ-M323R1/P-L	DE-M323/P5	M32x1.5	23	25	17.0–20.5mm	15.0mm	80.0mm
NVNZ-M329S/P2-L	NVNZ-M329R/P-L	DE-M329/P2	M32x1.5	29	32	14.0–18.0mm	15.0mm	91.0mm
NVNZ-M329S/P3-L		DE-M329/P3	M32x1.5	29	32	17.0–20.5mm	15.0mm	91.0mm
NVNZ-M409S/P3-L	NVNZ-M409R/P-L	DE-M409/P3	M40x1.5	29	32	17.0–20.5mm	15.0mm	80.0mm
NVNZ-M409S/P4-L		DE-M409/P4	M40x1.5	29	32	20.0–25.0mm	15.0mm	80.0mm
NVNZ-M409S/P5-L		DE-M409/P5	M40x1.5	29	32	24.0–28.0mm	15.0mm	80.0mm
NVNZ-M506S/P1-L	NVNZ-M506R/P-L	DE-M506/P1	M50x1.5	36	40	27.0–32.0mm	15.0mm	94.5mm
NVNZ-M506S/P3-L		DE-M506/P3	M50x1.5	36	40	32.0–36.0mm	15.0mm	94.5mm
NVNZ-M508S/P2-L	NVNZ-M508R/P-L	DE-M508/P2	M50x1.5	48	50	32.0–36.0mm	15.0mm	97.0mm
NVNZ-M508S/P3-L		DE-M508/P3	M50x1.5	48	50	36.0–40.0mm	15.0mm	97.0mm
NVNZ-M638S/P1-L	NVNZ-M638R/P-L	DE-M638/P1	M63x1.5	48	50	35.0–40.0mm	15.0mm	95.5mm
NVNZ-M638S/P2-L		DE-M638/P2	M63x1.5	48	50	39.0–44.0mm	15.0mm	95.5mm

** = without insert*

***Note**: MDE multiple sealing inserts are available for this product.*

⚠ *IP68GT available. Please replace "S" or "R" with "GT" (for example, NVNZ-M120**GT**/P1).*

*(Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

Connectors for Nylon Flexible Conduits

VA 45° Elbow, Metric, Metal

- Use in railway vehicle and heavy machine construction
- Specially formulated polyamide 6, nickel-plated brass thread
- Very high impact resistance
- High thread and system connection strength
- Vibration-proof connection to PMAFLEX conduits
- Easy assembly
- High conduit pull-out strength
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP68, BLACK ⚠	CAT. NO. IP68, GRAY ⚠	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
NVAV-M120-10	**MVAV-M120-10**	M12x1.5	10	12	10.0mm	48.5 x 37.0mm
NVAV-M120-5	**MVAV-M120-5**	M12x1.5	10	12	5.0mm	43.5 x 37.0mm
NVAV-M162-10	**MVAV-M162-10**	M16x1.5	12	16	10.0mm	53.0 x 40.5mm
NVAV-M162-5	**MVAV-M162-5**	M16x1.5	12	16	5.0mm	48.0 x 40.5mm
NVAV-M207-10	**MVAV-M207-10**	M20x1.5	17	20	10.0mm	60.5 x 51.5mm
NVAV-M207-6	**MVAV-M207-6**	M20x1.5	17	20	6.0mm	56.5 x 51.5mm
NVAV-M253-11	**MVAV-M253-11**	M25x1.5	23	25	11.0mm	70.0 x 60.5mm
NVAV-M253-7	**MVAV-M253-7**	M25x1.5	23	25	7.0mm	66.0 x 60.5mm
NVAV-M257-11	**MVAV-M257-11**	M25x1.5	17	20	11.0mm	61.5 x 54.5mm
NVAV-M323-13	**MVAV-M323-13**	M32x1.5	23	25	13.0mm	72.0 x 64.5mm
NVAV-M329-13	**MVAV-M329-13**	M32x1.5	29	32	13.0mm	77.0 x 68.0mm
NVAV-M329-8	**MVAV-M329-8**	M32x1.5	29	32	8.0mm	72.0 x 68.0mm
NVAV-M406-13	**MVAV-M406-13**	M40x1.5	36	40	13.0mm	94.0 x 87.5mm
NVAV-M406-8	**MVAV-M406-8**	M40x1.5	36	40	8.0mm	89.0 x 87.5mm
NVAV-M409-13	**MVAV-M409-13**	M40x1.5	29	32	13.0mm	77.0 x 73.0mm
NVAV-M506-14	**MVAV-M506-14**	M50x1.5	36	40	14.0mm	95.0 x 92.5mm
NVAV-M508-14	**MVAV-M508-14**	M50x1.5	48	50	14.0mm	102.0 x 101.0mm
NVAV-M508-9	**MVAV-M508-9**	M50x1.5	48	50	9.0mm	97.0 x 101.0mm
NVAV-M638-14	**MVAV-M638-14**	M63x1.5	48	50	14.0mm	102.0 x 104.0mm
NVAV-M638-10	**MVAV-M638-10**	M63x1.5	48	50	10.0mm	98.0 x 104.0mm

⚠ *IP68GT available. Please add "GT" prior to the thread length (e.g. NVAV-M120**GT**-10).*
*(Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



Temperature range: -40° C to 105° C;
Short term to 160° C

Content of delivery:

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3GT); thread seal (SVN4 or OR)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4 or OR)

VB 90° Curved Elbow, Metric, Metal

- Use in railway vehicle and heavy machine construction
- High-grade formulated polyamide, thread made of nickel-plated brass
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system connection strength
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP68, BLACK ⚠	CAT. NO. IP68, GRAY ⚠	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
NVBV-M207-10	**MVBV-M207-10**	M20x1.5	17	20	10.0mm	51.0 x 73.0mm
NVBV-M207-6	**MVBV-M207-6**	M20x1.5	17	20	6.0mm	47.0 x 73.0mm
NVBV-M257-11	**MVBV-M257-11**	M25x1.5	17	20	11.0mm	52.0 x 76.0mm
NVBV-M257-7	**MVBV-M257-7**	M25x1.5	17	20	7.0mm	48.0 x 76.0mm
NVBV-M253-11	**MVBV-M253-11**	M25x1.5	23	25	11.0mm	62.5 x 85.0mm
NVBV-M253-7	**MVBV-M253-7**	M25x1.5	23	25	7.0mm	58.5 x 85.0mm
NVBV-M323-13	**MVBV-M323-13**	M32x1.5	23	25	13.0mm	64.5 x 89.0mm
NVBV-M323-8	**MVBV-M323-8**	M32x1.5	23	25	8.0mm	59.5 x 89.0mm
NVBV-M329-13	**MVBV-M329-13**	M32x1.5	29	32	13.0mm	74.0 x 94.5mm
NVBV-M329-8	**MVBV-M329-8**	M32x1.5	29	32	8.0mm	69.0 x 94.5mm
NVBV-M409-13	**MVBV-M409-13**	M40x1.5	29	32	13.0mm	75.5 x 100.5mm
NVBV-M409-8	**MVBV-M409-8**	M40x1.5	29	32	8.0mm	70.5 x 100.5mm
NVBV-M406-13	**MVBV-M406-13**	M40x1.5	36	40	13.0mm	86.5 x 123.0mm
NVBV-M406-8	**MVBV-M406-8**	M40x1.5	36	40	8.0mm	81.5 x 123.0mm
NVBV-M506-14	**MVBV-M506-14**	M50x1.5	36	40	14.0mm	87.5 x 130.0mm
NVBV-M506-9	**MVBV-M506-9**	M50x1.5	36	40	9.0mm	82.5 x 130.0mm
NVBV-M508-14	**MVBV-M508-14**	M50x1.5	48	50	14.0mm	100.5 x 135.0mm
NVBV-M508-9	**MVBV-M508-9**	M50x1.5	48	50	9.0mm	95.5 x 135.0mm
NVBV-M638-10	**MVBV-M638-10**	M63x1.5	48	50	14.0mm	100.5 x 138.0mm
NVBV-M638-14	**MVBV-M638-14**	M63x1.5	48	50	10.0mm	96.5 x 138.0mm

Appropriate standard elbows of type VW are available for smaller conduit sizes NW 10 to NW 12.

⚠ *IP68GT available. Please add "GT" prior to the thread length (e.g. NVBV-M207**GT**-10).*
*(Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



Temperature range: -40° C to 105° C;
Short term to 160° C

Content of delivery:

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4 or OR)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4 or OR)

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Connectors for Nylon Flexible Conduits

VW 90° Elbow, Metric, Metal

- Use in railway vehicle and heavy machine construction
- High-grade formulated polyamide, thread made of nickel-plated brass
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system connection strength
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP68, BLACK ⚠	CAT. NO. IP68, GRAY ⚠	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
NVWV-M120-10	MVWV-M120-10	M12x1.5	10	12	10.0mm	37.5 x 39.5mm
NVWV-M120-5	MVWV-M120-5	M12x1.5	10	12	5.0mm	32.5 x 39.5mm
NVWV-M160-10	MVWV-M160-10	M16x1.5	10	12	10.0mm	37.5 x 41.5mm
NVWV-M160-5	MVWV-M160-5	M16x1.5	10	12	5.0mm	32.5 x 41.5mm
NVWV-M162-10	MVWV-M162-10	M16x1.5	12	16	10.0mm	42.0 x 46.5mm
NVWV-M162-5	MVWV-M162-5	M16x1.5	12	16	5.0mm	37.0 x 46.5mm
NVWV-M202-10	MVWV-M202-10	M20x1.5	12	16	10.0mm	42.0 x 49.0mm
NVWV-M202-6	MVWV-M202-6	M20x1.5	12	16	6.0mm	38.0 x 49.0mm
NVWV-M207-10	MVWV-M207-10	M20x1.5	17	20	10.0mm	47.0 x 58.5mm
NVWV-M207-6	MVWV-M207-6	M20x1.5	17	20	6.0mm	43.0 x 58.5mm
NVWV-M253-11	MVWV-M253-11	M25x1.5	23	25	11.0mm	59.0 x 67.0mm
NVWV-M253-7	MVWV-M253-7	M25x1.5	23	25	7.0mm	55.0 x 67.0mm
NVWV-M329-13	MVWV-M329-13	M32x1.5	29	32	13.0mm	68.0 x 74.5mm
NVWV-M329-8	MVWV-M329-8	M32x1.5	29	32	8.0mm	63.0 x 74.5mm
NVWV-M406-13	MVWV-M406-13	M40x1.5	36	40	13.0mm	80.5 x 98.0mm
NVWV-M406-8	MVWV-M406-8	M40x1.5	36	40	8.0mm	75.5 x 98.0mm
NVWV-M508-14	MVWV-M508-14	M50x1.5	48	50	14.0mm	95.5 x 111.0mm
NVWV-M508-9	MVWV-M508-9	M50x1.5	48	50	9.0mm	90.5 x 111.0mm
NVWV-M638-14	MVWV-M638-14	M63x1.5	48	50	14.0mm	94.5 x 114.0mm
NVWV-M638-10	MVWV-M638-10	M63x1.5	48	50	10.0mm	90.5 x 114.0mm

⚠ *IP68GT available. Please add "GT" prior to the thread length (e.g. NVWV-M120**GT**-10).*
*(Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



Temperature range: -40° C to 105° C;
Short term to 160° C

Content of delivery:

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4 or OR)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4 or OR)

VWZ 90° Elbow, Metric, Strain Relief, Metal

- Use in railway vehicle construction and heavy machine construction
- Separate damp and dry areas
- High-grade formulated polyamide PA straight fitting with nickel-plated brass female thread, zinc diecast (90° elbow), sealing insert TPE-V
- With corresponding seals, IP68 static/IP67 dynamic cable = IP68 (10 bar)
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system connection strength
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP68 COMPLETE, BLACK ⚠	CAT. NO. FITTING * ⚠	CAT. NO. INSERT	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	TERMINAL RANGE	THREAD LENGTH	OVERALL LENGTH
NVWZ-M160S/P1	NVWZ-M160R/P	DE-M160/P1	M16x1.5	10	12	4.0–6.5mm	8.0mm	65.0mm
NVWZ-M160S/P2		DE-M160/P2	M16x1.5	10	12	5.0–8.0mm	8.0mm	65.0mm
NVWZ-M160S/P3		DE-M160/P3	M16x1.5	10	12	6.5–9.5mm	8.0mm	65.0mm
NVWZ-M202S/P1	NVWZ-M202R/P	DE-M202/P1	M20x1.5	12	16	4.0–6.5mm	8.0mm	74.5mm
NVWZ-M202S/P3		DE-M202/P3	M20x1.5	12	16	6.5–9.5mm	8.0mm	74.5mm
NVWZ-M202S/P4		DE-M202/P4	M20x1.5	12	16	7.0–10.5mm	8.0mm	74.5mm
NVWZ-M207S/P3	NVWZ-M207R/P	DE-M207/P3	M20x1.5	17	20	6.5–9.5mm	8.0mm	81.0mm
NVWZ-M207S/P4		DE-M207/P4	M20x1.5	17	20	7.0–10.5mm	8.0mm	81.0mm
NVWZ-M207S/P5		DE-M207/P5	M20x1.5	17	20	9.0–13.0mm	8.0mm	81.0mm
NVWZ-M257S/P5	NVWZ-M257R/P	DE-M257/P5	M25x1.5	17	20	9.0–13.0mm	8.0mm	84.0mm
NVWZ-M257S/P6		DE-M257/P6	M25x1.5	17	20	11.5–15.5mm	8.0mm	84.0mm

** = without insert*

⚠ *IP68GT available. Please replace "S" with "GT" (for example NVWZ-M160**GT**/P1).*
*(Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



Temperature range: -40° C to 105° C;
Short term to 135° C

Content of delivery:

IP68GT:

Complete: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); sealing insert, O-ring (OR)

Fitting*: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); O-ring (OR)

IP68:

Complete: Fitting with oval clips (OVN2), sealing insert, conduit seal (NVN3), O-ring (OR)

Fitting*: Fitting with oval clips (OVN2), conduit seal (NVN3), O-ring (OR)

Connectors for Nylon Flexible Conduits

VN Straight, PG, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX conduits
- Easy mounting: simple conduit push-in installation
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
_VND-P07MGT-11	_VNV-P07M	7	7	10	11.0mm	34.5mm
_VND-P07MGT-8	—	7	7	10	8.0mm	31.5mm
_VND-P070GT-11	_VNV-P070	7	10	12	11.0mm	36.5mm
_VND-P070GT-8	—	7	10	12	8.0mm	33.5mm
_VND-P072GT-11	_VNV-P072	7	12	16	11.0mm	39.0mm
_VND-P072GT-8	—	7	12	16	8.0mm	36.0mm
_VND-P09MGT-11	_VNV-P09M	9	7	10	11.0mm	34.5mm
_VND-P09MGT-8	—	9	10	12	8.0mm	31.5mm
_VND-P090GT-11	_VNV-P090	9	10	12	11.0mm	36.5mm
_VND-P090GT-8	—	9	10	12	8.0mm	33.5mm
_VND-P092GT-11	_VNV-P092	9	12	16	11.0mm	39.0mm
_VND-P092GT-8	—	9	12	16	8.0mm	36.0mm
_VND-P097GT-11	_VNV-P097	9	17	20	11.0mm	47.5mm
_VND-P097GT-8	—	9	17	20	8.0mm	44.5mm
_VND-P11MGT-11	_VNV-P11M	11	7	10	11.0mm	34.5mm
_VND-P11MGT-8	—	11	7	10	8.0mm	31.5mm
_VND-P110GT-11	_VNV-P110	11	10	12	11.0mm	36.5mm
_VND-P110GT-8	—	11	10	12	8.0mm	33.5mm
_VND-P112GT-11	_VNV-P112	11	12	16	11.0mm	39.0mm
_VND-P112GT-8	—	11	12	16	8.0mm	36.0mm
_VND-P117GT-11	_VNV-P117	11	17	20	11.0mm	47.5mm
_VND-P117GT-8	—	11	17	20	8.0mm	44.5mm
_VND-P13MGT-11	_VNV-P13M	13.5	7	10	11.0mm	34.5mm
_VND-P13MGT-8	—	13.5	7	10	8.0mm	31.5mm
_VND-P130GT-11	_VNV-P130	13.5	10	12	11.0mm	36.5mm
_VND-P130GT-8	—	13.5	10	12	8.0mm	33.5mm
_VND-P132GT-11	_VNV-P132	13.5	12	16	11.0mm	39.0mm
_VND-P132GT-8	—	13.5	12	16	8.0mm	36.0mm
_VND-P137GT-11	_VNV-P137	13.5	17	20	11.0mm	47.5mm
_VND-P137GT-8	—	13.5	17	20	8.0mm	44.0mm
_VND-P160GT-11	—	16	10	12	11.0mm	36.5mm
_VND-P160GT-8	—	16	10	12	8.0mm	33.5mm
_VND-P162GT-11	_VNV-P162	16	12	16	11.0mm	39.0mm
_VND-P163GT-11	_VNV-P163	16	23	25	11.0mm	51.5mm
_VND-P163GT-8	—	16	23	25	8.0mm	48.0mm
_VND-P167GT-11	_VNV-P167	16	17	20	11.0mm	47.5mm
_VND-P167GT-8	—	16	17	20	8.0mm	44.5mm
_VND-P213GT	_VNV-P213	21	23	25	12.0mm	52.0mm
_VND-P296GT	_VNV-P296	29	36	40	12.0mm	67.5mm
_VND-P299GT	_VNV-P299	29	29	32	12.0mm	53.0mm
_VND-P366GT	_VNV-P366	36	36	40	13.0mm	66.0mm
_VND-P368GT	_VNV-P368	36	48	50	13.0mm	68.5mm
_VND-P428GT	_VNV-P428	42	48	50	13.0mm	68.5mm
_VND-P488GT	_VNV-P488	48	48	50	13.0mm	66.5mm

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT,* ***pages E-192–E-193****).*

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Connectors for Nylon Flexible Conduits

VNZ Straight, PG, Strain Relief, Polyamide

- For cable protection systems in a wide range of applications
- Separate damp and dry areas
- High-grade, specially formulated polyamide 6
- Very high impact resistance, high conduit pull-out strength
- Easy mounting: simple push-in installation
- Integrated strain relief optimally holds and seals cables
- If several conductors are used with the connector, multiple sealing inserts should be considered
- Very good chemical properties
- Free from halogens and cadmium
- Excellent impact strength
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); strain-relief insert and thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), strain-relief insert, conduit and thread seal (NVN3, SVN4)

For several conductors, multiple sealing inserts are available (MDE)

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	TERMINAL RANGE	THREAD LENGTH	OVERALL LENGTH
_VNDZ-P090GT	_VNZ-P090S	9	10	12	4.0–8.0mm	8.0mm	53.0mm
_VNDZ-P112GT	_VNZ-P112S	11	12	16	5.0–10.0mm	8.0mm	59.0mm
_VNDZ-P132GT	_VNZ-P132S	13.5	12	16	6.0–12.0mm	9.0mm	62.0mm
_VNDZ-P137GT	_VNZ-P137S	13.5	17	20	6.0–12.0mm	9.0mm	69.0mm
_VNDZ-P167GT	_VNZ-P167S	16	17	20	10.0–14.0mm	10.0mm	72.0mm
_VNDZ-P163GT	_VNZ-P163S	16	23	25	10.0–14.0mm	12.0mm	79.0mm
_VNDZ-P213GT	_VNZ-P213S	21	23	25	13.0–18.0mm	12.0mm	82.0mm
_VNDZ-P299GT	_VNZ-P299S	29	29	32	18.0–25.0mm	11.0mm	85.0mm
_VNDZ-P366GT	_VNZ-P366S	36	36	40	22.0–32.0mm	13.0mm	106.0mm
_VNDZ-P488GT	_VNZ-P488S	48	48	50	34.0–44.0mm	14.0mm	112.0mm

_ = Insert "B" to order black or "S" to order gray.

***Note**: MDE multiple sealing inserts are available for this product.*

⚠ *IP68GT available. Please replace "S" at the end with "GT" (for example, BVNZ-P112**GT**/P1). (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

Connectors for Nylon Flexible Conduits

VA 45° Elbow, PG, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
_VAD-P090GT	_VAV-P090	9	10	12	11.0mm	43.0 x 37.0mm
_VAD-P112GT	_VAV-P112	11	12	16	11.0mm	48.0 x 40.0mm
_VAD-P132GT	_VAV-P132	13.5	12	16	11.0mm	48.0 x 41.5mm
_VAD-P137GT	_VAV-P137	13.5	17	20	11.0mm	55.5 x 51.5mm
_VAD-P167GT	_VAV-P167	16	17	20	11.0mm	55.5 x 51.5mm
_VAD-P213GT	_VAV-P213	21	23	25	11.0mm	63.0 x 58.0mm
_VAD-P299GT	_VAV-P299	29	29	32	12.0mm	69.0 x 66.0mm
_VAD-P366GT	_VAV-P366	36	36	40	13.0mm	86.0 x 86.0mm
_VAD-P488GT	_VAV-P488	48	48	50	13.0mm	94.0 x 100.0mm

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

VB 90° Curved Elbow, PG, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX conduits
- High conduit pull-out strength
- Smooth elbow allows easy guidance through connector
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
_VBD-P167GT	_VBV-P167	16	17	20	11.0mm	47.5 x 73.0mm
_VBD-P213GT	_VBV-P213	21	23	25	12.0mm	57.5 x 85.0mm
_VBD-P299GT	_VBV-P299	29	29	32	12.0mm	67.5 x 96.0mm
_VBD-P366GT	_VBV-P366	36	36	40	13.0mm	79.0 x 123.0mm
_VBD-P488GT	_VBV-P488	48	48	50	13.0mm	92.5 x 135.0mm

_ = Insert "B" to order black or "S" to order gray.

Appropriate standard elbows of type VW are available for smaller conduit sizes NW 07 to NW 12.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

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Connectors for Nylon Flexible Conduits

VW 90° Elbow, PG, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD PG	FITS TO CONDUIT SIZE		THREAD LENGTH	EXTERNAL DIMENSIONS
			NW	METRIC		
_VWD-P07MGT-11	_VWV-P07M	7	7	10	11.0mm	32.0 x 35.0mm
_VWD-P07MGT-8	—	7	7	10	8.0mm	29.0 x 35.0mm
_VWD-P070GT-11	_VWV-P070	7	10	12	11.0mm	34.0 x 39.5mm
_VWD-P070GT-8	—	7	10	12	8.0mm	31.0 x 39.5mm
_VWD-P072GT-11	_VWV-P072	7	12	16	11.0mm	38.5 x 44.5mm
_VWD-P072GT-8	—	7	12	16	8.0mm	35.5 x 44.5mm
_VWD-P09MGT-11	_VWV-P09M	9	7	10	11.0mm	32.0 x 36.5mm
_VWD-P09MGT-8	—	9	7	10	8.0mm	29.0 x 36.5mm
_VWD-P090GT-11	_VWV-P090	9	10	12	11.0mm	34.0 x 39.5mm
_VWD-P090GT-8	—	9	10	12	8.0mm	31.0 x 39.5mm
_VWD-P092GT-11	_VWV-P092	9	12	16	11.0mm	38.5 x 44.5mm
_VWD-P092GT-8	—	9	12	16	8.0mm	35.5 x 44.5mm
_VWD-P11MGT-11	_VWV-P11M	11	7	10	11.0mm	32.0 x 38.0mm
_VWD-P11MGT-8	—	11	7	10	8.0mm	29.0 x 38.0mm
_VWD-P110GT-11	_VWV-P110	11	10	12	11.0mm	34.0 x 41.0mm
_VWD-P110GT-8	—	11	10	12	8.0mm	31.0 x 41.0mm
_VWD-P112GT-11	_VWV-P112	11	12	16	11.0mm	38.5 x 46.0mm
_VWD-P112GT-8	—	11	12	16	8.0mm	35.5 x 46.0mm
_VWD-P13MGT-11	_VWV-P13M	13.5	7	10	11.0mm	32.0 x 39.5mm
_VWD-P13MGT-8	—	13.5	7	10	8.0mm	29.0 x 39.5mm
_VWD-P130GT-11	_VWV-P130	13.5	10	12	11.0mm	34.0 x 42.5mm
_VWD-P130GT-8	—	13.5	10	12	8.0mm	31.0 x 42.5mm
_VWD-P132GT-11	_VWV-P132	13.5	12	16	11.0mm	38.5 x 47.5mm
_VWD-P132GT-8	—	13.5	12	16	8.0mm	35.5 x 47.5mm
_VWD-P137GT-11	_VWV-P137	13.5	17	20	11.0mm	43.5 x 58.5mm
_VWD-P137GT-8	—	13.5	17	20	8.0mm	40.5 x 58.5mm
_VWD-P167GT-11	_VWV-P167	16	17	20	11.0mm	43.5 x 58.5mm
_VWD-P167GT-8	—	16	17	20	8.0mm	40.5 x 58.5mm
_VWD-P213GT	_VWV-P213	21	23	25	12.0mm	54.0 x 67.0mm
_VWD-P299GT	_VWV-P299	29	29	32	12.0mm	61.5 x 74.5mm
_VWD-P366GT	_VWV-P366	36	36	40	13.0mm	72.0 x 98.0mm
_VWD-P488GT	_VWV-P488	48	48	50	13.0mm	85.5 x 111.0mm

_= Insert "B" to order black or "S" to order gray.

Curved elbows of type VB are available for the sizes NW 17 to NW 48.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

Connectors for Nylon Flexible Conduits

VN Straight, PG, Metal

- Use in railway vehicle and heavy machine construction
- High-grade, specially formulated polyamide, thread made of nickel-plated brass
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system connection strength
- Fits fine (T) and coarse (G) conduit profiles



CAT. NO. IP68 BLACK ⚠	CAT. NO. IP68, GRAY ⚠	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
NVNV-P090	MVNV-P090	9	10	12	12.0mm	42.0mm
NVNV-P112	MVNV-P112	11	12	16	12.0mm	45.0mm
NVNV-P137	MVNV-P137	13.5	17	20	13.0mm	54.0mm
NVNV-P167	MVNV-P167	16	17	20	13.0mm	54.0mm
NVNV-P213	MVNV-P213	21	23	25	14.0mm	57.0mm
NVNV-P293	MVNV-P293	29	23	25	14.0mm	57.0mm
NVNV-P299	MVNV-P299	29	29	32	14.0mm	58.5mm
NVNV-P366	MVNV-P366	36	36	40	17.0mm	75.5mm
NVNV-P488	MVNV-P488	48	48	50	17.0mm	75.5mm

⚠ *IP68GT available. Please add "GT" after the order no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

VNZ Straight, PG, Strain Relief, Metal

- Use in railway vehicle and heavy machine construction
- Separate damp and dry areas
- High-grade, specially formulated polyamide 6, thread made of nickel-plated brass, sealing inserts made from TPE-V
- Integrated strain relief and optimal ingress protection at the cable (up to IP68/10 bar)
- High thread and system connection strength
- Vibration-resistant connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



CAT. NO. IP68 COMPLETE, BLACK ⚠	CAT. NO. IP68 FITTING * ⚠	CAT. NO. INSERT	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	TERMINAL RANGE	THREAD LENGTH	OVERALL LENGTH
NVNZ-P090S/P3	NVNZ-P090R/P	DE-P090/P3	9	10	12	6.5–9.5mm	6.0mm	49.5mm
NVNZ-P110S/P1	NVNZ-P110R/P	DE-P110/P1	11	10	12	4.0–6.5mm	6.0mm	52.0mm
NVNZ-P110S/P3		DE-P110/P3	11	10	12	6.5–9.5mm	6.0mm	52.0mm
NVNZ-P112S/P1	NVNZ-P112R/P	DE-P112/P1	11	12	16	4.0–6.5mm	6.0mm	53.5mm
NVNZ-P112S/P3		DE-P112/P3	11	12	16	6.5–9.5mm	6.0mm	53.5mm
NVNZ-P112S/P4		DE-P112/P4	11	12	16	7.0–10.5mm	6.0mm	53.5mm
NVNZ-P160S/P1	NVNZ-P160R/P1	DE-P110/P1	16	10	16	4.5–6.5mm	6.5mm	52.5mm
NVNZ-P167S/P3	NVNZ-P167R/P	DE-P167/P3	16	17	20	6.5–9.5mm	6.5mm	61.0mm
NVNZ-P167S/P4		DE-P167/P4	16	17	20	7.0–10.5mm	6.5mm	61.0mm
NVNZ-P167S/P5		DE-P167/P5	16	17	20	9.0–13.0mm	6.5mm	61.0mm
NVNZ-P167S/P6		DE-P167/P6	16	17	20	11.5–15.5mm	6.5mm	61.0mm
NVNZ-P213S/P4	NVNZ-P213R/P	DE-P213/P4	21	23	25	14.0–18.0mm	7.0mm	72.0mm
NVNZ-P213S/P5	NVNZ-P213R1/P	DE-P213/P5	21	23	25	17.0–20.5mm	7.0mm	72.0mm
NVNZ-P299S/P3	NVNZ-P299R/P	DE-P299/P3	29	29	32	17.0–20.5mm	8.0mm	73.5mm
NVNZ-P299S/P4		DE-P299/P4	29	29	32	20.0–25.0mm	8.0mm	73.5mm
NVNZ-P299S/P5		DE-P299/P5	29	29	32	24.0–28.0mm	8.0mm	73.5mm
NVNZ-P366S/P1	NVNZ-P366R/P	DE-P366/P1	36	36	40	27.0–32.0mm	9.0mm	88.0mm
NVNZ-P366S/P2		DE-P366/P2	36	36	40	29.0–34.0mm	9.0mm	88.0mm
NVNZ-P366S/P3		DE-P366/P3	36	36	40	32.0–36.0mm	9.0mm	88.0mm
NVNZ-P488S/P1	NVNZ-P488R/P	DE-P488/P1	48	48	50	35.0–40.0mm	10.0mm	90.5mm
NVNZ-P488S/P2	NVNZ-P488R/P	DE-P488/P2	48	48	50	39.0–44.0mm	10.0mm	90.5mm

** = without insert*

***Note**: MDE multiple sealing inserts are available for this product.*

⚠ *IP68GT available. Please replace "S" or "R" with "GT" (for example NVNZ-P112**GT**/P1) (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

Temperature range: -40° C to 105° C; Short term to 135° C

Content of delivery:

IP68GT:

Complete: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); sealing insert, O-ring (OR)

Fitting*: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); O-ring (OR)

IP68:

Complete: Fitting with oval clips (OVN2), sealing insert, conduit seal (NVN3), O-ring (OR)

Fitting*: Fitting with oval clips (OVN2), conduit seal (NVN3), O-ring (OR)

Insert: Sealing insert

For several conductors, multiple sealing inserts are available (MDE)

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Connectors for Nylon Flexible Conduits

VA 45° Elbow, PG, Metal

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide, thread made of nickel-plated brass
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP68 BLACK ⚠	CAT. NO. IP68, GRAY ⚠	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
NVAV-P090	MVAV-P090	9	10	12	12.0mm	50.5 x 37.0mm
NVAV-P112	MVAV-P112	11	12	16	12.0mm	55.0 x 40.5mm
NVAV-P137	MVAV-P137	13.5	17	20	13.0mm	63.5 x 50.0mm
NVAV-P167	MVAV-P167	16	17	20	13.0mm	63.5 x 50.0mm
NVAV-P213	MVAV-P213	21	23	25	14.0mm	73.0 x 60.5mm
NVAV-P299	MVAV-P299	29	29	32	14.0mm	78.0 x 68.0mm
NVAV-P366	MVAV-P366	36	36	40	17.0mm	98.0 x 87.5mm
NVAV-P488	MVAV-P488	48	48	50	17.0mm	105.0 x 101.0mm

⚠ *IP68GT available. Please add "GT" after the catalog no.*
*(Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



Temperature range: -40° C to 105° C;
Short term to 160° C

Content of delivery:

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

VB 90° Curved Elbow, PG, Metal

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide, thread made of nickel-plated brass
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Extremely high thread and system connection strength
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP68 BLACK ⚠	CAT. NO. IP68, GRAY ⚠	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
NVBV-P167	MVBV-P167	16	17	20	13.0mm	54.0 x 73.0mm
NVBV-P213	MVBV-P213	21	23	25	14.0mm	65.5 x 85.0mm
NVBV-P299	MVBV-P299	29	29	32	14.0mm	75.0 x 96.0mm
NVBV-P366	MVBV-P366	36	36	40	17.0mm	90.5 x 123.0mm
NVBV-P488	MVBV-P488	48	48	50	17.0mm	103.5 x 135.0mm

Appropriate standard elbows of type VW are available for smaller conduit sizes NW 07 to NW 12.

⚠ *IP68GT available. Please add "GT" after the catalog no.*
*(Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



Temperature range: -40° C to 105° C;
Short term to 160° C

Content of delivery:

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

Connectors for Nylon Flexible Conduits

VW 90° Elbow, PG, Metal

- Use in railway vehicle and heavy machine construction
- High-grade, specially formulated polyamide, thread made of nickel-plated brass
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Extremely high thread and system connection strength
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

CAT. NO. IP66, BLACK ⚠	CAT. NO. IP68, GRAY ⚠	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
NVWV-P090	**MVWV-P090**	9	10	12	12.0mm	39.5 x 39.5mm
NVWV-P112	**MVWV-P112**	11	12	16	12.0mm	45.5 x 45.0mm
NVWV-P137	**MVWV-P137**	13.5	17	20	13.0mm	50.0 x 58.5mm
NVWV-P167	**MVWV-P167**	16	17	20	13.0mm	50.0 x 58.5mm
NVWV-P213	**MVWV-P213**	21	23	25	14.0mm	62.0 x 67.0mm
NVWV-P299	**MVWV-P299**	29	29	32	14.0mm	69.0 x 74.5mm
NVWV-P366	**MVWV-P366**	36	36	40	17.0mm	83.5 x 98.0mm
NVWV-P488	**MVWV-P488**	48	48	50	17.0mm	96.5 x 111.0mm

Curved elbows of type VB are available for the sizes NW 17 to NW 48.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

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Connectors for Nylon Flexible Conduits

VN Straight, Gas, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy mounting: simple conduit push-in installation
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

CAT. NO. IP66 ⚠	CAT. NO. IP68 ⚠	THREAD GAS	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
_VND-G00MGT	_VNV-G00M	¼"	7	10	11.0mm	34.5mm
_VND-G000GT	_VNV-G000	¼"	10	12	11.0mm	36.5mm
_VND-G010GT	_VNV-G010	⅜"	10	12	11.0mm	36.5mm
_VND-G012GT	_VNV-G012	⅜"	12	16	11.0mm	39.0mm
_VND-G022GT	_VNV-G022	½"	12	16	13.0mm	41.0mm
_VND-G027GT	_VNV-G027	½"	17	20	13.0mm	49.5mm
_VND-G043GT	_VNV-G043	¾"	23	25	14.0mm	54.0mm
_VND-G069GT	_VNV-G069	1"	29	32	15.0mm	56.0mm
_VND-G076GT	_VNV-G076	1¼"	36	40	18.0mm	71.0mm
_VND-G088GT	_VNV-G088	1½"	48	50	18.0mm	71.5mm
_VND-G098GT	_VNV-G098	2"	48	50	18.0mm	71.5mm

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

VA 45° Elbow, Gas, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy mounting: simple conduit push-in installation
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD GAS	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
_VAD-G000GT	_VAV-G000	¼"	10	12	11.0mm	43.5 x 37.0mm
_VAD-G012GT	_VAV-G012	¼"	12	16	11.0mm	48.0 x 40.0mm
_VAD-G027GT	_VAV-G027	⅜"	17	20	13.0mm	57.5 x 51.5mm
_VAD-G043GT	_VAV-G043	⅜"	23	25	14.0mm	67.0 x 60.0mm
_VAD-G069GT	_VAV-G069	½"	29	32	15.0mm	73.5 x 67.0mm
_VAD-G076GT	_VAV-G076	½"	36	40	18.0mm	91.5 x 85.5mm
_VAD-G088GT	—	¾"	48	50	18.0mm	99.0 x 96.0mm
_VAD-G098GT	_VAV-G098	1"	48	50	18.0mm	99.0 x 101.0mm

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

Connectors for Nylon Flexible Conduits

VW 90° Elbow, Gas, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy mounting: simple conduit push-in installation
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD GAS	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
_VWD-G00MGT	_VWV-G00M	¼"	7	10	11.0mm	32.0 x 36.5mm
_VWD-G000GT	_VWV-G000	¼"	10	12	11.0mm	34.0 x 39.5mm
_VWD-G010GT	_VWV-G010	⅜"	10	12	11.0mm	34.0 x 40.5mm
_VWD-G012GT	_VWV-G012	⅜"	12	16	11.0mm	38.5 x 46.0mm
_VWD-G022GT	_VWV-G022	½"	12	16	13.0mm	40.5 x 47.5mm
_VWD-G027GT	_VWV-G027	½"	17	20	13.0mm	45.5 x 58.5mm
_VWD-G043GT	_VWV-G043	¾"	23	25	14.0mm	56.0 x 66.5mm
_VWD-G069GT	_VWV-G069	1"	29	32	15.0mm	64.5 x 73.5mm
_VWD-G076GT	_VWV-G076	1¼"	36	40	18.0mm	77.0 x 96.0mm
_VWD-G088GT	_VWV-G088	1½"	48	50	18.0mm	90.5 x 106.0mm
_VWD-G098GT	_VWV-G098	2"	48	50	18.0mm	90.5 x 111.0mm

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the order no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

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Connectors for Nylon Flexible Conduits

VN Straight, NPT, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy mounting: simple conduit push-in installation
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD NTP	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
_VND-N022GT	_VNV-N022	½"	12	16	13.0mm	41.5mm
_VND-N027GT	_VNV-N027	½"	17	20	13.0mm	49.5mm
_VND-N043GT	_VNV-N043	¾"	23	25	14.0mm	54.0mm
_VND-N069GT	_VNV-N069	1"	29	32	15.0mm	56.0mm
_VND-N076GT	_VNV-N076	1¼"	36	40	18.0mm	71.0mm
_VND-N088GT	_VNV-N088	1½"	48	50	18.0mm	71.5mm
_VND-N098GT	_VNV-N098	2"	48	50	18.0mm	71.5mm

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

VA 45° Elbow, NPT, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy mounting: simple conduit push-in installation
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD NPT	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
_VAD-N022GT	_VAV-N022	½"	12	16	13.0mm	50.0 x 41.5mm
_VAD-N027GT	_VAV-N027	½"	17	20	13.0mm	57.5 x 51.5mm
_VAD-N043GT	_VAV-N043	¾"	23	25	14.0mm	67.0 x 60.0mm
_VAD-N069GT	_VAV-N069	1"	29	32	15.0mm	73.5 x 67.0mm
_VAD-N076GT	_VAV-N076	1¼"	36	40	18.0mm	91.5 x 85.5mm
_VAD-N088GT	_VAV-N088	1½"	48	50	18.0mm	99.0 x 96.0mm
_VAD-N098GT	_VAV-N098	2"	48	50	18.0mm	99.0 x 101.0mm

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

Connectors for Nylon Flexible Conduits

VW 90° Elbow, NPT, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy mounting: simple conduit push-in installation
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (SVN4)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, SVN4)

CAT. NO. IP66	CAT. NO. IP68 ⚠	THREAD NPT	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
_VWD-N022GT	_VWV-N022	½"	12	16	13.0mm	40.5 x 47.5mm
_VWD-N027GT	_VWV-N027	½"	17	20	13.0mm	45.5 x 58.5mm
_VWD-N043GT	_VWV-N043	¾"	23	25	14.0mm	56.0 x 66.5mm
_VWD-N069GT	_VWV-N069	1"	29	32	15.0mm	64.5 x 73.5mm
_VWD-N076GT	_VWV-N076	1¼"	36	40	18.0mm	77.0 x 96.0mm
_VWD-N088GT	_VWV-N088	1½"	48	50	18.0mm	90.5 x 106.0mm
_VWD-N098GT	_VWV-N098	2"	48	50	18.0mm	90.5 x 111.0mm

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

VO Flange 90°, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Standard flange seal FG04 made from EPDM; flange seal FG04/01 made from NBR on demand
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties, free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2), flange seal (FG04)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); flange seal (FG04)

IP68: Fitting with oval clips (OVN2), conduit and flange seal (NVN3, FG04)

CAT. NO. IP66	CAT. NO. IP68 ⚠	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	DIMENSIONS WIDTH X LENGTH X DEPTH	SCREW SIZES
_VOD-P167GT	_VOV-P167	17	20	46.0 x 66.0 x 35.5mm	2 x M5
_VOD-P213GT	_VOV-P213	23	25	65.5 x 70.0 x 43.0mm	2 x M6
_VOD-P299GT	_VOV-P299	29	32	67.0 x 78.0 x 49.5mm	4 x M6
_VOD-P366GT	_VOV-P366	36	40	85.0 x 102.0 x 65.5mm	4 x M6
_VOD-P488GT	_VOV-P488	48	50	86.0 x 119.0 x 77.5mm	4 x M6

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*

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Connectors for Nylon Flexible Conduits

VI Female Thread Adapter, Metric, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP66, BLACK	CAT. NO. IP68, BLACK ⚠	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
BVID-M12MGT	—	M12x1.5	7	10	8.0mm	32.0mm
BVID-M160GT	BVIR-M160	M16x1.5	10	12	8.0mm	33.5mm
BVID-M162GT	BVIR-M162	M16x1.5	12	16	8.0mm	36.5mm
—	BVIR-M202	M20x1.5	12	16	8.0mm	36.5mm
BVID-M207GT	BVIR-M207	M20x1.5	17	20	8.0mm	44.5mm
BVID-M253GT	BVIR-M253	M25x1.5	23	25	8.0mm	48.5mm
—	BVIR-M257	M25x1.5	17	20	8.0mm	44.5mm
BVID-M329GT	BVIR-M329	M32x1.5	29	32	10.0mm	51.5mm
BVID-M406GT	BVIR-M406	M40x1.5	36	40	10.0mm	65.5mm
BVID-M508GT	BVIR-M508	M50x1.5	48	50	10.0mm	65.5mm
BVID-M638GT	BVIR-M638	M63x1.5	48	50	10.0mm	65.5mm

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



VIR: IP68 static/IP67 dynamic, conduit side

VID: IP66 static/IP54 dynamic, conduit side

Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT)

IP68: Fitting with oval clips (OVN2), conduit seal (NVN3)

VI Female Thread Adapter, Metric, Metal

- Use in machine and railway construction and industry
- High-grade, specially formulated polyamide 6, thread made of nickel-plated brass
- Very high impact resistance
- High thread and system connection strengths
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP68, BLACK ⚠	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
NVIR-M120	M12x1.5	10	12	7.0mm	35.5mm
NVIR-M162	M16x1.5	12	16	9.0mm	40.5mm
NVIR-M207	M20x1.5	17	20	10.5mm	50.5mm
NVIR-M253	M25x1.5	23	25	10.5mm	53.0mm
NVIR-M329	M32x1.5	29	32	11.0mm	55.0mm
NVIR-M406	M40x1.5	36	40	13.5mm	71.0mm
NVIR-M508	M50x1.5	48	50	15.0mm	73.0mm
NVIR-M638	M63x1.5	48	50	17.5mm	78.0mm

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



VIR: IP68 static/IP67 dynamic, conduit side

Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT)

IP68: Fitting with oval clips (OVN2), conduit seal (NVN3)

Connectors for Nylon Flexible Conduits

FI/VI Female Thread Adapter, PG, Polyamide

- For machine, vehicle and traction building
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP67, BLACK	CAT. NO. IP68, BLACK ⚠	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
BFIL-P07M	—	7	7	10	8.0mm	29.0mm
BFIL-P070	—	7	10	12	8.0mm	34.5mm
—	BVIR-P070	7	10	12	8.0mm	33.5mm
BFIL-P090	—	9	10	12	8.0mm	32.5mm
—	BVIR-P090	9	10	12	8.0mm	33.5mm
BFIL-P112	—	11	12	16	8.0mm	32.5mm
—	BVIR-P112	11	12	16	8.0mm	36.5mm
BFIL-P117	—	11	17	20	8.0mm	35.0mm
BFIL-P132	—	13.5	12	16	8.0mm	32.5mm
BFIL-P137	—	13.5	17	20	8.0mm	33.5mm
BFIL-P160	—	16	10	12	7.0mm	37.0mm
BFIL-P167	—	16	17	20	8.0mm	33.5mm
—	BVIR-P167	16	17	20	8.0mm	44.5mm
BFIL-P217	—	21	17	20	10.5mm	35.5mm
BFIL-P213	—	21	23	25	8.0mm	39.0mm
BFIL-P293	—	29	23	25	9.0mm	42.0mm
BFIL-P299	—	29	29	32	9.0mm	43.0mm
BFIL-P363	—	36	23	25	12.0mm	51.0mm
BFIL-P369	—	36	29	32	16.0mm	52.0mm
BFIL-P366	—	36	36	25	13.0mm	64.0mm
BFIL-P488	—	48	48	50	13.0mm	65.0mm

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT,* ***pages E-192–E-193****).*



VIR: IP68 static/IP67 dynamic, conduit side
FIL: IP67 static/IP65 dynamic, conduit side

Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP67: Fitting with oval clips (OVN2), conduitseal (NFN3)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT)

IP68: Fitting with oval clips (OVN2), conduit seal (NVN3)

VI Female Thread Adapter PG, Metal

- For machine, vehicle and traction building
- High-grade, specially formulated polyamide 6, thread made of nickel-plated brass
- Very high impact resistance
- High thread and system connection strengths
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP68, BLACK ⚠	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
NVIZR-P07M	7	7	10	6.0mm	33.0mm
NVIZR-P090	9	10	12	9.0mm	37.5mm
NVIZR-P110	11	10	12	9.0mm	39.5mm
NVIZR-P112	11	12	16	9.0mm	41.5mm
NVIZR-P167	16	17	20	9.5mm	49.5mm
NVIZR-P213	21	23	25	10.0mm	56.5mm
NVIZR-P299	29	29	32	12.5mm	56.5mm
NVIZR-P366	36	36	40	13.0mm	73.0mm
NVIZR-P488	48	48	50	14.0mm	75.0mm

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT,* ***pages E-192–E-193****).*



VIZR: IP68 static/IP67 dynamic, conduit side

Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT)

IP68: Fitting with oval clips (OVN2), conduit seal (NVN3)

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Connectors for Nylon Flexible Conduits

VI Female Thread Adapter, UNEF for AMP CPC Series, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Suitable for the AMP connector series CPC
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP66, BLACK	CAT. NO. IP68, BLACK ⚠	THREAD UNEF	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
BVIDA-U15MGT	BVIRA-U15M	5/8"-24	7	10	8.0mm	31.5mm
BVIDA-U150GT	BVIRA-U150	5/8"-24	10	12	8.0mm	33.5mm
BVIDA-U152GT	BVIRA-U152	5/8"-24	12	16	8.0mm	36.5mm
BVIDA-U180GT	BVIRA-U180	3/4"-20	10	12	8.0mm	33.5mm
BVIDA-U182GT	BVIRA-U182	3/4"-20	12	16	8.0mm	36.5mm
BVIDA-U187GT	BVIRA-U187	3/4"-20	17	20	8.0mm	44.5mm
BVIDA-U232GT	BVIRA-U232	15/16"-20	12	16	8.0mm	38.5mm
BVIDA-U237GT	BVIRA-U237	15/16"-20	17	20	8.0mm	46.5mm
BVIDA-U233GT	BVIRA-U233	15/16"-20	23	25	8.0mm	48.5mm
BVIDA-U347GT	BVIRA-U347	1 3/8'-18	17	20	8.0mm	46.5mm
BVIDA-U343GT	BVIRA-U343	1 3/8"-18	23	25	8.0mm	48.5mm
BVIDA-U402GT	BVIRA-U402	1 5/8"-18	12	16	7.0mm	55.5mm
BVIDA-U407GT	BVIRA-U407	1 5/8"-18	17	20	7.0mm	61.5mm
BVIDA-U403GT	BVIRA-U403	1 5/8"-18	23	25	7.0mm	60.5mm

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



VIRA: IP68 static/IP67 dynamic, conduit side
VIDA: IP66 static/IP54 dynamic, conduit side

Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT)

IP68: Fitting with oval clips (OVN2), conduit seal (NVN3)

VI Female Thread Adapter, UNEF for Souriau UTG-6/ITT Cannon Trident, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Suitable for the Souriau connector series UTG-6 - ITT Cannon Trident
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP66, BLACK	CAT. NO. IP68, BLACK ⚠	THREAD UNEF	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
BVIDB-U162GT	BVIRB-U162	11/16"-24	12	16	4.0mm	43.5mm
BVIDB-U202GT	BVIRB-U202	13/16"-20	12	16	4.5mm	44.0mm
BVIDB-U232GT	BVIRB-U232	15/16"-20	12	16	4.5mm	49.0mm
BVIDB-U237GT	BVIRB-U237	15/16"-20	17	20	4.5mm	52.0mm
BVIDB-U267GT	BVIRB-U267	1 1/16"-18	17	20	4.5mm	52.0mm
BVIDB-U297GT	BVIRB-U297	1 3/16"-18	17	20	6.5mm	55.5mm
BVIDB-U293GT	BVIRB-U293	1 3/16"-18	23	25	6.5mm	52.0mm
BVIDB-U323GT	BVIRB-U323	1 5/16"-18	23	25	6.5mm	52.0mm
BVIDB-U357GT	BVIRB-U357	1 7/16"-18	17	20	6.5mm	58.5mm
BVIDB-U353GT	BVIRB-U353	1 7/16"-18	23	25	6.5mm	54.0mm
BVIDB-U359GT	BVIRB-U359	1 7/16"-18	29	32	6.5mm	50.5mm

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



VIRB: IP68 static/IP67 dynamic, conduit side
VIDB: IP66 static/IP54 dynamic, conduit side

Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT)

IP68: Fitting with oval clips (OVN2), conduit seal (NVN3)

Connectors for Nylon Flexible Conduits

VI Female Thread Adapter, UNEF for MIL C 5015

- Use in machine, vehicle and traction building industries
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP66, BLACK	CAT. NO. IP68, BLACK ⚠	THREAD UNEF	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGHT
—	**BVIVG-U152**	5/8"–24	12	16	8.0mm	36.5mm
—	**BVIVG-U187**	3/4"–20	17	20	9.0mm	46.5mm
—	**BVIVG-U210**	7/8"–20	10	07	9.0mm	37.0mm
BVIDG-U212GT	**BVIVG-U212**	7/8"–20	12	16	9.0mm	38.5mm
BVIDG-U217GT	**BVIVG-U217**	7/8"–20	17	20	9.0mm	46.5mm
BVIDG-U242GT	**BVIVG-U242**	1"–20	12	16	9.0mm	40.5mm
—	**BVIVG-U243**	1"–20	23	25	9.0mm	55.0mm
BVIDG-U247GT	**BVIVG-U247**	1"–20	17	20	9.0mm	47.5mm
—	**BVIVG-U292**	1 3/16"–18	12	16	9.0mm	40.5mm
BVIDG-U293GT	**BVIVG-U293**	1 3/16"–18	23	25	9.0mm	55.0mm
BVIDG-U297GT	**BVIVG-U297**	1 3/16"–18	17	20	9.0mm	47.5mm
—	**BVIVG-U299**	1 3/16"–18	29	29	9.0mm	47.0mm
—	**BVIVG-U352**	1 7/16"–18	12	16	9.0mm	39.0mm
BVIDG-U353GT	**BVIVG-U353**	1 7/16"–18	23	25	9.0mm	52.0mm
—	**BVIVG-U356**	1 7/16"–18	36	40	9.0mm	63.0mm
BVIDG-U357GT	**BVIVG-U357**	1 7/16"–18	17	20	9.0mm	46.5mm
BVIDG-U359GT	**BVIVG-U359**	1 7/16"–18	29	29	9.0mm	52.0mm
BVIDG-U433GT	**BVIVG-U433**	1 3/4"–18 UNS	23	25	10.0mm	52.0mm
BVIDG-U436GT	**BVIVG-U436**	1 3/4"–18 UNS	36	40	10.0mm	62.5mm
—	**BVIVG-U437**	1 3/4"–18 UNS	17	20	10.0mm	46.5mm
BVIDG-U439GT	**BVIVG-U439**	1 3/4"–18 UNS	29	32	10.0mm	51.5mm
—	**BVIVG-U503**	2"–18 UNS	23	25	10.0mm	51.5mm
—	**BVIVG-U503/01**	2"–18 UNS	23	25	10.0mm	62.5mm
BVIDG-U506GT	**BVIVG-U506**	2"–18 UNS	36	40	10.0mm	62.5mm
—	**BVIVG-U508**	2"–18 UNS	48	50	10.0mm	64.5mm
BVIDG-U509GT	**BVIVG-U509**	2"–18 UNS	29	32	10.0mm	55.0mm
—	**BVIVG-U563**	2 1/4"–16 UN	23	25	10.0mm	51.0mm
BVIDG-U566GT	**BVIVG-U566**	2 1/4"–16 UN	36	40	10.0mm	62.0mm
—	**BVIVG-U568**	2 1/4"–16 UN	48	50	10.0mm	64.0mm
BVIDG-U569GT	**BVIVG-U569**	2 1/4"–16 UN	29	32	10.0mm	51.0mm
—	**BVIVG-U628**	2 1/2"–16 UN	48	500	10.0mm	64.0mm

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT,* ***pages E-192-E-193****).*



VIVG: IP68 static/IP67 dynamic, conduit- and thread side

VIDG: IP66 static/IP54 dynamic, conduit- and thread side

Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Fitting with pre-assembled universal safety clips (AFN2), thread seal (OR)

IP68GT: Fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT); thread seal (O-Ring)

IP68: Fitting with oval clips (OVN2), conduit and thread seal (NVN3, OR)

FI Female Thread Adapter, Fine-Metric, Transparent

- Use in machine and vehicle building, in connection with electronic sensors
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Light-emitting diodes are recognizable through the connector
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties, free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP67, TRANSPARENT	THREAD FINE-METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGHT
TFIL-F08M	8	7	10	6.5mm	29.5mm
TFIL-F12M	12	7	10	6.0mm	56.0mm
TFIL-F18M	18	7	10	6.0mm	56.5mm
TFIL-F30M	30	7	10	6.0mm	56.5mm
TFIL-F120	12	10	12	6.0mm	57.0mm
TFIL-F180	18	10	12	6.0mm	57.0mm
TFIL-F300	30	10	12	6.0mm	57.0mm



FIL: IP67 static/IP65 dynamic, conduit side

Temperature range: -40° C to 105° C; Short term to 120° C

Content of delivery:

Fitting with oval clip (OVN2), conduit seal (NFN3)

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Connectors for Nylon Flexible Conduits

VY Y Pieces

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP66	CAT. NO. IP68 ⚠	INPUT FITS TO CONDUIT SIZE		OUTPUTS FITS TO CONDUIT SIZE	
		NW	METRIC	NW	METRIC
_VYD-100707GT	_VYR-100707	10	12	7	10
_VYD-121010GT	_VYR-121010	12	16	10	12
_VYD-171212GT	_VYR-171212	17	20	12	16
_VYD-231717GT	_VYR-231717	23	25	17	20
_VYD-292323GT	_VYR-292323	29	32	23	25
_VYD-362929GT	_VYR-362929	36	40	29	32
_VYD-483636GT	_VYR-483636	48	50	36	40

_ = Insert "B" to order black or "S" to order gray.

The input/output sizes can be adapted with the AVD/AVR conduit adapters.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT, **pages E-192-E-193**).*



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Distributor fitting with pre-assembled universal safety clips (AFN2)

IP68GT: Distributor fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT)

IP68: Distributor fitting with oval clips (OVN2), conduit seal (NVN3)

FV V Pieces

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP66	CAT. NO. IP67	INPUT FITS TO CONDUIT SIZE		OUTPUTS FITS TO CONDUIT SIZE	
		NW	METRIC	NW	METRIC
_FVD-100707GT	_FVL-100707	10	12	7	10
_FVD-101010GT	_FVL-101010	10	12	10	12
_FVD-121010GT	_FVL-121010	12	16	10	12
_FVD-171010GT	_FVL-171010	17	20	10	12
_FVD-171212GT	_FVL-171212	17	20	12	16
_FVD-231717GT	_FVL-231717	23	25	17	20

_ = Insert "B" to order black or "S" to order gray.



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Distributor fitting with pre-assembled universal safety clips (AFN2)

IP67: Distributor fitting with oval clips (OVN2), conduit seals (NFN3)

Connectors for Nylon Flexible Conduits

FT/VT T Pieces

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Distributor fitting with pre-assembled universal safety clips (AFN2)

IP67: Distributor fitting with oval clips (OVN2), conduit seals (NFN3)

IP68GT: Distributor fitting with pre-assembled universal safety clips (AFN2) and conduit seal (NVN3-GT)

IP68: Distributor fitting with oval clips (OVN2), conduit seals (NVN3)

CAT. NO. IP66	CAT. NO. IP67 ⚠	INPUT FITS TO CONDUIT SIZE		OUTPUTS FITS TO CONDUIT SIZE	
		NW	METRIC	NW	METRIC
_FTD-101010GT	—	10	12	10	12
_FTD-121212GT	—	12	16	12	16
_FTD-171717GT	—	17	20	17	20
_FTD-292323GT	_FTL-292323 (!)	29	32	23	25
_FTD-292929GT	—	29	32	29	32
—	_VTR-101010	10	12	10	12
—	_VTR-121212	12	16	12	16
—	_VTR-171717	17	20	17	20
_VDD-232323GT	_VTR-232323	23	25	23	25
—	_VTR-292929	29	32	29	32
_VTD-363636GT	_VTR-363636	36	40	36	40
_VTD-484848GT	_VTR-484848	48	50	48	50

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" after the catalog no. (Functional description PMAFIX IP68GT,* ***pages E-192–E-193****).*

(!) Please note: The article "FTL" (IP67) will be discontinued! For new applications we recommend _VTR (IP68).

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Connectors for Nylon Flexible Conduits

GPS One-Piece System Supports

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- One-piece construction, stackable
- Excellent impact resistance
- Heavy design, high retention forces
- Applicable with standard metal C rails
- Easy pre-installation by conduit snap-in
- Clasp for easy pre-mounting and final assembly
- Very good chemical properties
- Free from halogens and cadmium
- Fits (T) and coarse (G) conduit profiles
- The following nominal widths can be combined for stacking:

  NW 17 with NW 23, NW 29 with NW 36, NW 48 with NW 56



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

System support and 2-piece screws for securing of the lid (optional); without mounting accessories

CAT. NO. FINE PROFILE	FITS TO CONDUIT SIZE			DIMENSIONS		
	NW	METRIC	DIN-NW	WIDTH	HEIGHT	DEPTH
BGPS-17	17	20	2	70.0mm	51.0mm	30.0mm
BGPS-23	23	25	2	70.0mm	51.0mm	30.0mm
BGPS-29	29	32	3	85.0mm	65.0mm	30.0mm
BGPS-36	36	40	3	85.0mm	65.0mm	30.0mm
BGPS-48	48	50	4	115.0mm	92.5mm	30.0mm
BGPS-56	56	—	4	115.0mm	92.5mm	30.0mm

_ = Replace with "B" to order black or "S" to order gray.

GP System Supports for Stacking

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide
- Variable stacking possibilities — due to the block system, a high rigidity is guaranteed
- Strain relief due to gripping around conduit
- Especially suitable for dynamic applications due to rounded edges
- Variety of support possibilities
- Self extinguishing, free from halogens and cadmium
- Excellent impact strength



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

System support with assembling screws; without mounting accessories

CAT. NO. FINE PROFILE	CAT. NO. COARSE PROFILE	FITS TO CONDUIT SIZE		DIMENSIONS		
		NW	METRIC	WIDTH	HEIGHT	DEPTH
_GP-16T	**_GP-16G**	17	20	47.5mm	66.0mm	36.0mm
_GP-21T	**_GP-21G**	23	25	47.5mm	66.0mm	36.0mm
_GP-29T	**_GP-29G**	29	32	61.5mm	66.0mm	36.0mm
_GP-36T	**_GP-36G**	36	40	61.5mm	66.0mm	36.0mm
_GP-48T	**_GP-48G**	48	50	76.0mm	66.0mm	36.0mm
—	**_GP-56G**	56	—	87.0mm	78.0mm	36.0mm

_ = Insert "B" to order black or "S" to order gray.

Connectors for Nylon Flexible Conduits

SGB Tube Clamps

- Especially suitable for the mounting of static conduits
- Galvanized steel according to DIN 3016
- Elastomer free from halogens (EPDM)
- For the mounting of static conduits
- Smooth connection to PMAFLEX® corrugated conduits
- Good ozone and aging resistance



Temperature range: -50° C to 105° C

CAT. NO. FINE PROFILE, BLACK	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	DIMENSIONS WIDTH	FIXING SCREW
SGB-07	7	10	13.0mm	(1) M4
SGB-09	10	12	13.0mm	(1) M4
SGB-11	12	16	13.0mm	(1) M4
SGB-16	17	20	16.0mm	(1) M5
SGB-21	23	25	16.0mm	(1) M5
SGB-29	29	32	19.0mm	(1) M6
SGB-36	36	40	19.0mm	(1) M6
SGB-48	48	50	19.0mm	(1) M6

GN Half Shells

- Used for fixing PMA® conduits in conjunction with beam systems, particularly in traction and machine applications
- High-grade, specially formulated polyamide
- Variable combinations
- Strain relief due to gripping around conduit
- Especially suitable for dynamic applications due to rounded edges
- Variety of support possibilities
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength



Temperature range: -40° C to 105° C; Short term to 160° C

CAT. NO. FINE PROFILE, BLACK	CAT. NO. COARSE PROFILE, BLACK	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	OUTSIDE DIAMETER	DIMENSIONS WIDTH
BGN-S12T	—	12	16	26.5mm	34.0mm
BGN-S17T	BGN-S17G	17	20	32.0mm	34.0mm
BGN-S23T	BGN-S23G	23	25	39.5mm	34.0mm
BGN-S29T	BGN-S29G	29	32	47.0mm	34.0mm
BGN-S36T	—	36	40	55.0mm	36.5mm
—	BGN-S36G	36	40	55.0mm	34.0mm
BGN-S48T	—	48	50	66.5mm	36.5mm
—	BGN-S48G	48	50	66.5mm	34.0mm
—	BGN-S70G	70	80	93.5.mm	38.0mm

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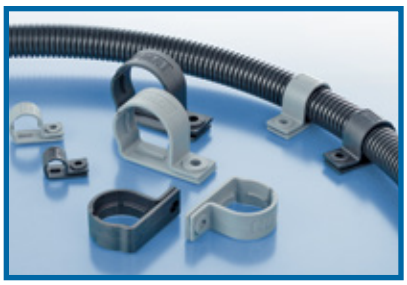
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Connectors for Nylon Flexible Conduits

GL Tube Clamps

- Used in general machine and installation applications
- High-grade, specially formulated polyamide
- Self extinguishing
- Free from halogens and cadmium



Temperature range: -40° C to 105° C

CAT. NO. BLACK	CAT. NO. GRAY	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	DIMENSIONS WIDTH	FIXING SCREW
BGL-07	**SGL-07**	07	10	25.0	(1) M4
BGL-10	**SGL-10**	10	12	27.0	(1) M4
BGL-12	**SGL-12**	12	16	31.0	(1) M4
BGL-17	**SGL-17**	17	20	39.5	(1) M5
BGL-23	**SGL-23**	23	25	49.0	(1) M5
BGL-29	**SGL-29**	29	32	57.0	(1) M6

GH Tube Clamps

- Used in general machine and installation applications
- High-grade, specially formulated polyamide
- Self extinguishing
- Free from halogens and cadmium
- Nominal widths: 23–95mm



Temperature range: -40° C to 105° C;

CAT. NO. BLACK	CAT. NO. GRAY	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	DIMENSIONS WIDTH	FIXING SCREW
BGH-23	**SGH-23**	23	25	58.0mm	(2) M5
BGH-29	**SGH-29**	29	32	70.0mm	(2) M6
BGH-36	**SGH-36**	36	40	80.0mm	(2) M6
BGH-48	**SGH-48**	48	50	94.0mm	(2) M6

Large-Size Nylon Flexible Conduits and Connectors

GGV Flange, Straight

- Use in railway vehicle construction as well as in a wide range of industrial applications with high sealing and safety requirements
- High-grade, specially formulated polyamide 6
- Flange seal FG04 made from EPDM
- Flange seal FG04/01 made from NBR on special request
- Very high impact strength
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Ingress protection: IP68, IP69K
- Very good chemical properties
- Free from halogens and cadmium
- If the application temperature is above 70° C, we recommend using an additional internal conduit support sleeve (BES)



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

Flange part, fixation clamps (including two screws), conduit seal (NVN3), flange seal (FG04 or FG04/01)

CAT. NO. BLACK	FITS TO NW	DIMENSIONS WIDTH	HEIGHT	DEPTH
BGGV-56	56	82.0mm	97.0mm	42.0mm
BGGV-70	70	97.0mm	114.0mm	48.0mm
BGGV-95	95	126.0mm	146.0mm	53.0mm

GOV Flange, 90° Elbow

- Use in railway vehicle construction as well as in a wide range of industrial applications with high sealing and safety requirements
- High-grade, specially formulated polyamide 6
- Flange seal FG04 made from EPDM
- Flange seal FG04/01 made from NBR on special request
- Very high impact strength
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Ingress protection: IP68, IP69K
- Very good chemical properties
- Free from halogens and cadmium
- If the application temperature is above 70° C, we recommend using an additional internal conduit support sleeve (BES)



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

Flange part, fixation clamps (including two screws), conduit seal (NVN3), flange seal (FG04 or FG04/01)

CAT. NO. BLACK	FITS TO NW	DIMENSIONS WIDTH	HEIGHT	DEPTH
BGOV-56	56	82.0mm	97.0mm	101.0mm
BGOV-70	70	97.0mm	114.0mm	115.0mm
BGOV-95	95	126.0mm	146.0mm	151.0mm

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Large-Size Nylon Flexible Conduits and Connectors

GG Flange, Straight

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Flange seal FGO4 made from EPDM
- Flange seal FGO4/01 made from NBR
- Very high impact strength
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Ingress protection: IP50 (IP65 with conduit seal ring)
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

Flange part, fixation clamps (including two screws), flange seal (FGO4 or FGO4/01), conduit seal ring (SGO3, optional for IP65)

CAT. NO. BLACK	CAT. NO. GRAY	FITS TO NW	DIMENSIONS		
			WIDTH	HEIGHT	DEPTH
BGG-56	**SGG-56**	56	82.0mm	97.0mm	42.0mm
BGG-70	**SGG-70**	70	97.0mm	114.0mm	48.0mm
BGG-95	**SGG-95**	95	126.0mm	146.0mm	53.0mm
BGG-125	**SGG-125**	125	—	194.0mm	79.0mm

GO Flange, 90° Elbow

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Flange seal FGO4 made from EPDM
- Flange seal FGO4/01 made from NBR
- Very high impact strength
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Ingress protection: IP50 (IP65 with conduit seal ring)
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

Flange part, fixation clamps (including two screws), flange seal (FGO4 or FGO4/01), conduit seal ring (SGO3, optional for IP65)

CAT. NO. BLACK	CAT. NO. GRAY	FITS TO NW	DIMENSIONS		
			WIDTH	HEIGHT	DEPTH
BGO-56	**SGO-56**	56	82.0mm	97.0mm	101.0mm
BGO-70	**SGO-70**	70	97.0mm	114.0mm	115.0mm
BGO-95	**SGO-95**	95	126.0mm	146.0mm	149.0mm

Large-Size Nylon Flexible Conduits and Connectors

GG Straight, Male Thread

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Easy mounting with locking clamps
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Ingress protection: IP50 (IP65 when using enclosed conduit and thread seal ring)
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

Threaded connector body, fixation clamps (including two screws), conduit seal ring (SGO3, optional for IP65)

CAT. NO. BLACK	CAT. NO. GRAY	THREAD	FITS TO NW	THREAD LENGTH	DIMENSIONS HEIGHT	DIMENSIONS DEPTH
BGG-M6356	SGG-M6356	M63x1.5	56	18.0mm	98.0mm	57.5mm
BGG-P3656	SGG-P3656	PG 36	56	18.0mm	98.0mm	57.3mm

GI Straight, Female Thread

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Easy mounting with locking clamps
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pull-out strength
- Ingress protection: IP50 (IP65 on conduit side with enclosed conduit seal ring)
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

Threaded connector body, fixation clamps (including two screws), conduit seal ring (SGO3, optional for IP65)

CAT. NO. BLACK	CAT. NO. GRAY	THREAD	FITS TO NW	THREAD LENGTH	DIMENSIONS HEIGHT	DIMENSIONS DEPTH
BGI-M7556	SGI-M7556	M75x1.5	56	15.0mm	98.0mm	53.3mm

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Large-Size Nylon Flexible Conduits and Connectors

Jumbo Conduits



CAT. NO. BLACK	CAT. NO. GRAY	CONDUIT SIZE NW	CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT./DYN. RADIUS	PU METER
PCLG-56B	PCLG-56S	56	68	56.3mm	67.2mm	130/_mm	30
PCLG-70B	PCLG-70S	70	80	67.5mm	80.0mm	160/_mm	30/10
PCLG-95B	PCLG-95S	95	106	91.5mm	106.0mm	210/_mm	30/10
PCLG-125B	PCLG-125S	125	146	126.5mm	146.5mm	450/_mm	6
PIHG-56B	PIHG-56S	56	68	56.3mm	67.2mm	110/270mm	30
PIHG-70B	PIHG-70S	70	80	67.2mm	79.6mm	150/350mm	30/10
PIHG-95B	PIHG-95S	95	106	91.3mm	106.0mm	170/450mm	30/10
PIHG-125B	PIHG-125S	125	146	126.5mm	146.5mm	350/480mm	20
VOHG-56B	VOHG-56S	56	68	55.5mm	67.2mm	135/_mm	30
VOHG-70B	VOHG-70S	70	80	67.0mm	80.0mm	200/_mm	10
VOHG-95B	VOHG-95S	95	106	90.5mm	106.0mm	300/_mm	10
VOHG-125B	VOHG-125S	125	146	126.0mm	146.5mm	480/_mm	6
VCSG-56B	VCSG-56S	56	68	56.1mm	67.2mm	150/_mm	30
VCSG-70B	VCSG-70S	70	80	66.5mm	80.0mm	200/_mm	10
VCSG-95B	VCSG-95S	95	106	91.0mm	106.0mm	300/_mm	10
PCSG-56B	PCSG-56S	56	68	56.1mm	67.2mm	130/280mm	30
PCSG-70B	PCSG-70S	70	80	66.5mm	80.0mm	170/360mm	10
PCSG-95B	PCSG-95S	95	106	91.0mm	106.0mm	250/470mm	10
PUEG-56B	—	56	68	56.3mm	67.2mm	90/170mm	30
PUEG-70B	—	70	80	68.2mm	80.2mm	100/220mm	30
CYLG-56B	CYLG-56S	56	68	56.3mm	67.2mm	120/_mm	30
CYLG-70B	CYLG-70S	70	80	68.0mm	80.0mm	160/_mm	30/10
CYLG-90B	CYLG-95S	95	106	91.9mm	106.0mm	210/_mm	10
CYLG-125B	CYLG-125S	125	146	126.5mm	146.5mm	450/_mm	6

Large-Size Nylon Flexible Conduits and Connectors

GH Tube Clamps

- For mounting conduits in a wide range of applications
- High-grade, specially formulated polyamide 6
- One-piece design
- Integrated rib provides axial strain relief
- Allows turning of the conduit, thus avoiding torsion stresses
- Pre-fixation on the conduit possible
- Allows solid fixation with two screws
- Self extinguishing
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles
- No corrosion



Temperature range: -40° C to 105° C

CAT. NO. BLACK	CAT. NO. GRAY	FITS TO CONDUIT SIZE		DIMENSIONS WIDTH	FIXING SCREW
		NW	METRIC		
BGH-56	SGH-56	56	63	26.0mm	(2) M8
BGH-70	SGH-70	70	80	30.0mm	(2) M8
BGH-95	SGH-95	95	106	30.0mm	(2) M8

SGS Tube Clamps

- For mounting of static conduits
- Galvanized steel
- Elastomer profile (EPDM)
- Elastomer profile, free from halogens
- Smooth connection to PMAFLEX® corrugated conduits
- Good ozone and aging resistance



Temperature range: -50° C to 105° C

CAT. NO. BLACK	FITS TO NW	DIMENSIONS		
		WIDTH	HEIGHT	DEPTH
SGS-36	36	80.0mm	48.0mm	19.0mm
SGS-48	48	94.0mm	58.0mm	19.0mm
SGS-56	56	118.0mm	72.0mm	24.0mm
SGS-70	70	130.0mm	85.0mm	24.0mm
SGS-95	95	156.0mm	110.0mm	24.0mm
SGS-125	125	200.0mm	152.0mm	24.0mm

SG03 Conduit Seal Rings

- Used at the conduit end for sealing between the PMAGRIP flanges GG/GI/GO and PMAFLEX® Jumbo conduits
- Nitrile rubber



Temperature range: -40° C to 105° C

CAT. NO. BLACK	FITS TO NW	INSIDE DIAMETER	OUTSIDE DIAMETER	DIMENSIONS WIDTH
SG03-56	56	49.5mm	61.0mm	1.5mm
SG03-70	70	61.5mm	74.0mm	1.5mm
SG03-95	95	86.0mm	102.0mm	1.5mm
SG03-125	125	122.0mm	142.0mm	2.0mm

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Divisible-System Nylon Flexible Conduits and Connectors

TN Divisible Connectors, Metric

- Connect with divisible PMA® COFLEX conduits and PMA® COFIX lock nuts
- For installation upon fully assembled cable looms or repair in machine and plant construction
- High-grade, specially formulated polyamide 6
- High impact resistance
- Easy installation
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40° C to 100° C; Short term 130° C

CAT. NO. BLACK	THREAD METRIC	FITS TO CONDUIT COFLEX NW	INSIDE DIAMETER	OUTSIDE DIAMETER	DIMENSIONS WIDTH
BTNO-M1610	M16x1.5	10	11.0mm	25.5mm	36.0mm
BTNO-M2014	M20x1.5	14	14.5mm	29.0mm	41.0mm
BTNO-M2520	M25x1.5	20	19.0mm	35.0mm	43.0mm
BTNO-M3223	M32x1.5	23	26.0mm	44.0mm	50.5mm
BTNO-M4037	M40x1.5	37	32.0mm	53.0mm	59.0mm
BTNO-M5045	M50x1.5	45	42.0mm	69.0mm	67.5mm

GTN Divisible Lock Nuts, Metric

- Connect with divisible PMA® COFLEX conduits and PMA® COFIX lock nuts
- For installation upon fully assembled cable looms or repair in machine and plant construction
- High-grade, specially formulated polyamide 6
- High impact resistance
- Easy installation
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40° C to 100° C; Short term 130° C

CAT. NO. BLACK	THREAD METRIC	FITS TO COFLEX CONNECTOR	OUTSIDE DIAMETER	DIMENSIONS WIDTH
BGTN-M1610	M16x1.5	BTNO-M1610	21.5mm	8.0mm
BGTN-M2014	M20x1.5	BTNO-M2014	29.0mm	8.0mm
BGTN-M2520	M25x1.5	BTNO-M2520	35.5mm	9.0mm
BGTN-M3223	M32x1.5	BTNO-M3223	44.0mm	12.0mm
BGTN-M4037	M40x1.5	BTNO-M4037	52.5mm	15.0mm
BGTN-M5045	M50x1.5	BTNO-M5045	69.0mm	15.0mm

Divisible-System Nylon Flexible Conduits and Connectors

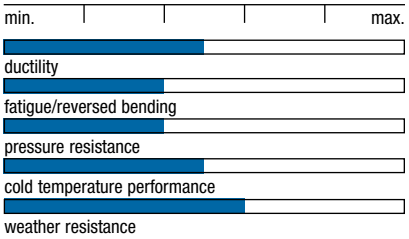
PACO Flexible Medium, Divisible

- Use in machine building and plant construction
- Specially modified polyamide 6
- Easy installation, trouble-free retrofitting, applicable also for repairs
- Can be opened and closed again in longitudinal direction any time
- Self extinguishing
- Free from halogens and cadmium



CAT. NO. BLACK	CONDUIT SIZE NW	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
PACO-07B	07	6.5mm	10.1mm	45mm	50
PACO-10B	10	8.8mm	13.5mm	55mm	50
PACO-12B	12	11.3mm	16.3mm	60mm	50
PACO-14B	14	13.2mm	18.7mm	75mm	50
PACO-17B	17	16.5mm	21.8mm	90mm	50
PACO-20B	20	20.2mm	25.7mm	105mm	50
PACO-23B	23	23.9mm	31.3mm	125mm	50
PACO-29B	29	27.8mm	35.9mm	150mm	25
PACO-37B	37	32.5mm	41.9mm	170mm	25
PACO-45B	45	43.0mm	54.2mm	200mm	25
PACO-70B	70	66.5mm	79.8mm	300mm	10

PACO Index



Temperature range: -40° C to 100° C; Short term to 150° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids and bases, etc.

PPCO Very Flexible Medium, Divisible

- Use in machine building and plant construction
- Specially modified polypropylene
- Easy installation, trouble-free retrofitting, applicable also for repairs
- Can be opened and closed again in longitudinal direction any time



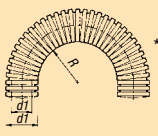
CAT. NO. BLACK	CONDUIT SIZE NW	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
PPCO-07B	07	6.3mm	10.0mm	60mm	50
PPCO-10B	10	8.4mm	13.4mm	70mm	50
PPCO-12B	12	11.0mm	16.1mm	80mm	50
PPCO-14B	14	12.5mm	18.5mm	95mm	50
PPCO-17B	17	16.0mm	21.5mm	110mm	50
PPCO-20B	20	19.2mm	25.3mm	130mm	50
PPCO-23B	23	23.4mm	30.8mm	155mm	50
PPCO-29B	29	27.3mm	35.5mm	180mm	25
PPCO-37B	37	31.0mm	41.4mm	190mm	25
PPCO-45B	45	42.7mm	54.0mm	205mm	25
PPCO-70B	70	66.0mm	79.5mm	300mm	10



Fine profile T
Tight bending radius

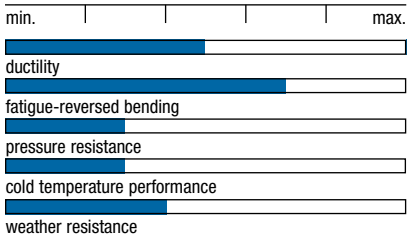


Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

PPCO Index



Temperature range: -20° C to 95° C; Short term to 120° C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids and bases, etc.

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Divisible-System Nylon Flexible Conduits and Connectors

FH System Supports

- Use in machine building and plant construction
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Optimal axial strain relief due to integrated rib
- Quick installation due to single-hole fixing
- For increased stress due to heavy cables and wires, closing with cable tie is possible
- Very good chemical properties
- Free from halogens and cadmium
- Fits to rail system supports FHS



Temperature range: -40° C to 105° C; Short term to 160° C

CAT. NO. BLACK	FIXING SCREW	FITS TO CONDUIT SIZE COLFLEX NW	DIMENSIONS WIDTH X LENGTH X DEPTH
BFH-09	M5	10	20 x 19 x 23mm
BFH-01	M5	14	20 x 24 x 27mm
BFH-20	M6	20	20 x 35 x 40mm
BFH-23	M6	23	20 x 43 x 45.5mm
BFH-37	M6	37	20 x 52 x 52mm
BFH-48	M6	45	20 x 66 x 66mm

GB Tube Clamps

- For the mounting of static conduits
- Galvanized steel according to DIN 3016
- Elastomer profile (EPDM), free from halogens
- Smooth connection to PMAFLEX® corrugated conduits
- Good ozone and aging resistance



Temperature range: -50° C to 105° C

Chemical resistance: Very good weather, ozoneand aging resistance; resistant to mineral oils and fats

CAT. NO. BLACK	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	FITS TO CONDUIT SIZE COFLEX NW	DIMENSIONS WIDTH
SGB-09	10	12	10	13.0mm
SGB-14	—	—	14	13.0mm
SGB-20	—	—	20	15.0mm
SGB-23	—	—	23	15.0mm
SGB-36	36	40	37	19.0mm
SGB-48	48	50	45	19.0mm

Special Products

SB 90° Curved Elbow, Metric, Metal, Swivel

- For applications with high technical requirements, mainly in machine building
- Suitable for occasional rotation
- High-grade formulated polyamide 6, thread and integrated swivel adapter made from nickel-plated brass
- Very high impact resistance
- High thread and system connection strength
- Suitable for occasional rotation
- Round guidance within the connector
- Easy introduction of wires and cables
- Vibration-proof connection to PMAFLEX® conduits
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

Fitting with oval clips (OVN2), conduit and thread seals (NVN3, SVN4 or OR)

CAT. NO. IP68, BLACK	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
NSBV-M207-10	M20x1.5	17	20	10.0mm	62.5 x 74.5mm
NSBV-M253-11	M25x1.5	23	25	11.0mm	73.0 x 87.5mm
NSBV-M329-13	M32x1.5	29	32	13.0mm	86.5 x 98.0mm
NSBV-M406-13	M40x1.5	36	40	13.0mm	98.5 x 127.5mm
NSBV-M409-13	M40x1.5	29	32	13.0mm	86.5 x 98.0mm
NSBV-M508-14	M50x1.5	48	50	14.0mm	113.0 x 139.0mm
NSBV-M638-14	M63x1.5	48	50	14.0mm	110.0 x 139.0mm

SB 90° Curved Elbow, PG, Metal, Swivel

- For applications with high technical requirements, mainly in machine building
- Suitable for occasional rotation
- High-grade formulated polyamide 6, thread and integrated swivel adapter made from nickel-plated brass
- Very high impact resistance
- High thread and system connection strength
- Suitable for occasional rotation
- Round guidance within the connector
- Easy introduction of wires and cables
- Vibration-proof connection to PMAFLEX® conduits
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

Fitting with oval clips (OVN2), conduit and thread seals (NVN3, SVN4 or OR)

CAT. NO. IP68, BLACK	THREAD PG	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
NSBV-P167-6.5	16	17	20	6.5mm	58.0 x 75.5mm
NSBV-P213-7	21	23	25	7.0mm	69.0 x 87.5mm
NSBV-P299-8	29	29	32	8.0mm	80.0 x 98.0mm
NSBV-P366-9	36	36	40	9.0mm	91.5 x 127.5mm
NSBV-P488-10	48	48	50	10.0mm	106.0 x 139.0mm

SWA Swivel Adapters, Metric

- Allow PMA® connectors to swivel freely in applications where such movements is occasionally necessary
- Nickel-plated brass
- Connect to PMA® connectors with metal threads
- Include thread edge protection
- Include corresponding seals up to IP67/IP68



Temperature range: -40° C to 105° C

Content of delivery:

Adapter, thread seal (SVN4 or OR)

CAT. NO. IP67	THREAD METRIC	OUTSIDE DIAMETER	DIMENSIONS LENGTH
SWA-M16-10	M16x1.5	23.0mm	37.5mm
SWA-M20-10	M20x1.5	27.0mm	38.5mm
SWA-M25-11	M25x1.5	32.0mm	41.0mm
SWA-M32-13	M32x1.5	45.0mm	46.5mm
SWA-M40-13	M40x1.5	55.0mm	47.5mm
SWA-M50-14	M50x1.5	59.0mm	49.5mm
SWA-M63-14	M63x1.5	75.0mm	52.0mm

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Special Products

SWA Swivel Adapters, PG

- Allow PMA® connectors to swivel freely in applications where such movements is occasionally necessary
- Nickel-plated brass
- Connect to PMA connectors with metal threads
- With thread edge protection
- With corresponding seals up to IP67/IP68

CAT. NO. IP67	THREAD PG	OUTSIDE DIAMETER	DIMENSIONS LENGTH
SWA-P09	9	23.0mm	44.5mm
SWA-P11	11	27.0mm	45.5mm
SWA-P16	16	32.0mm	48.0mm
SWA-P21	21	40.0mm	51.0mm
SWA-P29	29	50.0mm	52.0mm
SWA-P36	36	59.0mm	55.0mm
SWA-P48	48	70.0mm	55.0mm



Temperature range: -40° C to 105° C

Content of delivery:

Adapter, thread seal (SVN4 or OR)

SCA Spin Couplers, Metric

- Allow the easy positioning of elbow connectors with metal threads
- Nickel-plated brass
- Connect to PMA® connectors with metal threads
- High fastening torque
- Include thread edge protection
- Up to IP68 (IEC 60529/EN 60529)

CAT. NO. IP68	THREAD METRIC	OUTSIDE DIAMETER	DIMENSIONS LENGTH
SCA-M16-10	M16x1.5	22.0mm	32.0mm
SCA-M20-10	M20x1.5	26.0mm	33.0mm
SCA-M25-11	M25x1.5	32.0mm	35.0mm
SCA-M32-13	M32x1.5	39.0mm	39.5mm
SCA-M40-13	M40x1.5	50.0mm	41.0mm
SCA-M50-14	M50x1.5	59.0mm	43.5mm
SCA-M63-14	M63x1.5	75.0mm	45.5mm



Temperature range: -40° C to 105° C

Content of delivery:

Adapter, thread seal (SVN4)

SCA Spin Couplers, PG

- Allow the easy positioning of elbow connectors with metal threads
- Nickel-plated brass
- Connect to PMA® connectors with metal threads
- High fastening torque
- Include thread edge protection
- Up to IP68 (IEC 60529/EN 60529)

CAT. NO. IP68	THREAD PG	OUTSIDE DIAMETER	DIMENSIONS LENGTH
SCA-P09	9	22.0mm	35.0mm
SCA-P11	11	26.0mm	36.0mm
SCA-P16	16	29.0mm	38.0mm
SCA-P21	21	39.0mm	41.0mm
SCA-P29	29	44.0mm	42.5mm
SCA-P36	36	59.0mm	49.0mm
SCA-P48	48	69.0mm	50.5mm



Temperature range: -40° C to 105° C

Content of delivery:

Adapter, thread seal (SVN4)

VN-REM Connection to Solid Tube, Metric

- Use in railway vehicle construction and other applications where metric metal tubes are to be connected with the flexible PMAFLEX® system
- High-grade, specially formulated polyamide 6; jubilee clip made of galvanized bright steel
- Very high impact resistance
- Quick connection of solid metal tubes with flexible PMA® conduits
- Available with or without jubilee clip
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP68 WITHOUT CLAMP ⚠	CAT. NO. IP68 WITH CLAMP ⚠	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	STEEL TUBE METRIC	INSIDE DIAMETER	OVERALL LENGTH
_VNR-REM162	_VNR-REM162-24	12	16	M16	16.0mm	54.0mm
_VNR-REM207	_VNR-REM207-28	17	20	M20	20.0mm	65.0mm
_VNR-REM253	_VNR-REM253-32	23	25	M25	26.0mm	71.0mm
_VNR-REM329	_VNR-REM329-44	29	32	M32	32.0mm	71.0mm
_VNR-REM406	_VNR-REM406-50	36	40	M40	40.0mm	90.0mm
_VNR-REM508	_VNR-REM508-65	48	50	M50	50.0mm	90.0mm

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" to catalog no. or insert before clamp size (e.g. BVNR-REM162**GT**, BVNR-REM162**GT**24). (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



VNR: IP68 static/IP67 dynamic, conduit side

Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP68: Fitting with oval clips (OVN2), conduit seal (NVN3); clamp according to catalog number

IP68GT: Fitting with pre-assembled univeral safety clips (AFN2) and conduit seal (NVN3-GT); clamp according to catalog number)

VN-RE Connection to Solid Tube, PG

- Use in railway vehicle with PG dimensions, construction and other applications where metal tubes are to be connected with the flexible PMAFLEX® system
- High-grade, specially formulated polyamide 6; jubilee clip made of galvanized bright steel
- Very high impact resistance
- Quick connection of solid metal tubes with flexible PMA® conduits
- Available with or without jubilee clip
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. IP68 WITHOUT CLAMP ⚠	CAT. NO. IP68 WITH CLAMP ⚠	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	STEEL TUBE PG	INSIDE DIAMETER	OVERALL LENGTH
_VNR-RE12	_VNR-RE12-24	12	16	PG11	18.5mm	56.0mm
_VNR-RE1317	_VNR-RE1317-28	17	20	PG13	20.4mm	65.0mm
_VNR-RE17	_VNR-RE17-28	17	20	PG16	22.5mm	65.0mm
_VNR-RE23	_VNR-RE23-32	23	25	PG21	28.5mm	71.0mm
_VNR-RE29	_VNR-RE29-44	29	32	PG29	37.0mm	71.0mm
_VNR-RE36	_VNR-RE36-50	36	40	PG36	47.0mm	84.0mm
_VNR-RE48	_VNR-RE48-65	48	50	PG48	59.3mm	90.0mm

_ = Insert "B" to order black or "S" to order gray.

⚠ *IP68GT available. Please add "GT" to catalog no. or insert before clamp size (e.g. BVNR-REM162**GT**, BVNR-REM162**GT**24). (Functional description PMAFIX IP68GT, **pages E-192–E-193**).*



VNR: IP68 static/IP67 dynamic, conduit side

Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

Fitting with oval clips (OVN2), conduit seal (NVN3); clamp according to catalog number

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VSG Connection Splices for Flexible Conduits

- Use in railway vehicle construction and machine tooling
- High-grade formulated polyamide
- Self extinguishing
- Free from halogens and cadmium
- High pull-out strength
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Connection splice with pre-installed universal safety clips (AFN2)

IP68: Connection splice with oval clips (OVN2), conduit seal (NVN3)

CAT. NO. IP66	CAT. NO. IP68	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	OUTSIDE DIAMETER	OVERALL LENGTH
_VSGD-1212GT	_VSGR-1212	12	16	23.5mm	66.0mm
_VSGD-1717GT	_VSGR-1717	17	20	30.0mm	89.0mm
_VSGD-2323GT	_VSGR-2323	23	25	37.0mm	103.0mm
_VSGD-2929GT	_VSGR-2929	29	32	44.0mm	100.0mm
_VSGD-3636GT	_VSGR-3636	36	40	53.0mm	130.0mm
_VSGD-4848GT	_VSGR-4848	48	50	61.0mm	136.0mm

_ = Insert "B" to order black or "S" to order gray.

AV Conduit Adapters

- Use in connection with PMAFIX®/PMAFLEX® system
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Allows variable application of the PMAFIX® system, particularly of PMA® distribution pieces
- High conduit pull-out strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term to 160° C

Content of delivery:

IP66: Adapter with pre-assembled universal safety clips (AFN2)

IP68: Adapter with oval clips (OVN2), conduit seal (NVN3)

CAT. NO. IP66, BLACK	CAT. NO. IP68, BLACK	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	OUTPUT FITS TO CONDUIT SIZE NW	OUTPUT FITS TO CONDUIT SIZE METRIC	OVERALL LENGTH
BAVD-10/07GT	BAVR-10/07	10	12	07	10	43.0mm
BAVD-12/10GT	BAVR-12/10	12	16	10	12	46.0mm
BAVD-17/10GT	BAVR-17/10	17	20	10	12	53.0mm
BAVD-17/12GT	BAVR-17/12	17	20	12	16	54.0mm
BAVD-23/10GT	BAVR-23/10	23	25	10	12	54.0mm
BAVD-23/12GT	BAVR-23/12	23	25	12	16	53.0mm
BAVD-23/17GT	BAVR-23/17	23	25	17	20	62.0mm
BAVD-29/10GT	BAVR-29/10	29	32	10	12	56.5mm
BAVD-29/12GT	BAVR-29/12	29	32	12	16	55.0mm
BAVD-29/17GT	BAVR-29/17	29	32	17	20	61.0mm
BAVD-29/23GT	BAVR-29/23	29	32	23	25	64.0mm
BAVD-36/29GT	BAVR-36/29	36	40	29	32	81.0mm
BAVD-48/36GT	BAVR-48/36	48	50	36	40	88.5mm

Special Products

RKS Conduit Terminal Sleeves

- Used at the end of conduits where no connectors with threads are necessary
- Specially modified polyamide
- Self extinguishing
- Free from halogens and cadmium



Temperature range: -40° C to 105° C; Short term 160° C

CAT. NO. BLACK	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	DIMENSIONS LENGTH
RKS-07	7	10	4.5mm	12.5mm	16.0mm
RKS-10	10	12	8.0mm	15.5mm	16.0mm
RKS-12	12	16	10.0mm	19.0mm	20.0mm
RKS-17	17	20	13.0mm	24.0mm	21.0mm
RKS-23	23	25	20.0mm	32.0mm	22.0mm
RKS-29	29	32	25.0mm	38.0mm	22.0mm
RKS-36	36	40	33.5mm	46.0mm	25.0mm
RKS-48	48	50	45.0mm	58.0mm	25.0mm
RKS-56	56	63	54.0mm	71.0mm	28.0mm

SS/SV Abrasion-Protection Sleeves

- Abrasion protection for corrugated conduits exposed to chafing
- High-grade, specially modified polyamide 6
- Increase the lifetime of moving conduits
- Excellent chafing characteristics
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term 160° C

Content of delivery:
Abrasion-protection sleeves with assembling screws

CAT. NO. BLACK	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	OUTSIDE DIAMETER	DIMENSIONS LENGTH
BSS-17	17	20	42.0mm	22.0mm
BSS-23	23	25	49.0mm	26.0mm
BSS-29	29	32	55.0mm	26.0mm
BSS-36	36	40	63.0mm	30.0mm
BSS-48	48	50	75.0mm	30.0mm
BSS-56G	56	—	90.0mm	33.0mm
BSV-70G	70	—	108.0mm	60.0mm

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Accessories and Tools

AFN2 Universal Safety Clips

- Pre-installed in the IP66 and IP68GT range of connectors
- Allow for a quick and easy connection to PMAFLEX® conduits by just pushing the conduit into the connector
- High-grade formulated polyamide
- Self extinguishing
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term 160° C

CAT. NO. IP66, DARK GRAY	FITS TO NW	FITS TO PROFILE	DIMENSIONS WIDTH	DIMENSIONS LENGTH	DIMENSIONS THICKNESS
AFN2-07GT	7	G + T	14.0mm	14.0mm	7.0mm
AFN2-10GT	10	G + T	17.5mm	17.0mm	8.0mm
AFN2-12GT	12	G + T	20.5mm	20.0mm	7.3mm
AFN2-17GT	17	G + T	26.5mm	22.0mm	8.0mm
AFN2-23GT	23	G + T	34.0mm	27.5mm	11.8mm
AFN2-29GT	29	G + T	40.5mm	32.0mm	11.8mm
AFN2-36GT	36	G + T	49.5mm	38.8mm	9.5mm
AFN2-48GT	48	G + T	62.0mm	47.0mm	9.5mm

OVN2 Oval Clips

- Secure the conduit within the PMAFIX® connectors and distributors
- Connections made with a high degree of safety
- High-grade formulated polyamide
- Easy to install
- Self extinguishing
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40° C to 105° C; Short term 160° C

CAT. NO. IP68, DARK GRAY	FITS TO NW	FITS TO PROFILE	DIMENSIONS WIDTH	DIMENSIONS LENGTH	DIMENSIONS THICKNESS
OVN2-07	7	G + T	14.0mm	14.0mm	6.0mm
OVN2-10	10	G + T	17.5mm	17.0mm	7.0mm
OVN2-12	12	G + T	21.0mm	19.0mm	6.0mm
OVN2-17	17	G + T	26.5mm	22.5mm	7.0mm
OVN2-23	23	G + T	34.0mm	27.5mm	10.5mm
OVN2-29	29	G + T	40.5mm	32.0mm	10.5mm
OVN2-36	36	G + T	49.5mm	39.0mm	8.5mm
OVN2-48	48	G + T	62.0mm	47.0mm	8.5mm

WPS Water-Impact Protection

- Increased protection of PMAFIX® fittings against water jet impact
- Meet increased ingress protection requirements regarding high-pressure/ steam jet cleaning
- High-grade, specially formulated polyamide 6, extremely shock resistant
- Self extinguishing
- Free from halogens and cadmium
- Based on PMAFIX®/PMAFLEX® system with ingress protection of IP68
- Additional protection against water jet impact; increased protection up to IP69K
- Two-piece water-impact protection with click cap
- Fits all PMAFLEX® conduit profiles



Temperature range: -45° C to 105° C; Short term 160° C

CAT. NO. IP69K, BLACK	FITS TO NW	FITS TO PROFILE	OUTSIDE DIAMETER	DIMENSIONS THICKNESS
WPS-NW10	10	G + T	22.0mm	8.0mm
WPS-NW12	12	G + T	26.0mm	8.0mm
WPS-NW17	17	G + T	33.0mm	8.0mm
WPS-NW23	23	G + T	40.0mm	9.0mm
WPS-NW29	29	G + T	47.0mm	9.5mm
WPS-NW36	36	G + T	59.0mm	10.0mm
WPS-NW48	48	G + T	71.0mm	10.0mm

MN Hexagonal Lock Nuts, Metric, Polyamide

- High-grade, specially formulated polyamide 6, 30% reinforced fiberglass
- High tightening torques
- Safe system connection
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40° C to 105° C; Short term 150° C

CAT. NO. BLACK	CAT. NO. GRAY	FITS TO THREAD METRIC	WRENCH SIZE	DIMENSIONS HEIGHT (MIN.)
BMN-M12	GMN-M12	M12x1.5	18.0mm	5.0mm
BMN-M16	GMN-M16	M16x1.5	22.0mm	5.0mm
BMN-M20	GMN-M20	M20x1.5	26.0mm	6.0mm
BMN-M25	GMN-M25	M25x1.5	32.0mm	5.6mm
BMN-M32	GMN-M32	M32x1.5	41.0mm	7.0mm
BMN-M40	GMN-M40	M40x1.5	50.0mm	7.0mm
BMN-M50	GMN-M50	M50x1.5	60.0mm	8.0mm
BMN-M63	GMN-M63	M63x1.5	75.0mm	8.0mm

MN Hexagonal Lock Nuts, PG, Polyamide

- High-grade, specially formulated polyamide 6, 30% reinforced fiberglass
- High tightening torques
- Safe system connection
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40° C to 105° C; Short term 150° C

CAT. NO. BLACK	CAT. NO. GRAY	FITS TO THREAD PG	WRENCH SIZE	DIMENSIONS HEIGHT (MIN.)
BMN-07	GMN-07	7	19.0mm	5.0mm
BMN-09	GMN-09	9	22.0mm	5.0mm
BMN-11	GMN-11	11	24.0mm	5.0mm
BMN-13	GMN-13	13.5	27.0mm	6.0mm
BMN-16	GMN-16	16	30.0mm	6.0mm
BMN-21	GMN-21	21	36.0mm	7.0mm
BMN-29	GMN-29	29	46.0mm	7.0mm
BMN-36	GMN-36	36	60.0mm	8.0mm
BMN-48	GMN-48	48	70.0mm	8.0mm

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MM Hexagonal Lock Nuts, Metric, Metal



- Brass galvanically nickel plated
- Maximum possible torque
- Safe system connection

CAT. NO. METAL	FITS TO THREAD METRIC	WRENCH SIZE	DIMENSIONS HEIGHT (MIN.)
GMM-M12	M12x1.5	15.0mm	2.8mm
GMM-M16	M16x1.5	19.0mm	2.8mm
GMM-M20	M20x1.5	24.0mm	3.0mm
GMM-M25	M25x1.5	30.0mm	3.5mm
GMM-M32	M32x1.5	36.0mm	4.0mm
GMM-M40	M40x1.5	46.0mm	4.5mm
GMM-M50	M50x1.5	60.0mm	5.0mm
GMM-M63	M63x1.5	70.0mm	5.5mm

MM Hexagonal Lock Nuts, PG, Metal



- Brass galvanically nickel plated
- Maximum possible torque
- Safe system connection

CAT. NO. METAL	FITS TO THREAD PG	WRENCH SIZE	DIMENSIONS HEIGHT (MIN.)
GMM-07	7	15.0mm	2.8mm
GMM-09	9	18.0mm	2.8mm
GMM-11	11	21.0mm	3.0mm
GMM-13	13.5	23.0mm	3.0mm
GMM-16	16	26.0mm	3.0mm
GMM-21	21	32.0mm	3.5mm
GMM-29	29	41.0mm	4.0mm
GMM-36	36	51.0mm	5.0mm
GMM-42	42	60.0mm	5.0mm
GMM-48	48	64.0mm	5.5mm

ME Enlargers, Metric, Brass



- Used to enlarge metric threads
- Easy mounting, equipped with hexagonal ring
- Brass galvanically nickel plated
- For enlargement of an existing thread

CAT. NO. METAL, STANDARD	THREAD OUTSIDE		THREAD INSIDE		INSIDE DIAMETER	TOTAL LENGTH	WRENCH SIZE
	METRIC	LENGTH	METRIC	LENGTH			
M12M16M	M12x1.5	5mm	M16x1.5	7.0mm	8.0mm	16.0mm	18
M16M20M	M16x1.5	5mm	M20x1.5	7.5mm	12.0mm	16.5mm	22
M20M25M	M20x1.5	6mm	M25x1.5	8.0mm	15.0mm	18.5mm	27
M25M32M	M25x1.5	7mm	M32x1.5	9.0mm	21.0mm	20.5mm	34
M32M40M	M32x1.5	8mm	M40x1.5	10.0mm	26.0mm	23.5mm	42
M40M50M	M40x1.5	8mm	M50x1.5	13.0mm	34.0mm	30.0mm	52
M50M63M	M50x1.5	9mm	M63x1.5	16.0mm	44.0mm	32.5mm	65

MR Reducers, Metric, Brass



- Used to reduce metric threads
- Available in round and hexagonal form
- Brass galvanically nickel plated

CAT. NO. METAL, STANDARD	CAT. NO. METAL HEXAGONAL	THREAD OUTSIDE METRIC	THREAD INSIDE METRIC
M16M12M	**M16M12M/6**	M16x1.5	M12x1.5
M20M12M	**M20M12M/6**	M20x1.5	M12x1.5
M20M16M	**M20M16M/6**	M20x1.5	M16x1.5
M25M16M	**M25M16M/6**	M25x1.5	M16x1.5
M25M20M	**M25M20M/6**	M25x1.5	M20x1.5
M32M20M	**M32M20M/6**	M32x1.5	M20x1.5
M32M25M	**M32M25M/6**	M32x1.5	M25x1.5
M40M25M	**M40M25M/6**	M40x1.5	M25x1.5
M40M32M	**M40M32M/6**	M40x1.5	M32x1.5
M50M32M	**M50M32M/6**	M50x1.5	M32x1.5
M50M40M	**M50M40M/6**	M50x1.5	M40x1.5
M63M40M	**M63M40M/6**	M63x1.5	M40x1.5
M63M50M	**M63M50M/6**	M63x1.5	M50x1.5

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ME Enlargers, PG, Brass



- Used to enlarge PG threads
- Brass galvanically nickel plated

CAT. NO. METAL, STANDARD	THREAD OUTSIDE		THREAD INSIDE		OUTSIDE DIAMETER	TOTAL LENGTH
	PG	LENGTH	PG	LENGTH		
0709M	7.0	5.0mm	9.0	7.0mm	17.0mm	15.0mm
0911M	9.0	6.0mm	11.0	7.0mm	20.0mm	16.5mm
0913M	9.0	6.0mm	13.5	7.5mm	22.0mm	17.5mm
1113M	11.0	6.0mm	13.5	8.0mm	22.0mm	17.5mm
1116M	11.0	6.5mm	16.0	8.5mm	24.0mm	19.0mm
1121M	11.0	6.5mm	21.0	10.0mm	30.0mm	21.0mm
1316M	13.5	6.5mm	16.0	7.5mm	24.0mm	19.0mm
1321M	13.5	6.5mm	21.0	8.5mm	30.0mm	21.0mm
1621M	16.0	6.5mm	21.0	8.5mm	30.0mm	21.0mm
1629M	16.0	6.5mm	29.0	11.0mm	39.0mm	22.5mm
2129M	21.0	7.0mm	29.0	11.5mm	39.0mm	23.0mm
2936M	29.0	8.0mm	36.0	12.0mm	50.0mm	27.5mm
4248M	42.0	10.0mm	48.0	1.0mm	64.0mm	33.0mm

MR Reducers, PG, Brass



- Used to reduce PG threads
- Brass galvanically nickel plated

CAT. NO. METAL, STANDARD	THREAD OUTSIDE		THREAD INSIDE	OUTSIDE DIAMETER	TOTAL LENGTH
	PG	LENGTH	PG		
0907M	9.0	6.0mm	7	17.0mm	8.5mm
1107M	11.0	6.0mm	7	20.0mm	8.5mm
1109M	11.0	6.0mm	9	20.0mm	8.5mm
1307M	13.5	6.5mm	7	22.0mm	9.0mm
1309M	13.5	6.5mm	9	22.0mm	9.0mm
1311M	13.5	6.5mm	11	22.0mm	9.0mm
1607M	16.0	6.5mm	7	24.0mm	9.5mm
1609M	16.0	6.5mm	9	24.0mm	9.5mm
1611M	16.0	6.5mm	11	24.0mm	9.5mm
1613M	16.0	6.5mm	13.5	24.0mm	9.5mm
2111M	21.0	7.0mm	11	30.0mm	10.0mm
2113M	21.0	7.0mm	13.5	30.0mm	10.0mm
2116M	21.0	7.0mm	16	30.0mm	10.0mm
2916M	29.0	8.0mm	16	39.0mm	11.5mm
2921M	29.0	8.0mm	21	39.0mm	11.5mm
3621M	36.0	9.0mm	21	50.0mm	12.5mm
3629M	36.0	9.0mm	29	50.0mm	12.5mm
4229M	42.0	10.0mm	29	57.0mm	14.0mm
4236M	42.0	10.0mm	36	57.0mm	14.0mm
4836M	48.0	10.0mm	36	64.0mm	14.0mm
4842M	48.0	10.0mm	42	64.0mm	14.0mm

Accessories and Tools

NR Reducers, PG, Polyamide

- Reduce connecting threads
- Polyamide reinforced fiberglass

CAT. NO.	THREAD OUTSIDE PG	THREAD INSIDE PG	LENGTH	OUTSIDE DIAMETER
1109N	11	9	18.0mm	22.5mm
1309N	13.5	9	11.5mm	27.0mm
1311N	13.5	11	21.5mm	25.0mm
1609N	16	9	13.0mm	29.0mm
1611N	16	11	12.5mm	29.0mm
1613N	16	13.5	24.5mm	28.5mm
2113N	21	13.5	13.5mm	35.5mm
2116N	21	16	13.5mm	35.5mm
2921N	29	21	13.5mm	46.0mm
3629N	36	29	21.5mm	54.5mm



Temperature range: -40° C to 105° C

NVN3 Sealing Caps, Reinforced, IP68

- Connect PMAFIX® connectors ("V" series and PMAFLEX® corrugated conduits)
- Specially modified polyesterelastomer
- Suitable for sealing
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. BLACK	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	LENGTH
NVN3-07	7	10	9.0mm
NVN3-09	10	12	9.0mm
NVN3-11	12	16	12.0mm
NVN3-16	17	23	16.5mm
NVN3-21	23	25	13.0mm
NVN3-29	29	32	14.0mm
NVN3-36	36	40	17.5mm
NVN3-48	48	50	17.5mm



Temperature range: -40° C to 105° C

NFN3 Sealing Caps, IP67

- Connect PMAFIX® connectors ("F" series and PMAFLEX® corrugated conduits)
- Specially modified polyesterelastomer
- Suitable for sealing
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

CAT. NO. WHITE	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	LENGTH
NFN3-07	7	10	9.0mm
NFN3-09	10	12	9.0mm
NFN3-11	12	16	9.0mm
NFN3-16	17	23	9.0mm
NFN3-21	23	25	9.0mm
NFN3-29	29	32	9.0mm
NFN3-36	36	40	11.0mm
NFN3-48	48	50	11.0mm



Temperature range: -40° C to 105° C

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Accessories and Tools

SVN4 Flat Gaskets, Metric

- Suitable for the reinforced PMAFIX® connectors with polyamide or metal threads
- NBR reinforced with aramide fibers (asbestos free)
- Guarantee ingress protection of up to IP68
- Up to IP68

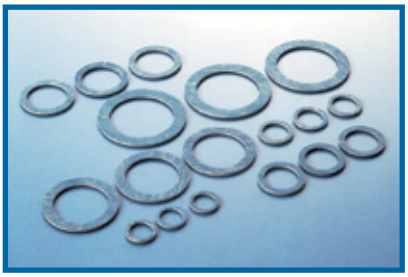


Temperature range: -40° C to 200° C; Short term 350° C

CAT. NO. IP68	FITS TO THREAD METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	WIDTH
SVN4-M12	M12x1.5	12.0mm	20.0mm	1.5mm
SVN4-M12/02	M12x1.5	12.0mm	23.0mm	1.5mm
SVN4-M16	M16x1.5	16.0mm	22.0mm	1.5mm
SVN4-M16/02	M16x1.5	16.0mm	25.0mm	1.5mm
SVN4-M20	M20x1.5	20.0mm	27.0mm	1.5mm
SVN4-M20/02	M20x1.5	20.0mm	33.0mm	1.5mm
SVN4-M25	M25x1.5	25.0mm	35.0mm	1.5mm
SVN4-M25/02	M25x1.5	25.0mm	39.0mm	1.5mm
SVN4-M32	M32x1.5	32.0mm	43.0mm	1.5mm
SVN4-M32/02	M32x1.5	32.0mm	49.0mm	1.5mm
SVN4-M40	M40x1.5	40.0mm	55.0mm	1.5mm
SVN4-M40/02	M40x1.5	40.0mm	64.0mm	1.5mm
SVN4-M50	M50x1.5	50.0mm	69.0mm	1.5mm
SVN4-M50/02	M50x1.5	50.0mm	74.0mm	1.5mm
SVN4-M63	M63x1.5	63.0mm	75.0mm	1.5mm

SVN4 Flat Gaskets, PG

- Suitable for the reinforced PMAFIX® connectors with polyamide or metal threads
- NBR reinforced with aramide fibers (asbestos free)
- Guarantee ingress protection of up to IP68
- Up to IP68



Temperature range: -40° C to 200° C; Short term 350° C

CAT. NO. IP68	FITS TO THREAD PG	INSIDE DIAMETER	OUTSIDE DIAMETER	WIDTH
SVN4-07	7	12.5mm	16.5mm	1.5mm
SVN4-09	9	15.2mm	20.0mm	1.5mm
SVN4-11	11	18.6mm	24.0mm	1.5mm
SVN4-13	13.5	20.4mm	31.0mm	1.5mm
SVN4-16	16	22.5mm	31.0mm	1.5mm
SVN4-21	21	28.3mm	37.0mm	1.5mm
SVN4-29	29	37.0mm	48.0mm	1.5mm
SVN4-36	36	47.0mm	57.0mm	1.5mm
SVN4-42	42	54.0mm	60.0mm	1.5mm
SVN4-48	48	59.3mm	69.0mm	1.5mm

SVN4 Flat Gaskets, Gas

- Suitable for the reinforced PMAFIX® connectors with polyamide or metal threads
- NBR reinforced with aramide fibers (asbestos free)
- Guarantee ingress protection of up to IP68
- Up to IP68



Temperature range: -40° C to 200° C; Short term 350° C

CAT. NO. IP68	FITS TO THREAD GAS	INSIDE DIAMETER	OUTSIDE DIAMETER	WIDTH
SVN4-G00	¼"	13.2mm	20.0mm	1.5mm
SVN4-G01	⅜"	16.7mm	22.0mm	1.5mm
SVN4-G02	½"	21.0mm	28.0mm	1.5mm
SVN4-G04	¾"	26.5mm	34.0mm	1.5mm
SVN4-G06	1"	33.3mm	42.0mm	1.5mm
SVN4-G07	1¼"	41.9mm	53.0mm	1.5mm
SVN4-G08	1½"	47.8mm	62.0mm	1.5mm
SVN4-G09	2"	59.6mm	69.0mm	1.5mm

514 Plug Screws, Metric

- Suitable for an accurate termination where no thread holes in casing and distribution boxes are needed
- Product with metric thread: PA-GF
- Free from halogens and cadmium
- IP54



Temperature range: 40° C to 100° C; Short term 150° C

CAT. NO. GRAY	FITS TO THREAD METRIC	OUTSIDE DIAMETER	DIMENSIONS HEIGHT	THREAD LENGTH
514-M12	M12x1.5	15.0mm	8.0mm	6.0mm
514-M16	M16x1.5	20.0mm	9.0mm	6.0mm
514-M20	M20x1.5	24.0mm	9.5mm	6.0mm
514-M25	M25x1.5	30.0mm	11.5mm	8.0mm
514-M32	M32x1.5	37.0mm	12.0mm	8.0mm
514-M40	M40x1.5	46.0mm	13.0mm	8.0mm
514-M50	M50x1.5	56.0mm	15.0mm	10.0mm
514-M63	M63x1.5	70.0mm	17.0mm	12.0mm

514 Plug Screws, PG

- Suitable for an accurate termination where no thread holes in casing and distribution boxes are needed
- Product with PG thread: PS
- Free from halogens and cadmium Battery: Ni-MH 14.4V 3.0Ah
- IP54



Temperature range: -40° C to 100° C; Short term 150° C

CAT. NO. GRAY	FITS TO THREAD PG	OUTSIDE DIAMETER	DIMENSIONS HEIGHT	THREAD LENGTH
514-07	7	15.0mm	8.0mm	6.0mm
514-09	9	19.0mm	9.5mm	6.5mm
514-11	11	22.0mm	10.0mm	6.5mm
514-13	13.5	25.0mm	10.0mm	6.5mm
514-16	16	27.0mm	10.0mm	6.5mm
514-21	21	33.0mm	12.0mm	8.0mm
514-29	29	44.0mm	11.5mm	8.0mm
514-36	36	55.0mm	14.0mm	10.0mm
514-48	48	68.0mm	16.0mm	12.0mm

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PMACUT Cutting Tools

- Excellent tool for cutting all PMA® conduits
- Guarantees precise and safe 90° angle cut
- Material: Metal
- Color: Red



CAT. NO. CUTTING TOOL	CAT. NO. SPARE BLADE	CUTTING RANGE	FOR PMAFLEX NW
PMACUT-38	FP-38	0–38mm	7–29
PMACUT-52	FP-52	0–52mm	23–48

EWZ Draw-In Tools

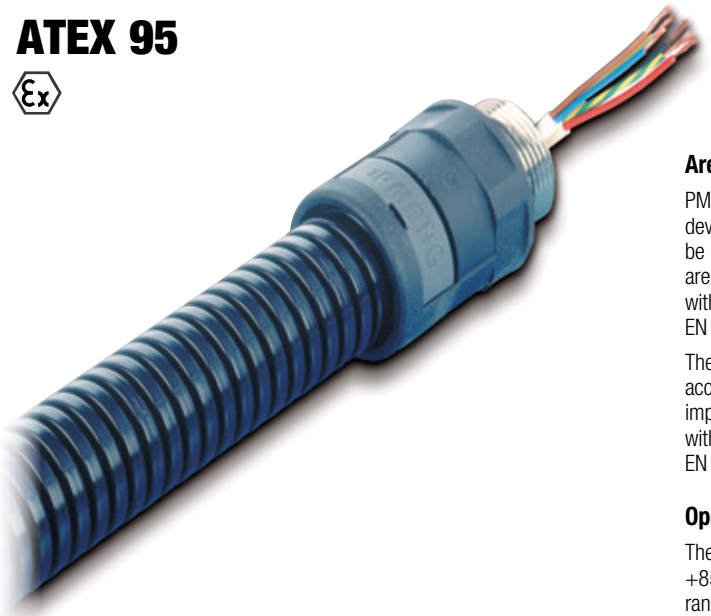
- Suitable for drawing in cables or wires into PMA® COFLEX or other slit conduits
- Designed in a handy shape and are equipped with a practical hand grip for wedging or with hole for direct holding of the wires
- Can be used whenever a drawing-in assistance for slit conduits is helpful
- Material: Polyamide
- Color: Black



CAT. NO. BLACK WITH HOLE	CAT. NO. BLACK WITH HANDLE	FITS TO CONDUIT SIZE NW	DIMENSIONS WIDTH X LENGTH X DEPTH
EWZ-02	EWZ-03	7.5–34	117.7 x 45.2 x 71.9mm

Hazardous Location ATEX Systems

ATEX 95



Polyamide Cable Protection:
30 years of experience, now ATEX 95 certified

- Products for the protection of cables, wires and hoses against not only mechanical damage but also the influences of UV radiation, weathering and chemicals
- Products made of specially modified, load-discharging polyamide materials (PA11, PA12) for use in explosion-endangered zones 1/2 (gas) and 21/22 (dust)
- ATEX marking:

CE 1258 Ex II 2G Ex eb IIC SEV 05 ATEX 0105 II 2D Ex tb IIIC

- Identical in function to the standard product range PMAFIX®/ PMAFLEX® (successfully used in applications as railway, machinery, automation, etc., more than 30 years)
- Two sealing systems fulfilling IP66 or IP68
- System safety: For security reasons, re-opening is only possible with the use of a screwdriver
- Flexible conduits, excellent for applications with continual reversed bending
- Quick and simple installation, reduced total installation costs (compared to other explosion-proof cable protection systems)
- No corrosion, long service life
- Low weight

Area of Application

PMA® Ex-System products constitute an equipment group II category 2G device in accordance with Directive 94/9/EC (ATEX 95) Appendix I which may be implemented in zones 1/2 as well as in gas groups IIA, IIB and IIC which are subject to explosion risk due to combustible substances, in accordance with Directive 99/92/EC (ATEX 137). The requirements in accordance with EN 60079-14 shall be adhered to on use/installation.

The products constitute an equipment group II category 2D device in accordance with Directive 94/9/EC (ATEX 95) Appendix I which may be implemented in zones 21/22 with explosive air/dust mixtures in accordance with Directive 99/92/EC (ATEX 137). The requirements in accordance with EN 60079-14 shall be adhered to on use/installation.

Operation, Service and Maintenance

The defined ambient and operating temperature range is -20° C to +85° C and -40° C to +85° C for the conduit type XESX (temperature range for electrical equipment in accordance with EN 60079-0).

A visual examination of the cable protection system shall be performed in periodic maintenance of systems and components, but no later than every 5 years. In the event of visible damage (holes, cracks, signs of heavy wear) to conduits, fittings or accessories, the damaged parts shall be replaced. (In the event of apparent mechanical damage, it shall be ensured that no incorrect handling takes place.)

Only ATEX-approved original PMA® parts shall be used for the replacement of ATEX-approved parts.

These operating and assembly instructions include important information for service and maintenance and should therefore be retained.

Assembly

To ensure the discharge of electrical currents and thus to ensure antistatic behaviour, ATEX-approved PMA® conduits shall be used exclusively in combination with special PMA® connectors and accessories which are also ATEX-approved. These connectors and accessories (seals, fasteners) are also made of discharging material and are designated with the conformity marking.

The ATEX-approved connectors or accessories shall always be in direct contact with a metallic surface (ground). No insulating materials (e.g. adhesives) and no components which are not ATEX-approved shall be used between the discharging plastic parts or between plastic parts and metal surfaces.

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ATEX Multilayer Conduits

The PMA® EX-system is suitable for the protection of cables, wires and hoses against mechanical damage, UV radiation and weathering in explosion-endangered areas classified as zones 1/2 (gas) and 21/22 (dust) according to ATEX 137.

The multilayer conduit offers electrostatic load-discharging properties and comes with a range of compatible ATEX approved fittings and installation accessories.



XESX Highly Flexible, Medium Wall

The PMA® Ex-System multilayer conduit type XESX offers an electrostatically discharging property, very high mechanical load capacity and low-temperature impact strength. Excellent UV and weathering resistance allow outdoor installation exposed to constant sunlight.

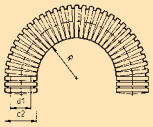
CAT. NO. BLACK	CONDUIT SIZE NW	REC. FITTING THREAD METRIC	INSIDE DIAMETER	OUTSIDE DIAMETER	STAT. RADIUS*	PU METER
XESXT-12BY	12	M16/M20	11.8	15.6mm	30/70mm	50
XESXG-17BY	17	M20/M25	15.2	21.0mm	35/85mm	50
XESXG-23BY	23	M25/M32	22.0	28.5mm	40/110mm	50
XESXG-29BY	29	M32/M40	27.5	34.4mm	50/130mm	50
XESXG-36BY	36	M40/M50	35.8	42.4mm	60/180mm	30
XESXG-48BY	48	M50/M63	46.8	54.4mm	70/220mm	30



Fine profile T
Tight bending radius



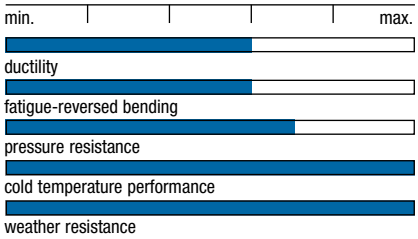
Coarse profile G
High pull-out strength



*stat. R = lowest recommended bending radius for static (fixed) installation.

***dyn. R = lowest recommended bending radius for dynamic (flexible) installation

XESX-Index



- Specially modified polyamide and polyethylene
- Electrostatic discharging
- Free from halogens and cadmium
- Very high mechanical load capacity and low-temperature impact strength
- Very good UV-resistance
- High abrasion resistance
- Highest dynamic load capacity
- Very good chemical properties
- **Temperature range:** -50° C to +90° C continuous; +150° C short-term; -40° C to +85° C (for ATEX use)

Hazardous Location ATEX Systems



ATEX Connectors

PMA® Ex-System connectors together with PMA® Ex-System protection conduits are used for flexible protection of cables, wires and hoses against mechanical damage, UV radiation and weathering in explosion-endangered areas classified as zones 1/2 (gas) and 21/22 (dust) according to ATEX 137.

Connectors are available with ingress protection up to and including IP66 or IP68.

IP66 connectors are fitted with a pre-installed universal safety clip which ensures a quick push-in installation of the conduit.

IP68 connectors for increased requirements will be delivered with a special conduit sealing cap.

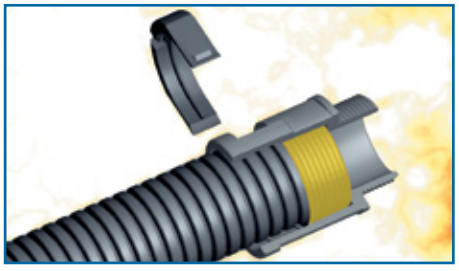
IP66



IP66 static
IP54 dynamic

- One-piece fitting, conical sealing method
- Easy push-in installation
- Pre-installed safety clip AFN2
- Fits any type of conduit profile (T and G)
- Excellent pull-out strength
- For safety reasons, re-opening is only possible with a screwdriver

IP68



IP68 static
IP67 dynamic

- High sealing through additional seal cap
- For highest dynamic applications
- Fits any type of conduit profile (T and G)
- Excellent pull-out strength
- For safety reasons, re-opening is only possible with a screwdriver

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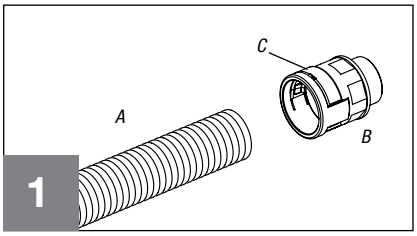
Technical Services
Tel: 888.862.3289

www.tnb.com

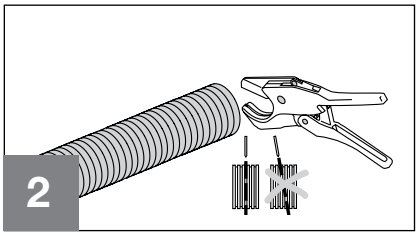
Hazardous Location ATEX Systems

IP66

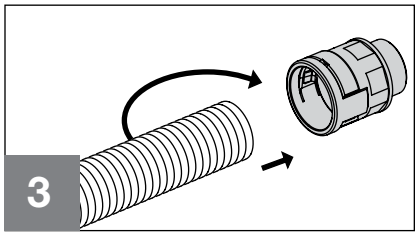
Installation of IP66 Safety System



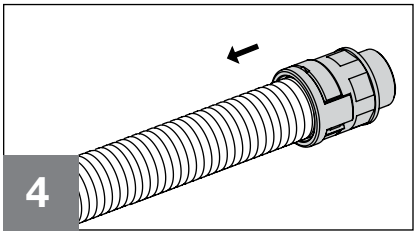
A. Conduit
B. Fitting
C. Universal safety clip



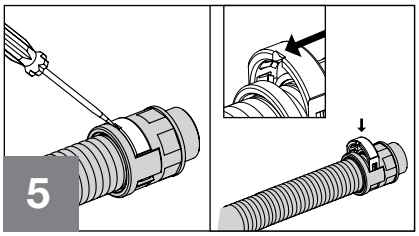
Straight cut of conduit (A).



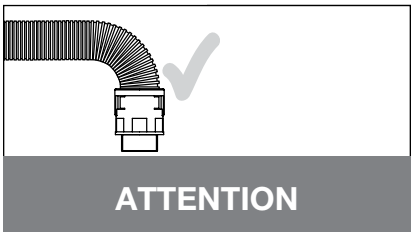
Push in the conduit (A) with a slight twist until the stop.



Pull back the conduit (A) slightly to ensure the locking mechanism is fully engaged.



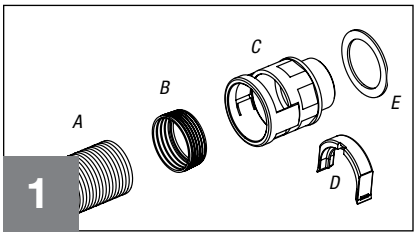
To re-open use a screwdriver. The screwdriver slot at the oval clip (C) must point towards the conduit.



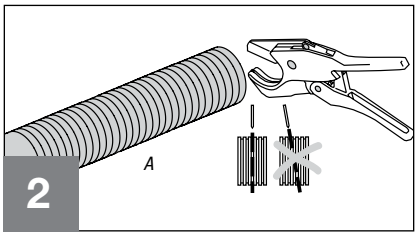
If bending the conduit, please maintain the recommended bending radius.

IP68

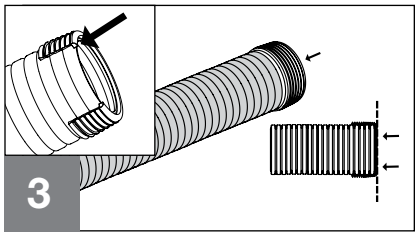
Installation of IP68 Safety System



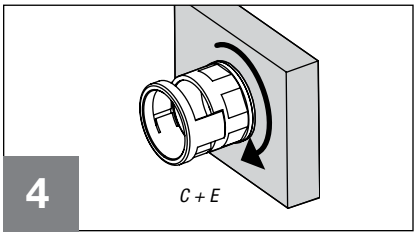
A. Conduit
B. Ex Seal cap (yellow)
C. Fitting
D. Oval clip
E. Thread seal (O-ring or flat seal)



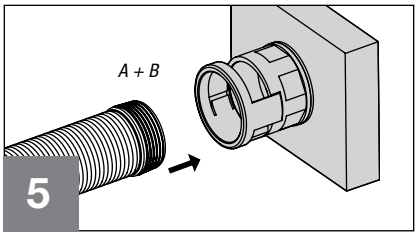
Straight cut of conduit (A).



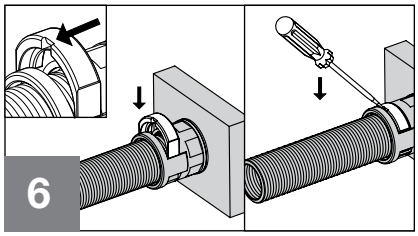
Push seal cap (B) completely onto conduit in order to achieve IP68.



Place seal (E) onto fitting thread (C) and screw in.



Push conduit with seal cap (A+B) into the fitting until seal cap is no longer visible in the locking element window.



Insert Oval clip (D) in the locking element window and click into place. The screwdriver slot must point towards the conduit. To re-open, use a screwdriver.

END Straight, Metric, IP66

These PMA® Ex-System connectors allow a quick push-in installation of PMA® Ex-System conduits.

CAT. NO. IP66	THREAD SIZE METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
BEND-M120GT	M12x1.5	10	12	11.0mm	36.5mm
BEND-M160GT	M16x1.5	10	12	11.0mm	36.5mm
BEND-M162GT	M16x1.5	12	16	11.0mm	39.5mm
BEND-M202GT	M20x1.5	12	16	11.0mm	39.5mm
BEND-M207GT	M20x1.5	17	20	11.0mm	47.5mm
BEND-M257GT	M25x1.5	17	20	12.0mm	48.5mm
BEND-M253GT	M25x1.5	23	25	12.0mm	52.0mm
BEND-M323GT	M32x1.5	23	25	15.0mm	55.5mm
BEND-M329GT	M32x1.5	29	32	15.0mm	56.0mm
BEND-M409GT	M40x1.5	29	32	19.0mm	60.0mm
BEND-M406GT	M40x1.5	36	40	19.0mm	72.5mm
BEND-M506GT	M50x1.5	36	40	19.0mm	72.0mm
BEND-M508GT	M50x1.5	48	50	19.0mm	72.5mm
BEND-M638GT	M63x1.5	48	50	19.0mm	72.0mm



- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

EAD 45° Elbow, Metric, IP66

These PMA® Ex-System connectors allow a quick push-in installation of the PMA® Ex-System conduits.

CAT. NO. IP66	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
BEAD-M120GT	M12x1.5	10	12	11.0mm	43.5 x 37.0mm
BEAD-M160GT	M16x1.5	10	12	11.0mm	43.5 x 38.0mm
BEAD-M162GT	M16x1.5	12	16	11.0mm	48.0 x 40.0mm
BEAD-M202GT	M20x1.5	12	16	11.0mm	48.0 x 41.5mm
BEAD-M207GT	M20x1.5	17	20	11.0mm	55.5 x 51.5mm
BEAD-M253GT	M25x1.5	23	25	12.0mm	65.0 x 58.5mm
BEAD-M329GT	M32x1.5	29	32	15.0mm	73.5 x 66.5mm
BEAD-M406GT	M40x1.5	36	40	19.0mm	92.5 x 85.5mm
BEAD-M506GT	M50x1.5	36	40	19.0mm	92.5 x 89.5mm
BEAD-M508GT	M50x1.5	48	50	19.0mm	100.0 x 96.0mm
BEAD-M638GT	M63x1.5	48	50	19.0mm	100.0 x 104.0mm



- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

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EBD 90° Curved Elbow, Metric, IP66

These PMA® Ex-System connectors allow a quick push-in installation of the PMA® Ex-System conduits.

CAT. NO. IP66	THREAD SIZE METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
BEBD-M207GT	M20x1.5	17	20	11.0mm	47.5 x 73.0mm
BEBD-M257GT	M25x1.5	17	20	12.0mm	48.5 x 76.0mm
BEBD-M253GT	M25x1.5	23	25	12.0mm	57.5 x 83.0mm
BEBD-M323GT	M32x1.5	23	25	15.0mm	61.0 x 87.5mm
BEBD-M329GT	M32x1.5	29	21	15.0mm	70.5 x 93.0mm
BEBD-M409GT	M40x1.5	29	32	19.0mm	74.5 x 98.5mm
BEBD-M406GT	M40x1.5	36	40	19.0mm	85.0 x 121.0mm
BEBD-M506GT	M50x1.5	36	40	19.0mm	85.0 x 125.0mm
BEBD-M508GT	M50x1.5	48	50	19.0mm	98.5 x 130.0mm
BEBD-M638GT	M63x1.5	48	50	19.0mm	98.5 x 138.0mm



- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

EWD 90° Elbow, Metric, IP66

These PMA® Ex-System connectors allow a quick push-in installation of the PMA® Ex-System conduits.

CAT. NO. IP66	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	OVERALL LENGTH
BEWD-M120GT	M12x1.5	10	12	11.0mm	34.0 x 39.5mm
BEWD-M160GT	M16x1.5	10	12	11.0mm	34.0 x 40.5mm
BEWD-M162GT	M16x1.5	12	16	11.0mm	38.5 x 46.0mm
BEWD-M202GT	M20x1.5	12	16	11.0mm	38.5 x 47.5mm



- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

ENV Straight, Metric, Metal Thread, IP68

The metal thread and the sealing up to IP68 allow use of these PMA® Ex-System fittings in applications with increased requirements.

CAT. NO. IP68	THREAD METRIC	FITS TO CONDUIT SIZE		THREAD LENGTH	EXTERNAL DIMENSIONS
		NW	METRIC		
NENV-M120-10	M12x1.5	10	12	10.0mm	40.0mm
NENV-M160-10	M16x1.5	10	12	10.0mm	40.0mm
NENV-M162-10	M16x1.5	12	16	10.0mm	43.0mm
NENV-M202-10	M20x1.5	12	16	10.0mm	43.0mm
NENV-M207-10	M20x1.5	17	20	10.0mm	51.0mm
NENV-M257-11	M25x1.5	17	20	11.0mm	52.0mm
NENV-M253-11	M25x1.5	23	25	11.0mm	54.0mm
NENV-M323-13	M32x1.5	23	25	13.0mm	56.0mm
NENV-M329-13	M32x1.5	29	32	13.0mm	57.3mm
NENV-M409-13	M40x1.5	29	32	13.0mm	57.3mm
NENV-M406-13	M40x1.5	36	40	13.0mm	71.4mm
NENV-M506-14	M50x1.5	36	40	14.0mm	72.4mm
NENV-M508-14	M50x1.5	48	50	14.0mm	72.4mm
NENV-M638-14	M63x1.5	48	50	14.0mm	72.4mm



- Specially modified electrostatic-discharging polyamide
- Thread made of nickel-plated brass
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system connection strength

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

ENZ Straight with Strain Relief, Metric, Metal Thread, IP68

The metal thread and the sealing up to IP68 allow use of these PMA® Ex-System fittings in applications with increased requirements. Due to the integrated Pflitsch insert, cables are held and at the same time sealed up to IP68 (10 bar). Furthermore, these connectors can be used where damp and dry areas have to be separated.

CAT. NO. IP68	TERMINAL RANGE	THREAD METRIC	FITS TO CONDUIT SIZE		THREAD LENGTH	EXTERNAL DIMENSIONS
			NW	METRIC		
NENZ-M120S/P1	4.5–6.0mm	M12x1.5	10	12	5.0mm	48.5mm
NENZ-M120S/P2	5.0–8.0mm	M12x1.5	10	12	5.0mm	48.5mm
NENZ-M120S/P3	6.5–9.5mm	M12x1.5	10	12	5.0mm	48.5mm
NENZ-M160S/P1	4.0–6.5mm	M16x1.5	10	12	6.0mm	49.5mm
NENZ-M160S/P2	5.0–8.0mm	M16x1.5	10	12	6.0mm	49.5mm
NENZ-M160S/P3	6.5–9.5mm	M16x1.5	10	12	6.0mm	49.5mm
NENZ-M202S/P1	4.0–6.5mm	M20x1.5	12	16	6.5mm	54.0mm
NENZ-M202S/P3	6.5–9.5mm	M20x1.5	12	16	6.5mm	54.0mm
NENZ-M202S/P4	7.0–10.5mm	M20x1.5	12	16	6.5mm	54.0mm
NENZ-M207S/P3	6.5–9.5mm	M20x1.5	17	20	6.5mm	60.0mm
NENZ-M207S/P4	7.0–10.5mm	M20x1.5	17	20	6.5mm	60.0mm
NENZ-M207S/P5	9.0–13.0mm	M20x1.5	17	20	6.5mm	60.0mm
NENZ-M257S/P5	9.0–13.0mm	M25x1.5	17	20	7.5mm	61.5mm
NENZ-M257S/P6	11.5–15.5mm	M25x1.5	17	20	7.5mm	61.5mm
NENZ-M323S/P4	14.0–18.0mm	M32x1.5	23	25	8.0mm	73.0mm
NENZ-M323S/P5	17.0–20.5mm	M32x1.5	23	25	8.0mm	73.0mm
NENZ-M409S/P4	20.0–25.0mm	M40x1.5	29	32	8.0mm	73.0mm
NENZ-M409S/P5	24.0–28.0mm	M40x1.5	29	32	8.0mm	73.0mm
NENZ-M506S/P1	27.0–32.0mm	M50x1.5	36	40	10.0mm	89.5mm
NENZ-M506S/P3	32.0–36.0mm	M50x1.5	36	40	10.0mm	89.5mm
NENZ-M508S/P2	32.0–36.0mm	M50x1.5	48	50	10.0mm	92.0mm
NENZ-M508S/P3	36.0–40.0mm	M50x1.5	48	50	10.0mm	92.0mm
NENZ-M638S/P1	35.0–40.0mm	M63x1.5	48	50	10.0mm	90.5mm
NENZ-M638S/P2	39.0–44.0mm	M63x1.5	4	50	10.0mm	90.5mm



- Specially modified electrostatic-discharging polyamide
- Strain-relief socket made of nickel-plated brass, sealing insert TPE-V
- With corresponding seals IP68 static / IP67 dynamic cable = IP68 (10 bar)
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system connection strength

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

Content of delivery:
Complete: Fitting with oval clips (OVN2), Pflitsch sealing insert (DE), conduit seal (NEN3), O-ring (OR)

Thomas&Betts

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Tel: 901.252.8000
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Hazardous Location ATEX Systems

EAV 45° Elbow, Metric, Metal Thread, IP68

The metal thread and the sealing up to IP68 allow use of these PMA® Ex-System fittings in applications with increased requirements.

CAT. NO. IP68	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
NEAV-M120-10	M12x1.5	10	12	10.0mm	48.5 x 37.0mm
NEAV-M162-10	M16x1.5	12	16	10.0mm	53.0 x 40.5mm
NEAV-M207-10	M20x1.5	17	20	10.0mm	60.5 x 51.5mm
NEAV-M257-11	M25x1.5	17	20	11.0mm	61.5 x 54.5mm
NEAV-M253-11	M25x1.5	23	25	11.0mm	70.0 x 60.5mm
NEAV-M323-13	M32x1.5	23	25	13.0mm	72.0 x 64.5mm
NEAV-M329-13	M32x1.5	29	32	13.0mm	77.0 x 68.0mm
NEAV-M409-13	M40x1.5	29	32	13.0mm	77.0 x 73.0mm
NEAV-M406-13	M40x1.5	36	40	13.0mm	94.0 x 87.5mm
NEAV-M506-14	M50x1.5	36	40	14.0mm	95.0 x 92.5mm
NEAV-M508-14	M50x1.5	48	50	14.0mm	102.0 x 101.0mm
NEAV-M638-14	M63x1.5	48	50	14.0mm	102.0 x 104.0mm



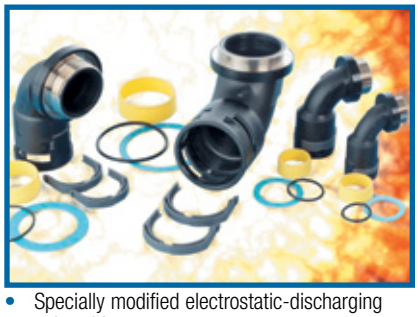
- Specially modified electrostatic-discharging polyamide
- Thread made of nickel-plated brass
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system connection strength

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

EBV 90° Curved Elbow, Metric, Metal Thread, IP68

The metal thread and the sealing up to IP68 allow use of these PMA® Ex-System fittings in applications with increased requirements.

CAT. NO. IP68	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
NEBV-M207-10	M20x1.5	17	20	10.0mm	51.0 x 73.0mm
NEBV-M257-11	M25x1.5	17	20	11.0mm	52.0 x 76.0mm
NEBV-M253-11	M25x1.5	23	25	11.0mm	62.5 x 85.0mm
NEBV-M323-13	M32x1.5	23	25	13.0mm	64.5 x 89.0mm
NEBV-M329-13	M32x1.5	29	32	13.0mm	74.0 x 94.5mm
NEBV-M409-13	M40x1.5	29	32	13.0mm	75.5 x 100.5mm
NEBV-M406-13	M40x1.5	36	40	13.0mm	86.5 x 123.0mm
NEBV-M506-14	M50x1.5	36	40	14.0mm	87.5 x 130.0mm
NEBV-M508-14	M50x1.5	48	50	14.0mm	100.5 x 135.0mm
NEBV-M638-14	M63x1.5	48	50	14.0mm	100.5 x 138.0mm



- Specially modified electrostatic-discharging polyamide
- Thread made of nickel-plated brass
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system connection strength

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

EWV 90° Elbow, Metric, Metal Thread, IP68

The metal thread and the sealing up to IP68 allow use of these PMA® Ex-System fittings in applications with increased requirements.

CAT. NO. IP68	THREAD METRIC	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	THREAD LENGTH	EXTERNAL DIMENSIONS
NEWV-M120-10	M12x1.5	10	12	10.0mm	37.5 x 39.5mm
NEWV-M160-10	M16x1.5	10	12	10.0mm	37.5 x 41.5mm
NEWV-M162-10	M16x1.5	12	16	10.0mm	42.0 x 46.5mm
NEWV-M202-10	M20x1.5	12	16	10.0mm	42.0 x 49.0mm



- Specially modified electrostatic-discharging polyamide
- Thread made of nickel-plated brass
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system connection strength

Temperature range: -50° C to +90° C (material limits); -20°C to +85°C (for ATEX use)

Hazardous Location ATEX Systems

ENR-REM Connection to Solid Metal Tube

With these products, solid metal tubes can easily and quickly be connected with flexible PMA® Ex-System conduits. The connection is fixed onto the solid tube with a jubilee clip made of stainless steel.

CAT NO. WITHOUT JUBILEE CLIP, IP68	CAT NO. WITH JUBILEE CLIP, IP68	FITS TO METAL TUBE		EXTERNAL DIMENSIONS
		NW	METRIC	
BENR-REM162	BENR-REM162-24	12	M16	54.0mm
BENR-REM207	BENR-REM207-28	17	M20	65.0mm
BENR-REM253	BENR-REM253-32	23	M25	71.0mm
BENR-REM329	BENR-REM329-44	29	M32	71.0mm
BENR-REM406	BENR-REM406-50	36	M40	90.0mm
BENR-REM508	BENR-REM508-65	48	M50	90.0mm



- Specially modified electrostatic-discharging polyamide
- Clamp made of stainless steel
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

ESGD/ESGR Splice Connector

These PMA® connection splices are used for an optimum connection of PMA® Ex-System conduits and enable the highest grade of safety and sealing.

CAT NO. IP66	CAT NO. IP68	FITS TO CONDUIT SIZE		EXTERNAL DIMENSIONS
		NW	METRIC	
BESGD-1212GT	BESGR-1212	12	16	66.0mm
BESGD-1717GT	BESGR-1717	17	20	89.0mm
BESGD-2323GT	BESGR-2323	23	25	103.0mm
BESGD-2929GT	BESGR-2929	29	32	100.0mm
BESGD-3636GT	BESGR-3636	36	40	130.0mm
BESGD-4848GT	BESGR-4848	48	50	136.0mm



- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

EYD/EYR Y Piece

These PMA® Ex-System junctions allow the splitting of cable looms and rerouting of the split looms into different directions.

CAT NO. IP66	CAT NO. IP68	INPUT FITS TO CONDUIT SIZE		OUTPUTS FITS TO CONDUIT SIZE	
		NW	METRIC	NW	METRIC
BEYD-121010GT	BEYR-121010	12	16	10	12
BEYD-171212GT	BEYR-171212	17	20	12	16
BEYD-231717GT	BEYR-231717	23	25	17	20
BEYD-292323GT	BEYR-292323	29	32	23	25
BEYD-362929GT	BEYR-362929	36	40	29	32
BEYD-483636GT	BEYR-483636	48	50	36	40



- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

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ETD/ETR T Piece

NEW!



These PMA® Ex-System junctions allow the splitting of cable looms and rerouting of the split looms into different directions.

CAT NO. IP66	CAT NO. IP68	INPUT FITS TO CONDUIT SIZE		OUTPUTS FIT TO CONDUIT SIZE	
		NW	METRIC	NW	METRIC
BETD-101010GT	BETR-101010	10	12	10	12
BETD-121212GT	BETR-121212	12	16	12	16
BETD-171717GT	BETR-171717	17	20	17	20
BETD-232323GT	BETR-232323	23	25	23	25
BETD-292929GT	BETR-292929	29	32	29	32
BETD-363636GT	BETR-363636	36	40	36	40
BETD-484848GT	BETR-484848	48	50	48	50

- High-grade, specially modified polyamide12
- Electrostatically discharging
- Extremely shock resistant
- Free from halogens and cadmium
- Very good chemical properties

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

EAVD/EAVR Conduit Adapter

NEW!



PMA® Ex-System conduit adapters allow variable applications of conduit sizes within the PMA® Ex-System, particularly with PMA® Ex-System junctions.

CAT NO. IP66	CAT NO. IP68	INPUT FITS TO CONDUIT SIZE		OUTPUTS FIT TO CONDUIT SIZE	
		NW	METRIC	NW	METRIC
BEAVD-12/10GT	BEAVR-12/10	12	16	10	12
BEAVD-17/12GT	BEAVR-17/12	17	20	12	16
BEAVD-23/17GT	BEAVR-23/17	23	25	17	20
BEAVD-29/23GT	BEAVR-29/23	29	32	23	25
BEAVD-36/29GT	BEAVR-36/29	36	40	29	32
BEAVD-48/36GT	BEAVR-48/36	48	50	36	40

- High-grade, specially modified polyamide 12
- Electrostatically discharging
- Very high impact resistant
- Free from halogens and cadmium
- Very good chemical properties

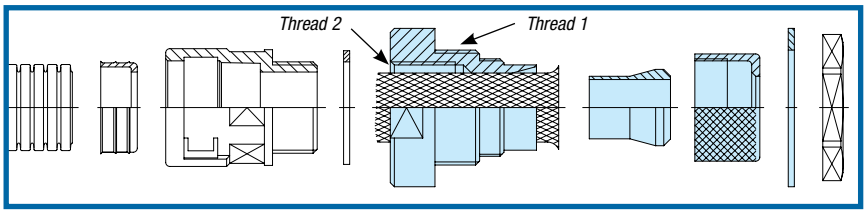
Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

Hazardous Location ATEX Systems

HEAK EMC Connector

This PMA® Ex-System EMC connector can be used together with PMA® tinned copper braids and PMA® Ex-System conduits and connectors to provide shielding against electromagnetic interference in explosion-endangered areas.

CAT NO. BLACK, IP68	THREAD METRIC 1	THREAD METRIC 2	FITS TO NW	FITS TO F.CK	FITS TO F.CU	ID MIN.	THREAD LENGTH	OVERALL LENGTH
HEAK-M32/25-13	M32x1.5	M25x1.5	23	20	20	16.8mm	13.0mm	42.0mm
HEAK-M40/32-13	M40x1.5	M32x1.5	29	20/(25)	20	22.4mm	13.0mm	51.0mm
HEAK-M50/40-14	M50x1.5	M40x1.5	36	30/(35)	40	32.4mm	14.0mm	58.0mm
HEAK-M63/63-14	M63x1.5	M63x1.5	48	35	40	43.4mm	14.0mm	57.5mm



Content of delivery includes blue shaded products.

NEW!



- Nickel-plated aluminum
- Up to IP68 in connection with the PMAFIX® product range
- Thread 1: on casing side, Thread 2: on conduit side
- At thread 2 PMAFIX® fittings straight and elbows may be applied; also standard cable glands may be applicable for screened cables depending on final use
- Low transfer impedances
- 360° clamping effect: High degree of safety in case of short-circuiting

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

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Hazardous Location ATEX Systems

EH-0 One-Piece System Support

The one-piece PMA® Ex-System support is designed for the fixation of PMA® Ex-System corrugated conduits in explosion-endangered zones 1/21 (gas/dust) according to ATEX 137.

CAT NO.	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	DIMENSIONS WIDTH X HEIGHT X DEPTH	FIXING SCREW
BEH-10-0	10	12	20.5 x 24.5 x 20.0mm	1 x M5
BEH-12-0	12	16	24.0 x 27.0 x 20.0mm	1 x M5
BEH-17-0	17	20	30.0 x 34.0 x 20.0mm	1 x M6
BEH-23-0	23	25	38.5 x 42.0 x 20.0mm	1 x M6
BEH-29-0	29	32	45.5 x 48.0 x 20.0mm	1 x M6
BEH-36-0	36	40	55.5 x 56.0 x 20.0mm	1 x M6
BEH-48-0	48	50	67.5 x 68.0 x 20.0mm	1 x M6



- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength

Temperature range: –50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

EPS One-Piece System Support

The one-piece system supports offer clasps for easy pre-mounting and final assembly, fixation on standard rails type C and strain relief due to gripping around the conduit. In addition, these products are partially stackable.

CAT NO.	FITS TO CONDUIT SIZE NW	FITS TO CONDUIT SIZE METRIC	DIMENSIONS WIDTH X HEIGHT X DEPTH
BEPS-17	17	20	70.0 x 51.0 x 30.0mm
BEPS-23	23	25	70.0 x 51.0 x 30.0mm
BEPS-29	29	32	85.0 x 65.0 x 30.0mm
BEPS-36	36	40	85.0 x 65.0 x 30.0mm
BEPS-48	48	50	115.0 x 92.5 x 30.0mm



- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Useable with standard rails type C

Temperature range: -50° C to +90° C (material limits); -20° C to +85° C (for ATEX use)

MM Hexagonal Lock Nuts, Metric, Metal

These hexagonal lock nuts are suitable for a wide range of applications. Maximum possible torques guarantee a safe connection of the system.

CAT NO.	FITS TO THREAD METRIC	WRENCH SIZE	DIMENSIONS HEIGHT (MIN.)
GMM-M12	M12x1.5	15.0mm	2.8mm
GMM-M16	M16x1.5	19.0mm	2.8mm
GMM-M20	M20x1.5	24.0mm	3.0mm
GMM-M25	M25x1.5	30.0mm	3.5mm
GMM-M32	M32x1.5	36.0mm	4.0mm
GMM-M40	M40x1.5	46.0mm	4.5mm
GMM-M50	M50x1.5	60.0mm	5.0mm
GMM-M63	M63x1.5	70.0mm	5.5mm



- Brass galvanically nickel-plated
- Maximum possible torque
- Safe system connection

Testing Methods

Conformance with standards: Additional services to benefit you

PMA® products conform to worldwide standards and regulations. As a pioneer in the field of cable protection, we have always given high priority to our own testing facilities, and we have consciously introduced stringent in-house standards. This approach has enabled us to exercise a significant influence on the development of international standards. Standards committees with responsibility for cable systems regularly ask our company to provide advice or participate as an active member.

High quality products from A–Z

From basic items to high-tech products, all of our products meet the most stringent quality requirements. Some of their outstanding features include:

- Resistance to temperature, weathering, UV radiation and chemical agents
- High system pull-out resistance
- Excellent fire protection characteristics (flammability, smoke density, and toxicity)
- Excellent system ingress protection up to IP69K
- Extremely long service life
- Conformance to the EN ISO 9001:2000 quality standard



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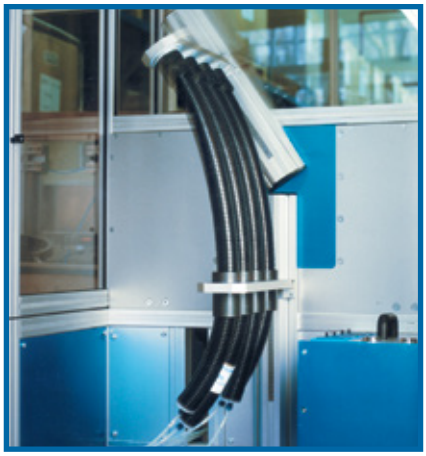
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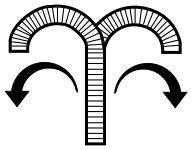
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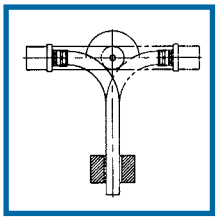
Reversed Bending Test with Swinging Movements

DO 9.21-4425 IEC EN 61386

This standard is based on a cyclic reversed bending test (pivoting) of conduits under various conditions (temperature). The conduits are dynamically loaded and evaluated at the upper and lower application temperature limits. The test is performed based on IEC EN 61386. The minimum requirement corresponds to the specifications of IEC EN 61386. For PMA, the test is not considered completed for final evaluation until cracking or fracture. The number of cycles to fracture determines the fatigue strength of the conduit.





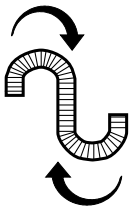


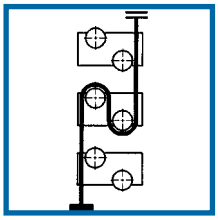
Reversed Bending Test

DO 9.21-4420

This standard describes a cyclic reversed bending test with additional tensile loading (lifting) on flexible conduits under standard ambient conditions (23° C/50% relative humidity). The conduit is loaded until fracture. The number of cycles to fracture determines the fatigue strength of the conduit.







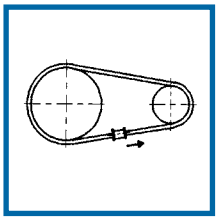
Reversed Bending Test

DO 9.21-4220

This standard describes a cyclic bending test (rotation in an oval pattern) on flexible conduits under standard ambient conditions (23° C/50% relative humidity). The conduit is tested until failure. The number of cycles to fracture determinesthe fatigue strength of the conduit.





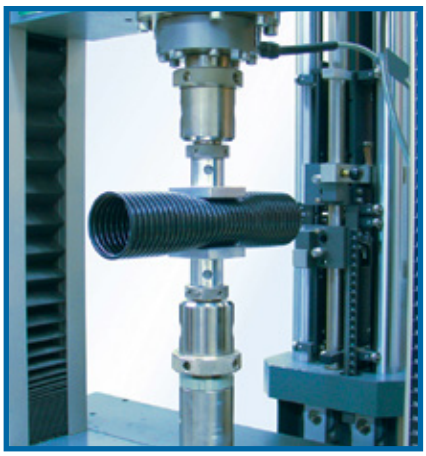


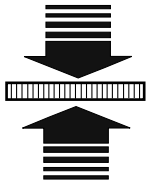
Technical Information

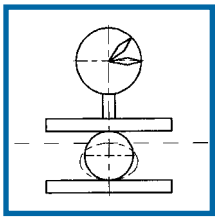
Peak Load Test

DO 9.21-4320 IEC EN 61386

This standard describes the peak load test on conduits under standard ambient conditions (23° C/50% relative humidity). The conduit is deformed by a defined amount between two plates. The restoring force established over a specific time (by relaxation of the conduit) describes the crushing pressure or compressive strength.



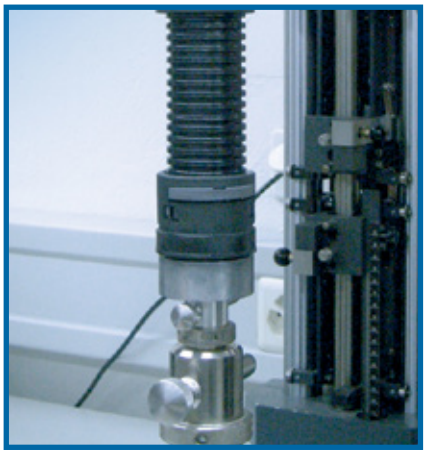


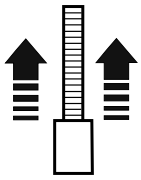


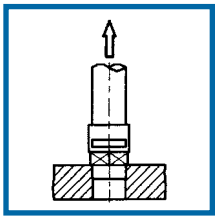
Pull-Out Test

DO 9.21-4610 IEC EN 61386

This standard defines the system pull-out test on conduits and connectors under standard ambient conditions (23° C/50% relative humidity). The conduits are mounted with the appropriate system connectors. The pull-out strength of the system is determined in a tensile test.





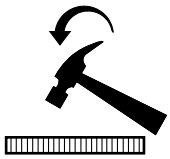


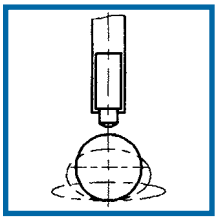
Impact Test

DO 9.21-4330 IEC EN 61386

This standard describes the impact strength test on conduits at various temperatures. The specimen is placed on a steel plate, centered under an impact head with a defined profile. The impact head impacts the center of the specimen surface. In contrast to international specifications, deformation behavior (buckling) is determining rather than fracture behavior. The impact test is considered to be passed if no fracture or cracking can be detected after the impact, as well as no excessive permanent deformation of the conduit in accordance with PMA® specifications.







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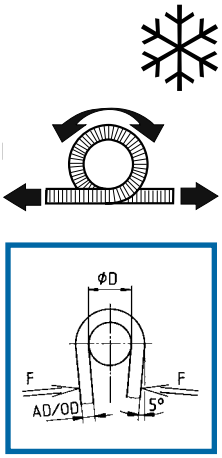
Technical Information

Cold Bending Test

DO 9.21-4380

This standard describes a bending test on conduits at low temperatures. The specimens are stored in a controlled-climate cabinet at the specified test temperature. Loading is achieved by winding the specimen around a test mandrel with a defined diameter. The various products are classified based on the mandrel diameter which can be achieved.



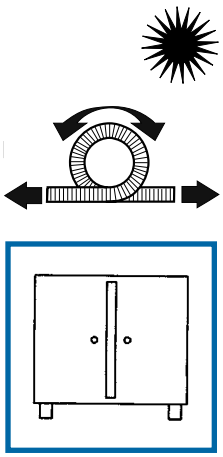


Thermal Aging Test

DO 9.21-4360

This standard describes a bending test on thermally aged specimens. The test conduits are stored in a controlled-climate oven at the specified test temperature. After removal from the oven, they are cooled to room temperature. Loading is achieved by winding the specimen around a test mandrel with a defined diameter. The various products are classified based on the mandrel diameter which can be achieved.

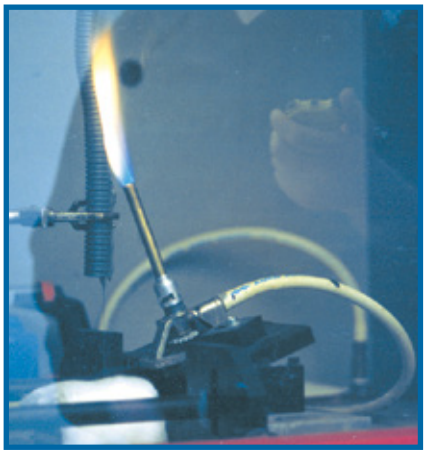


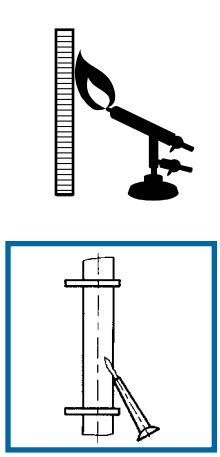


Self-Extinguishing Test

DO 9.21-4430 IEC EN 61386

This standard describes a flame test on conduits based on international specifications. The conduit is exposed to a defined flame from a standard burner. The time of ignition, flame propagation behavior as well as time of extinguishing after removal of the flame source are significant parameters for evaluating the flame behavior of the products.





Ingress Protection (IP) according to EN 60529/DIN 40050

Ingress Protection (IP)

A standard to classify product performance regarding ingress protection.

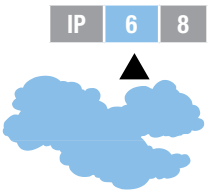


PMA products offer complete protection!

Different number — different protection!

For example, products classified as IPx8 are not automatically protected against jet water! Immersion tests for classifications IPx7 and IPx8 differ from the tests for protection against jet water for IPx6, IPx5 or IPx4.

Therefore, PMA® cable protection systems are tested regarding different sealing requirements.



The first digit stands for **Protection against**

dust

	Protection against contact and penetration of foreign objects Degree of protection (contact/foreign bodies)	
0	**No protection**	No contact protection, no protection against solid particles and bodies.
1	**Protection against large foreign bodies**	Protection against large contact area with hands and foreign bodies with Ø > 50 mm.
2	**Protection against medium foreign bodies**	Protection against contact with fingers, protection against foreign bodies Ø > 12.5 mm.
3	**Protection against small foreign bodies**	Protection against tool contact foreign bodies, wires or the like with Ø > 2.5 mm.
4	**Protection against foreign grains**	See 3, but Ø > 1 mm.
5	**Dust protected**	Full contact protection. Protection against dust deposits inside.
6	**Dust tight**	Full contact protection. Protection against dust penetration.

Compliance certified by an independent test laboratory.
Official approval documents available on request:
info@pma.ch

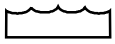
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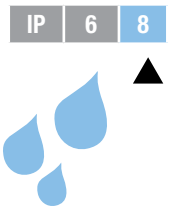
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Technical Information

	PMA Products		PMAFIX Pro	PMAFIX IP68 + WPS	PMAFIX IP68/IP68GT	PMAFIX IP66	SMART-LINE	ECONOMY II	ECONOMY
	**IPx4**	Splash water from all directions							
	**IPx5**	Jet water at any angle							
	IPx6	Powerful jet water from any angle							
	**IPx7**	Submersion (1m, 30 min.)							
	**IPx8**	Submersion at time and pressure >IPx7							
	**IPx9K**	High-pressure (up to 80 bar) water from any angle		*	*	*	*		

** EN 60529/DIN 40050 can be fulfilled without WPS (Water impact protection ring). PMA recommends the use of the WPS ring for trouble-free practical applications.*



The second digit stands for **Protection against**
water

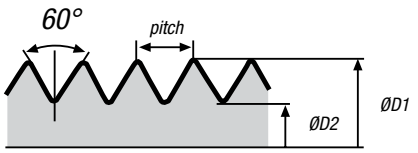
	Protection against fluids Degree of protection (water)	
0	**No protection**	No protection against water.
1	**Protection against dripping water**	Protection against vertical water drops.
2	**Protection against inclined water drops**	Protection against inclined water drops (any angle up to 15° to vertical line).
3	**Protection against spray water**	Protection against spray water from an angle of 60° to vertical line.
4	**Protection against splash water**	Protection against splash water from all directions.
5	**Protection against water jets**	Protection against water jets from any angle.
6	**Protection against powerful water jets**	Protection against powerful water jets from any angle.
7	**Protection against immersion**	Protection against water penetration 1m below water.
8	**Protection against submersion**	Protection against pressure water for an indefinite time (customer tailored).
9K	**Protection against high-pressure cleaning**	Protection against water from any angle with high pressure.

Thread Dimensions

Metric Fine Thread

EN 60423

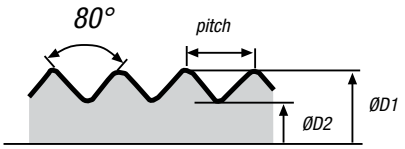
METRIC	PITCH MM	MAJOR Ø D1 MM	MINOR Ø D2 MM	HOLE -0/+0.3 MM
12	1.5	12	10.16	12.0
16	1.5	16	14.16	16.0
20	1.5	20	18.16	20.0
25	1.5	25	23.16	25.0
32	1.5	32	30.16	32.0
40	1.5	40	38.16	40.0
50	1.5	50	48.16	50.0
63	1.5	63	61.16	63.0



PG Thread

DIN 40430

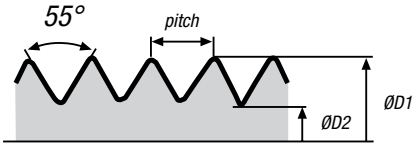
PG	PITCH MM	MAJOR Ø D1 MM	MINOR Ø D2 MM	HOLE MM
07	1.270	12.5	11.28	12.7
09	1.411	15.2	13.86	15.4
11	1.411	18.6	17.26	18.8
13	1.411	20.4	19.06	20.7
16	1.411	22.5	21.16	22.8
21	1.588	28.3	26.78	28.6
29	1.588	37.0	35.48	37.4
36	1.588	47.0	45.48	47.5
48	1.588	59.3	57.78	59.8



Gas Pipe Thread

DIN 259 Bl. 3, ISO 228/I

GAS	PITCH MM	MAJOR Ø D1 MM	MINOR Ø D2 MM	HOLE MM
¼"	1.337	13.157	11.445	13.4
⅜"	1.337	16.662	14.950	17.0
½"	1.814	20.955	18.631	21.3
¾"	1.814	26.441	24.117	26.8
1"	2.309	33.249	30.291	33.7
1¼"	2.309	41.910	38.952	42.4
1½"	2.309	47.803	44.845	48.31
2"	2.309	59.614	56.656	60.2



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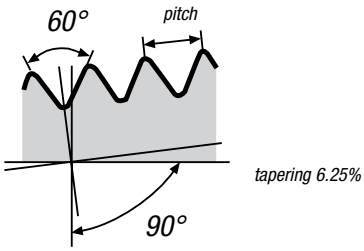
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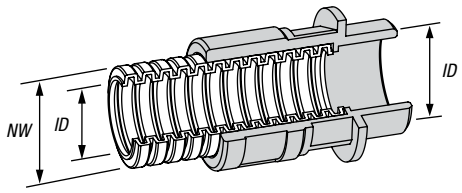
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American Standard Taper Pipe Thread

NSI B2.1/ANSI B2.2

NPT	PITCH MM	MAJOR Ø D1 MM	HOLE D2 MM
¼"	1.411	13.616	13.9
⅜"	1.411	17.055	17.4
½"	1.814	21.223	21.6
¾"	1.814	26.568	26.9
1"	2.209	33.227	33.7
1¼"	2.209	41.984	42.4
1½"	2.209	48.053	48.5
2"	2.209	60.091	60.6





Comparison table—Inside diameter threads to inside diameter conduits

CONDUIT		CONNECTOR			CONNECTOR		
NOMINAL WIDTH NW	INSIDE DIAMETER MM (NOM.) ID		INSIDE DIAMETER MM (NOM.) ID0			INSIDE DIAMETER MM (NOM.) ID	
STANDARD	INSIDE Ø NOMINAL	THREAD SIZE	METAL	POLYAMIDE	THREAD SIZE	METAL THREAD	POLYAMIDE THREAD
NW07	6.2	PG07	—	8.0	M10	—	—
NW10	9.6	PG09	9.5	10.0	M12	5.7	8.0
					M16	—	11.0
NW12	12.0	PG11	12.5	13.0	M16	9.7	11.0
—	—	PG13.5	14.5	14.5	—	—	—
NW17	16.2	PG16	16.5	17.5	M20	13.7	14.6
NW23	22.6	PG21	22.5	22.5	M25	18.6	19.0
NW29	29.0	PG29	30.5	30.5	M32	25.7	26.0
NW36	36.5	PG36	40.5	37.5	M40	33.4	32.0
—	—	PG42	—	48.0	—	—	—
NW48	47.5	PG48	52.0	50.0	M50	42.7	42.0
					M63	54.0	53.0

Recommended torques for PMA® fittings

For threaded bore holes

THREAD	METAL* [NM]	POLYAMIDE [NM]
M12	5	3
M16	6	4
M20	7	5
M25	10	8
M32	10	10
M40	15	15
M50	15	15
M63	15	15

THREAD	METAL* [NM]	POLYAMID [NM]
PG07	4	2
PG09	5	3
PG11	6	4
PG13.5	7	5
PG16	7	5
PG21	10	10
PG29	15	15
PG36	15	15
PG48	15	15

With lock nuts

THREAD	METAL LOCK NUT* GMM-MXX [NM]	POLYAMIDE LOCK NUT** B/GMN-MXX [NM]
M12	3	3
M16	6	4
M20	7	5
M25	8	8
M32	10	10
M40	15	15
M50	15	15
M63	15	15

** Thread combination: metal + metal.*

*** Thread combination: metal + polyamide or polyamide + polyamide.*

THREAD	METAL LOCK NUT* GMM-XX [NM]	POLYAMIDE LOCK NUT B/GMN-XX [NM]
PG07	2	2.5
PG09	3	3
PG11	6	4
PG13.5	7	5
PG16	7	5
PG21	10	8
PG29	15	10
PG36	15	15
PG48	15	15

Note: *Data represents approximate values. For application, please take into account the influence of the counter-thread.*

Strain-Relief fittings

According to EN 50262 (manufacturers' specifications)

THREAD	METAL	METAL	POLYAMIDE
M12	5.0	6.0	0.7
M16	5.0	8.0	2.0
M20	7.5	10.0	3.0
M25	10.0	10.0	5.0
M32	15.0	15.0	7.5
M40	20.0	20.0	7.5
M50	20.0	20.0	7.5
M63	20.0	20.0	7.5

These values were gauged at standard climate (23° C/50% relative humidity).

According to DIN VDE 0619

THREAD	METAL NVNZ-PXXXX [NM]	METAL NVNZ-PXXXX/P [NM]	POLYAMIDE S/BVNZ-PXXXX [NM]
PG07	6.25	6.25	1.0
PG09	6.25	6.25	2.0
PG11	6.25	6.25	2.5
PG13.5	6.25	6.25	3.0
PG16	7.5	7.5	3.5
PG21	10.0	10.0	5.0
PG29	10.0	10.0	7.5
PG36	10.0	10.0	7.5
PG48	10.0	10.0	7.5

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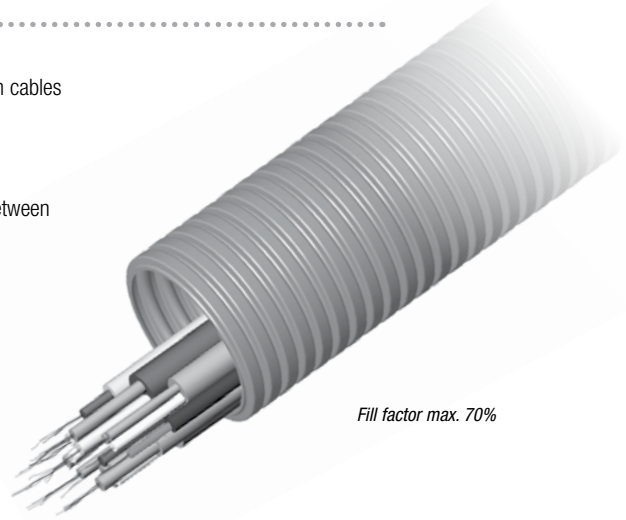
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Fill factor, relevant guidelines

The question of conduit capacity or fill factor arises in the use of cable protection systems. This describes the extent to which a conduit can or should be filled with cables and/or conductors based on the available cross-sectional area.

In all cases, PMA recommends that a conduit capacity of **70%** not be exceeded. Application-specific procedures and standards must also be considered.

This ensures that operation is not unnecessarily impaired by increased friction between the individual conductors in dynamically moving systems.
In addition, subsequent installation of additional conductors and/or cables is also possible if necessary.



Fill factor max. 70%

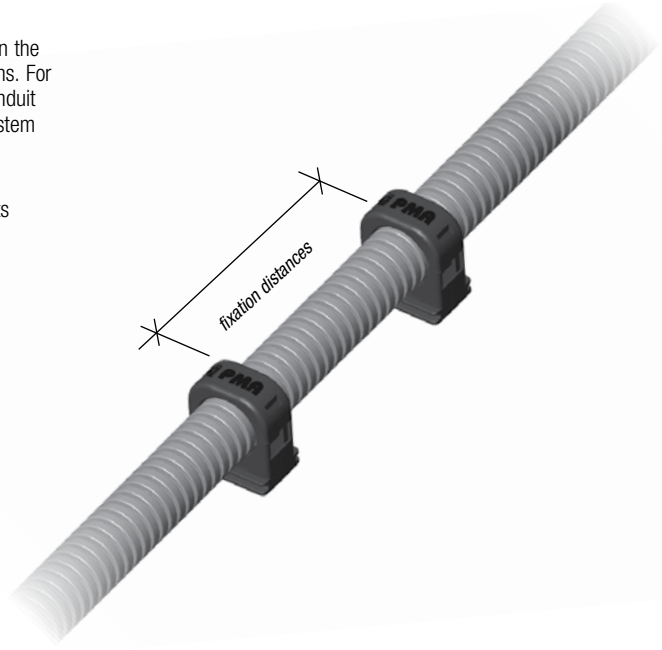
Wiring installation: Fixation

PMA recommends that cable protection systems be fastened with a spacing of **300mm to 500mm** between supports. This spacing can be varied depending on the application and location. This recommendation applies for all available dimensions. For larger diameters, the increased load due to the cables and conductors in the conduit is accounted for by adherence to the support spacing. PMA supplies suitable system supports for various strength requirements and applications.

European standard **EN 50343:2003-5.15** "Railway applications - Rolling stock - Rules for installation of cabling" specifies the following spacing between supports for fastening conductors:

Horizontal wiring: **300mm**
Vertical wiring: **500mm**

Application-specific guidelines and standards should also be considered.



Chemical Resistance

RESISTANCE AGAINST	CHEMICAL FORMULA	**PA6** Polyamide 6 **PA66** Polyamide 66	**PA12** Polyamide 12 **PA11** Polyamide 11	**PP** Polypropylene **PE** Polyethylene	**TPU** Thermoplastic Polyurethane elastomer	**PFA** Perfluoralkoxy-copolymer **PVDF** Polyvinylidene fluoride
Acetic acid (10%)	$C_2H_4O_2$	•	••	•••	○	•••
Acetone	C_3H_6O	•••	•••	•••	○	•••
Ammonia (30%)	NH_3	•••	•••	•••	○	•••
Benzine	—	•••	•••	••	•	•••
Brake fluid	—	•••	•••	•••	○	•••
Caustic soda	HNaO	•••	•••	•••	•	•••
Ethyl alcohol (40%)	C_2H_6O	•••	•••	•••	•	•••
Glycol	C_2H6O_2	•••	•••	•••	○	•••
Hydrochloric acid (10%)	HCL	○	•	•••	○	•••
Methanol	CH_4O	••	•••	•••	•	•••
Methyl ethyl ketone	C_4H_6O	•••	•••	•••	○	•••
Nitric acid (10%)	HNO_3	○	○	••	○	•••
Ozone	O_3	••	••	••	•	•••
Paint thinner	—	•••	•••	•	○	•••
Perchlorethylene	C_2Cl_4	••	••	••	○	•••
Paraffin	—	•••	•••	•	○	•••
Phosphoric acid (10%)	H_3O_4P	•	••	•••	○	•••
Sea water	—	•••	•••	•••	••	•••
Soap solution	—	•••	•••	•••	••	•••
Sodium chloride	NaCl	•••	•••	•••	•••	•••
Sulphuric acid (10%)	H_2SO_4	•	••	•••	○	•••
Toluene	C_7H_8	•••	•••	•	○	•••
Trichlorethylene	C_2HCl_3	•	••	○	○	•••
Turpentine	—	•••	•••	○	○	•••
Urine	—	•••	•••	•••	•••	•••
RESISTANCE AGAINST OILS AND GREASES						
Cutting oils*	—	•••	•••	••	•	•••
Diesel oil	—	•••	•••	••	••	•••
ASTM oil No. 3	—	•••	•••	••	•	•••
Fuel oil	—	•••	•••	••	•	•••
Hydraulic oils*	—	•••	•••	••	•	•••
Mineral oils	—	•••	•••	••	•••	•••
Spark-erosion liquids	—	•••	•••	••	•	•••
Skydrol	—	•	••	••	○	•••
Transformer oils*	—	•••	•••	••	•	•••

* Synthetic additives can affect the oil resistance of plastics.

Please contact your Thomas & Betts representative for further information.

••• Excellent resistance/suitable for permanent contact

•• Resistant/suitable for occasional contact

• Relatively resistant/suitable for short-term contact

○ Not recommended

Important:

The chemical resistance of plastic products is also dependant on factors such as temperature, amount of time exposed to chemicals (e.g. occasional contact or immersed) as well as the concentration of the specific chemicals.

The stated chemical resistances are valid for a temperature of -20° C. The chemical resistance table above serves only as a guide for the use of polyamide products in conjunction with the listed chemicals. Each specific application should be controlled for suitability by the end user.

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Adaptaflex®

Adaptaflex® Metallic & Specialty Flexible Conduit Systems

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Overview

Industry Standards

As a major player in the flexible conduit market, Adaptaflex® has gained many international approvals.

We continuously monitor our own quality levels, but we also go a step further by having our products independently tested. As a result, you don't have to just take our word for it.



Third Party Testing and Approvals

IEC 61386 Performance Classification Standard

Adaptaflex® is the first major conduit manufacturer to achieve third-party accreditation to the IEC 61386 Standard from the British Standards Institution (BSI). IEC 61386 conformance guarantees that our products meet performance specifications for fatigue life, operating temperature, non-flame propagation and IP ratings, among other criteria. IEC 61386 has replaced EN50086.

ISO 9001 Quality Standard

Adaptaflex® conforms to ISO 9001:2000, the internationally recognized standard for Quality Management Systems. This standard reflects the procedures and management processes throughout the whole of the company.

BS EN ISO 14001 Environmental Standard

Controlling the impact of manufacturing activities on the environment is a major challenge. Again, Adaptaflex leads the way by being the first conduit manufacturer to comply with this standard.

KM35161

Compliance for the North American Market

Adaptaflex® products are approved by a range of recognized industry standards. We produce products specifically to meet the needs of the North Amercan market, complying with standards that include:

- UR Approval
- ASTM, Lloyds Register Approvals
- Protection Ratings to NEMA 6 & 6P (IP67)

Product Characteristics

Adaptaflex® offers an extensive range of products designed for a wide range of market applications:

- Metallic conduit and tubing systems
- Comprehensive range of US Trade Sizes (¼"–2")
- NPT and UNEF threads available



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Overview

Machine Tools Overview

This market is driven by the need to meet the best in lean manufacturing. To achieve this, every piece of equipment in this sector is pushed for greater efficiency by working more intensely and faster. As a result, any conduit installed in these applications needs to provide excellent mechanical strength, flexibility and abrasion resistance to provide protection along the entire length of all the moving parts.

In this hardworking environment of both dynamic and static applications, it is essential that cable management products continue to deliver performance in areas where resistance to oils and chemicals is paramount. Any down time in manufacturing can be very costly, so products that offer high ingress protection are fundamental. Adaptaflex® offers a wide range of solutions to meet all of these needs.

Technology is increasingly being used in modern machine tools, and the need to interface conduit to multipin connectors is escalating.

Typical Applications

- Metal Cutting and Fabrication
- Milling Machines
- CNC Machine Tool Technology
- Molding Machinery
- Wood Turning Equipment

Product Recommendations

- SPL Liquidtight Conduit Systems
- Overbraided Conduit Systems

Marine Overview

Safety and reliability are vital considerations in this harsh operational environment. Products specified and installed in exposed areas have to face damaging effects from wind, wave and salt spray conditions. This environment also demands the most robust products that can withstand vibration and temperature extremes.

Adaptaflex® offers a broad range of solutions to suit this sector. They provide minimum environmental impact, corrosion and chemical resistance, long service life and low fire hazard properties.

Typical Applications

- Ship/Boat Engine Rooms
- Ship and Dock Yards
- Leisure Boats and Cruisers
- Marina Developments
- Ocean-Going Craft

Automation Overview

In the field of automation, all cable management systems need to withstand some grueling conditions concerning flexibility. Motion-intensive, continuous cycling machinery can stress conduit systems in every direction with high-speed repetitive movements, including swivel actions.

The ability to work at high speed for long periods is a prerequisite, with total reliability in hostile or no-maintenance applications essential. Any conduit system installed in this environment requires one or all of the following properties: high fatigue life performance, protection from abrasion, high flexibility and first-class pullout strength. Adaptaflex® provides a wealth of technical expertise to ensure you have the right product for the job.

Typical Applications

- Pick and Place Robotics
- Conveyor Systems
- Spray Painting and Coating Equipment
- Clean Room Applications
- Measuring and Testing Automation

Product Recommendations

- Braided Conduit
- Adaptasteel Conduit

Other Applications Overview

The range of applications for Adaptaflex® cable and energy management systems is almost limitless. Whenever cable needs protection and wherever cable connections are required, Adaptaflex® provides superior systems for every cable management challenge.

The range of products and variety of materials to choose from are immense. With different materials providing different performance characteristics, it is important that you select the right product for your particular application as well as the right material to give you superior performance.

Adaptaflex® Applications Engineers offer 30+ years of experience gained internationally across all different market sectors. Our custom design service and expert technical knowledge guarantee you will find the perfect Adaptaflex® solution for your application.

Examples of Individual Markets Served

- Telecommunications
- Medical
- Mining/Quarrying
- Automotive
- Rail Systems
- Subway and Light Rail Systems
- Security and CCTV
- MOD

Overview

Quick Selection Guide — Metallic Systems

TYPE	TYPE S STEEL CONDUIT	TYPE SS STAINLESS STEEL CONDUIT	TYPE SP LIQUID-RESISTANT CONDUIT	TYPE SN LIQUID-RESISTANT NYLON CONDUIT	TYPE LFH-SP LOW FIRE HAZARD CONDUIT	TYPE SPL LIQUIDTIGHT CONDUIT	TYPE SPLHC EXTREME TEMPERATURE CONDUIT	TYPE SB STEEL BRAIDED CONDUIT	TYPE STC STEEL-TINNED COPPER BRAIDED CONDUIT	TYPE SSB STAINLESS STEEL BRAIDED CONDUIT	TYPE SSBGS STAINLESS STEEL BRAIDED CONDUIT	TYPE SPB LIQUID-RESISTANT BRAIDED CONDUIT	TYPE SPTC LIQUID-RESISTANT TINNED COPPER BRAIDED CONDUIT	TYPE SPLHCB LIQUIDTIGHT EXTREME TEMPERATURE CONDUIT
EXAMPLE														
CONDUIT MATERIAL	Galvanized Steel	Stainless Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel	Stainless Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel	Galvanized Steel
COVERING/OVERBRAID			PVC	PA (Nylon)	Polyolefin	PVC	Thermoplastic Rubber	Galvanized Steel	Tinned Copper	Stainless Steel	Stainless Steel	PVC & Stainless Steel	PVC & Tinned Copper	Rubber & Stainless Steel
IP RATING (with appropriate fitting) IP40	●	●						●	●	●	●			
IP54			●	●	●							●	●	
IP65			●	●	●									
IP66						●	●							●
IP67						●	●							●
IP68						●	●							●
IP69K														
STATIC TEMP - MIN.	-58° F	-58° F	-5° F	-40° F	-13° F	-5° F	-85° F	-58° F	-58° F	-58° F	-58° F	-5° F	-5° F	-85° F
MAX.	+575° F	+660° F	+160° F	+250° F	+195° F	+220° F	+275° F	+575° F	+575° F	+575° F	+575° F	+160° F	+160° F	+275° F
UV RESISTANCE	Very High	Very High	Very High	High	High	Very High	High	Very High	Very High	Very High	Very High	Very High	Very High	Very High
FLEXIBILITY	High	High	High	Medium	Medium	Medium	Very High	High	High	High	High	Medium	Medium	Very High
FATIGUE LIFE	High	High	Medium	Medium	Medium	Medium	High	High	High	High	High	Medium	Medium	High
LOW FIRE HAZARD	Inherent	Inherent			Enhanced			Inherent	Inherent	Inherent	Inherent			
HALOGEN FREE	●	●		●	●			●	●	●	●			
SELF EXTINGUISHING			●	●	●	●	●					●	●	●
EMI SCREEN								Enhanced	High	Standard	Standard	Enhanced	High	Standard
HIGH MECHANICAL STRENGTH	●	●	●	●	●	●	●	●	●	●	●	●	●	●
HIGH ABRASION RESISTANCE								●	●	●	●	●	●	●
APPROVALS	KM30161 CE	KM30161 CE	KM30161 CE	KM30161 CE	KM30161 CE Lloyd's Register	KM30161 CE UL Lloyd's Register	KM30161 CE	KM30161 CE	KM30161 CE	KM30161 CE	KM30161 CE	KM30161 CE	KM30161 CE	KM30161 CE
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Overview

Metallic Systems Conduit, Fittings and Accessories



Range Overview

Adaptaflex® offers individual metallic conduit systems manufactured either in galvanized steel or stainless steel.

Three different conduit types provide liquid resistance, and three additional liquidtight covered steel conduit options are able to withstand especially demanding environments. Conduit ranges from 3mm for CCTV/roller shutter doors and for protecting fiber optic cables to 75mm for larger cable carrying capacity.

Overbraided conduits are particularly suitable for installation in abrasive environments. Where applications call for enhanced low fire hazard properties or EMI screening, there is the option of high-specification tinned copper overbraided for greater EMI protection levels.

In addition, a range of fittings is specifically designed to maintain system integrity. These include fixed and swivel fittings, straights, 90°, 45°, and a host of accessories including locknuts, enlargers, reducers and converters.

Advantages

- High compression/crush strength
- Tensile strength — pull off load under tension
- Impact resistance
- Inherent fire protection on uncoated versions
- Corrosion-resistant, stainless steel options
- Braided — High level EMI screening with tinned copper overbraided
- Greater temperature tolerances

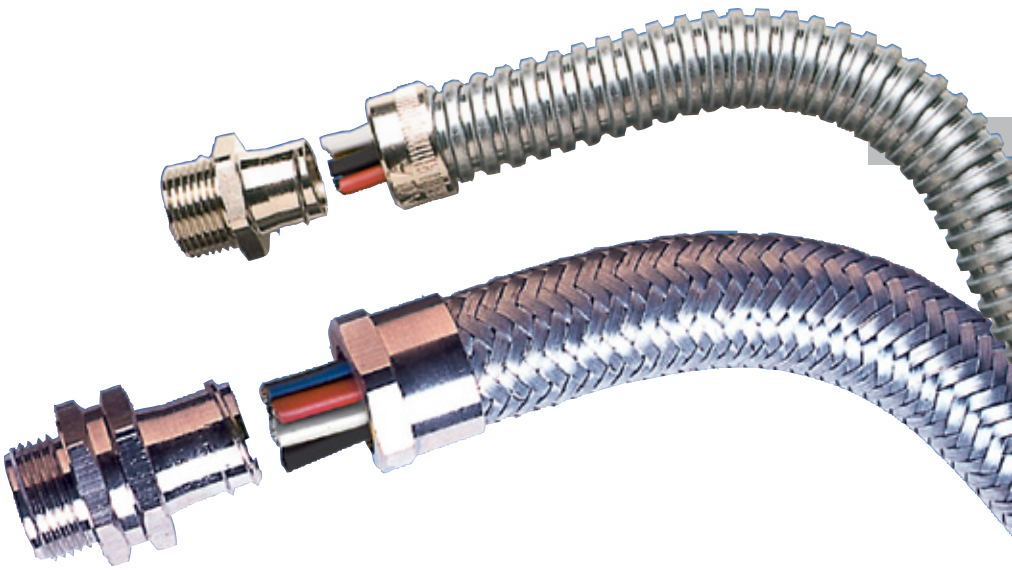
System approvals available:

KM35161

LOW VOLTAGE DIRECTIVE

Ranges include:

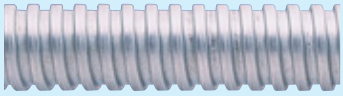
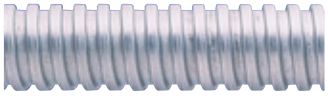
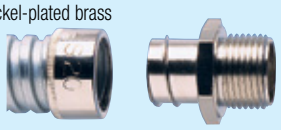
ADAPTASTEEL SYSTEM



Adaptasteel Type S and SS Flexible Steel Conduit and Type S Fittings

To order, quote part no. and reel length — e.g. S10/25M

PRODUCT CHARACTERISTICS

	TYPE S	TYPE SS	TYPE A
TYPE	**TYPE S**	**TYPE SS**	**TYPE A**
DESCRIPTION	*INHERENT LOW FIRE HAZARD STEEL CONDUIT*	*INHERENT LOW FIRE HAZARD STEEL CONDUIT*	*STRAIGHT FITTING — FIXED EXTERNAL THREAD For insertion into knockouts using a locknut.*
MATERIALS	Galvanized steel — general purpose	Stainless steel — corrosion resistant	Nickel-plated brass
EXAMPLE			

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	TYPE S CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M) TYPE S ONLY	TYPE S CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M) TYPE S ONLY	METRIC THREAD	CATALOG NUMBER
03	0.21	03	—	—	—	—	SS03	0.13	0.79	20	—	—
05	0.27	05	—	—	—	—	SS05	0.19	1.50	20	—	—
08	0.43	08	—	—	—	—	SS08	0.27	1.97	10	—	—
¼	0.36	10	S10	0.27	0.98	25, 50	SS10	0.31	0.98	25	M12	S10/M12/A
5⁄16	0.51	12	S12	0.41	1.18	10, 25, 50	SS12	0.41	1.18	30	M16	S12/M16/A
½	0.81	20	S20	0.67	1.77	10, 25, 50	SS16	0.51	1.38	30	M16	S16/M16/A
¾	0.99	25	S25	0.84	2.17	10, 25, 50	SS20	0.67	1.77	30	M20	S16/M20/A
1	1.26	32	S32	1.11	2.36	10, 25	SS25	0.84	2.17	30	M20	S20/M20/A
1¼	1.68	40	S40	1.48	3.15	10, 25	SS32	1.11	2.36	25	M25	S25/M25/A
1½	2.09	50	S50	1.91	3.54	10, 25	—	—	—	—	M32	S32/M32/A
2	2.46	63	S63	2.26	4.53	10	—	—	—	—	M40	S40/M40/A
2½	2.76	75	S75	2.76	5.91	10	—	—	—	—	M50	S50/M50/A
							—	—	—	—	M63	S63/M63/A
							—	—	—	—	M75	S75/M75/A

Note: *PG thread sizes available.*

	TYPE S	TYPE SS	TYPE A
IP RATING WITH APPROPRIATE FITTING	For use with following fittings: Type S Fittings	For use with following fittings: Type S Fittings	For use with following conduit: Type S & SS Conduit
IP40	Type S Fittings — Type A, B, F & C	Type S Fittings — Type A, B, F & C	Type S & SS Conduit
IP65	N/A	N/A	N/A
IP66	N/A	N/A	N/A
IP67	N/A	N/A	N/A
IP68	N/A	N/A	N/A
***NEW* IP69K**	N/A	N/A	N/A
TEMPERATURE RANGE	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 660° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F
UV RESISTANCE	Very High	Very High	
FLEXIBILITY & FATIGUE LIFE	High Flexiblity — High Fatigue Life	High Flexiblity — High Fatigue Life	
FIRE PERFORMANCE & EMI SCREEN	ILFH	ILFH	
APPROVALS			
SYSTEM APPLICATIONS	Lighting/Cable Track Light Industrial OEM	Food Industry Railway Corrosive Environments	

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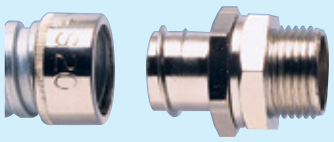
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Metallic Flexible Conduits and Fittings

PRODUCT CHARACTERISTICS

	TYPE B	TYPE F	TYPE C
TYPE	**TYPE B**	**TYPE F**	**TYPE C**
DESCRIPTION	*STRAIGHT FITTING — SWIVEL EXTERNAL THREAD* *For insertion into threaded entries and knockouts.*	*STRAIGHT FITTING — FIXED INTERNAL THREAD* *For attachment to external threads and other fittings.*	*SMOOTH ENTRY BUSHING* *For locking conduit into plain holes in enclosures.*
MATERIALS	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
EXAMPLE			

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	TYPE B METRIC THREAD	TYPE B CATALOG NUMBER	TYPE F METRIC THREAD	TYPE F CATALOG NUMBER	TYPE C HOLE SIZE (MM)	TYPE C CATALOG NUMBER
¼	0.36	10	M12	**S10/M12/B**	—	—	9	**S10/9/C**
5⁄16	0.51	12	M16	**S12/M16/B**	—	—	12	**S12/12/C**
⅜	0.63	16	M16	**S16/M16/B**	—	—	16	**S16/16/C**
⅜	0.63	16	M20	**S16/M20/B**	—	—	16	**S16/16/C**
½	0.81	20	M20	**S20/M20/B**	M20	**S20/M20/F**	20	**S20/20/C**
¾	0.99	25	M25	**S25/M25/B**	M25	**S25/M25/F**	25	**S25/25/C**
1	1.26	32	M32	**S32/M32/B**	M32	**S32/M32/F**	32	**S32/32/C**
1¼	1.68	40	M40	**S40/M40/B**	—	—	40	**S40/40/C**
1½	2.09	50	M50	**S50/M50/B**	—	—	51	**S50/51/C**
2	2.46	63	—	—	—	—	61	**S63/61/C**
2½	2.76	75	—	—	—	—	75	**S75/75/C**

Note: *PG thread sizes available.*

	TYPE B	TYPE F	TYPE C
IP RATING WITH APPROPRIATE FITTING	For use with following fittings: Type S & SS Conduit	For use with following fittings: Type S & SS Conduit	For use with following fittings: Type S & SS Conduit
IP40	Type S & SS Conduit	Type S & SS Conduit	Type S & SS Conduit
IP65	N/A	N/A	N/A
IP66	N/A	N/A	N/A
IP67	N/A	N/A	N/A
IP68	N/A	N/A	N/A
NEW **IP69K**	N/A	N/A	N/A
TEMPERATURE RANGE	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 660° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F
FITTING CHARACTERISTICS			
APPROVALS			

Adaptasteel Type SP, SN and LFH-SP Covered Steel Flexible Conduit and Type SP Fittings

To order, quote part no., color and reel length — e.g. SP10/BL/25M

PRODUCT CHARACTERISTICS

	TYPE SP	TYPE SN	TYPE LFH-SP
TYPE	TYPE SP	TYPE SN	TYPE LFH-SP
DESCRIPTION	*LIQUID-RESISTANT GENERAL-PURPOSE COVERED STEEL FLEXIBLE CONDUIT*	*LIQUID-RESISTANT, ABRASION- & SOLVENT-RESISTANT COVERED STEEL FLEXIBLE CONDUIT*	*LIQUID-RESISTANT ENHANCED LOW FIRE HAZARD COVERED STEEL FLEXIBLE CONDUIT*
MATERIALS	PVC-covered galvanized steel Color Black (BL), Gray (GR) & Orange (OR)	PA (nylon)-covered galvanized steel Color Black (BL) only	Polyolefin-covered galvanized steel Color Black (BL) only
EXAMPLE			

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M) TYPE S ONLY	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M) TYPE S ONLY	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M) TYPE S ONLY
¼	0.39	10	**SP10**	0.27	0.98	25, 50	—	—	—	—	**LFH-SP10**	0.27	0.98	50
5⁄16	0.55	12	**SP12**	0.41	1.18	25, 50	SN12	0.41	1.18	25, 50	**LFH-SP12**	0.41	1.18	50
⅜	0.67	16	**SP16**	0.51	1.38	10, 25, 50	SN16	0.51	1.38	10, 25, 50	**LFH-SP16**	0.51	1.38	25, 50
½	0.85	20	**SP20**	0.67	1.77	10, 25, 50	SN20	0.67	1.77	10, 25, 50	**LFH-SP20**	0.67	1.77	10, 25, 50
¾	1.02	25	**SP25**	0.84	2.17	10, 25, 50	SN25	0.84	2.17	10, 25, 50	**LFH-SP25**	0.84	2.17	10, 25
1	1.34	32	**SP32**	1.11	2.36	10, 25	SN32	1.11	2.36	10, 25	**LFH-SP32**	1.11	2.36	25
1¼	1.75	40	**SP40**	1.48	3.15	10, 25	—	—	—	—	**LFH-SP40**	1.48	3.15	25
1½	2.17	50	**SP50**	1.91	3.54	10, 25	—	—	—	—	**LFH-SP50**	1.91	3.54	25
2	2.54	63	**SP63**	2.26	4.53	10	—	—	—	—	**LFH-SP63**	2.26	4.53	20
2½	3.11	75	**SP75**	2.76	5.91	10	—	—	—	—	**LFH-SP75**	2.76	5.91	10, 20

	TYPE SP	TYPE SN	TYPE LFH-SP
IP RATING WITH APPROPRIATE FITTING	For use with following fittings: Type SP Fittings	For use with following fittings: Type SP Fittings	For use with following conduit: Type SP Fittings
IP54	Type SP Fittings — Type A, B, C, E & F	Type S Fittings — Type A, B, C, E & F	Type SP Fittings — Type A, B, C, E & F
IP65	Type SP Fittings — Type M & C90	Type SP Fittings — Type M & C90	Type SP Fittings — Type M & C90
IP66	N/A	N/A	N/A
IP67	N/A	N/A	N/A
IP68	N/A	N/A	N/A
NEW **IP69K**	N/A	N/A	N/A
TEMPERATURE RANGE	Static Applications: -5° F to 160° F Moving Applications: +23° F to 195° F	Static Applications: -40° F to 250° F Moving Applications: -13° F to 300° F	Static Applications: -13° F to 195° F Moving Applications: +23° F to 220° F
UV RESISTANCE	Very High	High	High
FLEXIBILITY & FATIGUE LIFE	High Flexiblity — Medium Fatigue Life	Medium Flexiblity — Medium Fatigue Life	Medium Flexiblity — Medium Fatigue Life
FIRE PERFORMANCE & EMI SCREEN	Self Extinguishing	Self Extinguishing Halogen Free	
APPROVALS			
SYSTEM APPLICATIONS	Machine Tools Indoor/Outdoor General Purpose	Industrial Food Industry Manufacturing Areas	Rail Food Industry Public Buildings

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Liquid-Resistant Metallic Flexible Conduits and Fittings

PRODUCT CHARACTERISTICS

	TYPE A	TYPE B	TYPE C90 NEW
TYPE			
DESCRIPTION	*STRAIGHT FITTING — FIXED EXTERNAL THREAD For insertion into knockouts using a locknut.*	*STRAIGHT FITTING — SWIVEL EXTERNAL THREAD For insertion into threaded entries and knockouts.*	*90° COMBINED FITTING & ELBOW with male external thread*
MATERIALS	Nickel-plated brass	Nickel-plated brass	Nickel-plated steel
EXAMPLE			

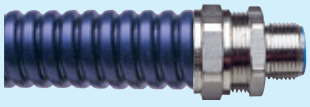
NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	TYPE A METRIC THREAD	TYPE A CATALOG NUMBER	TYPE B METRIC THREAD	TYPE B CATALOG NUMBER	TYPE C90 METRIC THREAD	TYPE C90 CATALOG NUMBER
¼	0.39	10	M12	**SP10/M12/A**	M12	**SP10/M12/B**	—	—
5/16	0.55	12	M16	**SP12/M16/A**	M16	**SP12/M16/B**	—	—
⅜	0.67	16	M16	**SP16/M16/A**	M16	**SP16/M16/B**	M16	**SP16/M9/C90**
⅜	0.67	16	M20	**SP16/M20/A**	M20	**SP16/M20/B**	M20	**SP16/M20/C90**
½	0.85	20	M20	**SP20/M20/A**	M20	**SP20/M20/B**	M20	**SP20/M20/C90**
¾	1.02	25	M25	**SP25/M25/A**	M25	**SP25/M25/B**	M25	**SP25/M25/C90**
1	1.34	32	M32	**SP32/M32/A**	M32	**SP32/M32/B**	M32	**SP32/M32/C90**
1¼	1.75	40	M40	**SP40/M40/A**	M40	**SP40/M40/B**	—	—
1½	2.17	50	M50	**SP50/M50/A**	M50	**SP50/M50/B**	—	—
2	2.54	63	M63	**SP63/M63/A**	—	—	—	—
2½	3.11	75	M75	**SP75/M75/A**	—	—	—	—

Note: *PG thread sizes available.* ***Note:*** *PG thread sizes available.*

	TYPE A	TYPE B	TYPE C90
IP RATING WITH APPROPRIATE FITTING	For use with following conduit: Type SP, SN & LFH-SP Conduit	For use with following conduit: Type SP, SN & LFH-SP Conduit	For use with following conduit: Type SP, SN & LFH-SP Conduit
IP54	Type SP, SN & LFH-SP Conduit	Type SP, SN & LFH-SP Conduit	N/A
IP65	N/A	N/A	Type SP, SN & LFH-SP Conduit
IP66	N/A	N/A	N/A
IP67	N/A	N/A	N/A
IP68	N/A	N/A	N/A
***NEW* IP69K**	N/A	N/A	N/A
TEMPERATURE RANGE	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F
FITTING CHARACTERISTICS			
APPROVALS			

Adaptasteel Type SP, SN and LFH-SP Covered Steel Flexible Conduit and Type SP Fittings *(continued)*

PRODUCT CHARACTERISTICS

	TYPE M				TYPE F		TYPE C		TYPE E
TYPE	**TYPE M**				**TYPE F**		**TYPE C**		**TYPE E**
DESCRIPTION	*STRAIGHT SWIVEL FITTING — EXTERNAL THREAD For insertion into threaded entries and knockouts.*				*STRAIGHT FITTING — FIXED INTERNAL THREAD For attachment to external threads and other fittings.*		*SMOOTH ENTRY BUSH For locking conduit into plain holes in enclosures.*		*CONDUIT TERMINATOR Cable protection at exit point.*
MATERIALS	Nickel-plated brass				Nickel-plated brass		Nickel-plated brass		Nickel-plated brass
EXAMPLE									
NOMINAL CONDUIT SIZE (IN.)	**OUTSIDE DIAMETER (IN.)**	**METRIC CONDUIT SIZE (MM)**	**NPT THREAD**	**CATALOG NUMBER**	**METRIC THREAD**	**CATALOG NUMBER**	**METRIC THREAD**	**CATALOG NUMBER**	**HOLE SIZE (MM)**	**CATALOG NUMBER**	**HOLE SIZE (MM)**
¼	0.39	10	—	—	—	—	—	—	0.35	**SP10/9/C**	—
5⁄16	0.55	12	—	—	M16	**SP12/M16/M**	—	—	0.48	**SP12/12/C**	SP12/E
⅜	0.67	16	⅜	**SP16/038/M**	M16	**SP16/M16/M**	—	—	0.63	**SP16/16/C**	SP16/E
⅜	0.67	16	⅜	**SP16/038/M**	M20	**SP16/M20/M**	—	—	0.63	**SP16/16/C**	SP16/E
½	0.85	20	½	**SP20/050/M**	M20	**SP20/M20/M**	M20	**SP20/M20/F**	0.78	**SP20/20/C**	SP20/E
¾	1.02	25	¾	**SP25/075/M**	M25	**SP25/M25/M**	M25	**SP25/M25/F**	1.00	**SP25/25/C**	SP25/E
1	1.34	32	1	**SP32/100/M**	M32	**SP32/M32/M**	M32	**SP32/M32/F**	1.26	**SP32/32/C**	SP32/E
1¼	1.75	40	—	—	M40	**SP40/M40/M**	—	—	1.60	**SP40/40/C**	SP40/E
1½	2.17	50	—	—	M50	**SP50/M50/M**	—	—	2.00	**SP50/50/C**	SP50/E
2	2.54	63	—	—	—	—	—	—	2.40	**SP63/63/C**	SP63/E
2½	3.11	75	—	—	—	—	—	—	2.95	**SP75/75/C**	—

Note: *PG thread sizes available.*

IP RATING WITH APPROPRIATE FITTING	For use with following conduit: Type SP, SN & LFH-SP Conduit	For use with following conduit: Type SP, SN & LFH-SP Conduit	For use with following conduit: Type SP, SN & LFH-SP Conduit	For use with following conduit: Type SP, SN & LFH-SP Conduit
IP54	N/A	Type SP, SN & LFH-SP Conduit	Type SP, SN & LFH-SP Conduit	Type SP, SN & LFH-SP Conduit
IP65	Type SP, SN & LFH-SP Conduit	N/A	N/A	N/A
IP66	N/A	N/A	N/A	N/A
IP67	N/A	N/A	N/A	N/A
IP68	N/A	N/A	N/A	N/A
NEW **IP69K**	N/A	N/A	N/A	N/A
TEMPERATURE RANGE	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F
FITTING CHARACTERISTICS				
APPROVALS				

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Adaptasteel Type SPL and SPLHC Covered Steel Flexible Conduit and Type SPL Fittings

To order, quote part no., color and reel length — e.g. SPL10/GR/50M

PRODUCT CHARACTERISTICS		
TYPE	**TYPE SPLHC**	**TYPE SPL**
DESCRIPTION	*LIQUIDTIGHT EXTREME TEMPERATURE COVERED STEEL FLEXIBLE CONDUIT*	*LIQUIDTIGHT OIL-RESISTANT COVERED STEEL FLEXIBLE CONDUIT*
MATERIALS	Thermoplastic rubber-covered galvanized steel Color Black (BL) only	PVC-covered galvanized steel Color Black (BL), Gray (GR) & Orange (OR)
EXAMPLE		

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)
¼	0.47	10	**SPLHC10**	0.28	1.57	25, 50	**SPL10**	0.28	1.57	10, 25, 50
5⁄16	0.56	12	**SPLHC12**	0.39	1.77	25, 50	**SPL12**	0.39	1.77	10, 25, 50
⅜	0.70	16	**SPLHC16**	0.49	1.97	25	**SPL16**	0.49	1.97	10, 25, 50
½	0.83	20	**SPLHC20**	0.63	3.15	25	**SPL20**	0.63	3.15	10, 25, 50
¾	1.04	25	**SPLHC25**	0.83	4.33	25	**SPL25**	0.83	4.33	10, 25, 50
1	1.30	32	**SPLHC32**	1.05	5.71	25	**SPL32**	1.05	5.71	10, 25, 50
1¼	1.65	40	**SPLHC40**	1.39	7.09	25	**SPL40**	1.39	7.09	10, 25
1½	1.89	50	**SPLHC50**	1.59	9.45	25	**SPL50**	1.59	9.45	10, 25
2	2.35	63	**SPLHC63**	2.03	13.58	25	**SPL63**	2.03	13.58	10, 25

IP RATING WITH APPROPRIATE FITTING	For use with following fittings: Type SPL Fittings	For use with following fittings: Type SPL Fittings
IP40	N/A	N/A
IP65	N/A	N/A
IP66	Type SPL Fittings — Type M & C90	Type SPL Fittings — Type M & C90
IP67	Type SPL Fittings — Type A, B & M	Type SPL Fittings — Type A, B & M
IP68	Type SPL Fittings — Type M	Type SPL Fittings — Type M
NEW **IP69K**	Type SPL Fittings — Type M	Type SPL Fittings — Type M
TEMPERATURE RANGE	Static Applications: -85° F to 275° F Moving Applications: -50° F to 300° F	Static Applications: -5° F to 220° F Moving Applications: +23° F to 220° F
UV RESISTANCE	High	Very High
FLEXIBILITY & FATIGUE LIFE	High Flexiblity — High Fatigue Life	Medium Flexiblity — Medium Fatigue Life
FIRE PERFORMANCE & EMI SCREEN	Self Extinguishing Halogen Free	Self Extinguishing
APPROVALS		
SYSTEM APPLICATIONS	Extreme Temperature Environments Chemical Plant Steel Mills	Machine Tools

Adaptasteel Type SPL and SPLHC Covered Steel Flexible Conduit and Type SPL Fittings *(continued)*

PRODUCT CHARACTERISTICS

	TYPE M	TYPE A	TYPE B
TYPE	**TYPE M**	**TYPE A**	**TYPE B**
DESCRIPTION	*STRAIGHT SWIVEL FITTING — EXTERNAL THREAD For insertion into threaded entries and knockouts.*	*STRAIGHT FITTING — FIXED EXTERNAL THREAD For insertion into knockouts using a locknut.*	*STRAIGHT FITTING — SWIVEL EXTERNAL THREAD For insertion into threaded entries and knockouts.*
MATERIALS	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
EXAMPLE			

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	NPT THREAD	CATALOG NUMBER	METRIC THREAD	CATALOG NUMBER	METRIC THREAD	CATALOG NUMBER	METRIC THREAD	CATALOG NUMBER
¼	0.47	10	—	—	M12	**SPL10/M12/M**	—	—	—	—
5/16	0.56	12	—	—	M16	**SPL12/M16/M**	—	—	—	—
⅜	0.70	16	⅜	**SPL16/038/M**	M16	**SPL16/M16/M**	M16	**SPL16/M16/A**	M16	**SPL16/M16/B**
⅜	0.70	16	⅜	**SPL16/038/M**	M20	**SPL16/M20/M**	M20	**SPL16/M20/A**	M20	**SPL16/M20/B**
½	0.83	20	½	**SPL20/050/M**	M20	**SPL20/M20/M**	M20	**SPL20/M20/A**	M20	**SPL20/M20/B**
¾	1.03	25	¾	**SPL25/075/M**	M25	**SPL25/M25/M**	M25	**SPL25/M25/A**	M25	**SPL25/M25/B**
1	1.30	32	1	**SPL32/100/M**	M32	**SPL32/M32/M**	M32	**SPL32/M32/A**	M32	**SPL32/M32/B**
1¼	1.65	40	1¼	**SPL40/125/M**	M40	**SPL40/M40/M**	—	—	—	—
1½	1.89	50	1½	**SPL50/150/M**	M50	**SPL50/M50/M**	—	—	—	—
2	2.35	63	2	**SPL63/200/M**	M63	**SPL63/M63/M**	—	—	—	—

Note: *PG thread sizes available.*

	TYPE M	TYPE A	TYPE B
IP RATING WITH APPROPRIATE FITTING	For use with following conduit: Type SPL & SPLHC Conduit	For use with following conduit: Type SPL & SPLHC Conduit	For use with following conduit: Type SPL & SPLHC Conduit
IP54	N/A	N/A	N/A
IP65	N/A	N/A	N/A
IP66	Type SPL & SPLHC Conduit	N/A	N/A
IP67	Type SPL & SPLHC Conduit	Type SPL & SPLHC Conduit	Type SPL & SPLHC Conduit
IP68	Type SPL & SPLHC Conduit — 10bar 30 mins	N/A	N/A
NEW **IP69K**	Type SPL & SPLHC Conduit	N/A	N/A
TEMPERATURE RANGE	Static Applications: -85° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -85° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -85° F to 575° F Moving Applications: -50° F to 480° F
FITTING CHARACTERISTICS			
APPROVALS			

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Liquidtight Metallic Flexible Conduits and Fittings

PRODUCT CHARACTERISTICS

	TYPE E	TYPE C90
TYPE	**TYPE E**	**TYPE C90**
DESCRIPTION	*CONDUIT TERMINATOR* *Cable protection at exit point.*	*90° COMBINED FITTING & ELBOW* *with male external thread*
MATERIALS	Nickel-plated brass	Hot-dipped galvanized steel
EXAMPLE		

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	CATALOG NUMBER	METRIC THREAD	CATALOG NUMBER
¼	0.47	10	**SPL10/E**	—	—
5/16	0.56	12	**SPL12/E**	—	—
⅜	0.70	16	**SPL16/E**	M16	**SPL16/M16/C90**
⅜	0.70	16	**SPL16/E**	M20	**SPL16/M20/C90**
½	0.83	20	**SPL20/E**	M20	**SPL20/M20/C90**
¾	1.03	25	**SPL25/E**	M25	**SPL25/M25/C90**
1	1.30	32	**SPL32/E**	M32	**SPL32/M32/C90**
1¼	1.65	40	**SPL40/E**	—	—
1½	1.89	50	**SPL50/E**	—	—
2	2.35	63	**SPL63/E**	—	—

		TYPE E	TYPE C90
IP RATING WITH APPROPRIATE FITTING		For use with following conduit: Type SPL & SPLHC Conduit	For use with following conduit: Type SPL & SPLHC Conduit
	IP54	N/A	N/A
	IP65	N/A	N/A
	IP66	N/A	N/A
	IP67	N/A	Type SPL & SPLHC Conduit
	IP68	N/A	N/A
NEW	**IP69K**	N/A	N/A
TEMPERATURE RANGE		Static Applications: -85° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -85° F to 575° F Moving Applications: -50° F to 480° F
FITTING CHARACTERISTICS		None	None
APPROVALS			

Adaptasteel Type SB, STC, SSB and SSBGS Specialist EMI Screen Conduit and Type SB Fittings

To order, quote part no., color and reel length — e.g. SB10/25M

PRODUCT CHARACTERISTICS

	TYPE SB	TYPE STC	TYPE SSB	TYPE SSBGS
DESCRIPTION	*OVERBRAIDED FLEXIBLE CONDUIT*	*OVERBRAIDED FLEXIBLE CONDUIT*	*OVERBRAIDED FLEXIBLE CONDUIT*	*OVERBRAIDED FLEXIBLE CONDUIT*
MATERIALS	Galvanized steel conduit Galvanized steel overbraid	Galvanized steel conduit Tinned copper overbraid	Stainless steel conduit Stainless steel overbraid	Galvanized steel conduit Stainless steel overbraid
EXAMPLE				

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)
¼	0.39	10	**SB10**	0.27	0.98	25	**STC10**	0.27	0.98	25	—	—	—	—	—	—	—	—
5⁄16	0.55	12	**SB12**	0.41	1.18	25	**STC12**	0.41	1.18	25	**SSB12**	10.3	25	25	**SSBGS12**	0.41	1.18	25
⅜	0.67	16	**SB16**	0.51	1.38	25	**STC16**	0.51	1.38	25	**SSB16**	13.0	30	25	**SSBGS16**	0.51	1.38	25
½	0.85	20	**SB20**	0.67	1.77	25	**STC20**	0.67	1.77	25	**SSB20**	16.9	35	25	**SSBGS20**	0.67	1.77	25
¾	1.02	25	**SB25**	0.84	2.17	25	**STC25**	0.84	2.17	25	**SSB25**	21.4	55	25	**SSBGS25**	0.84	2.17	25
1	1.34	32	**SB32**	1.11	2.36	15	**STC32**	1.11	2.36	10	**SSB32**	28.1	60	10	**SSBGS32**	1.11	2.36	10
1¼	1.72	40	**SB40**	1.48	3.15	10	**STC40**	1.48	3.15	10	—	—	—	—	—	—	—	—
1½	2.21	50	**SB50**	1.91	3.54	10	**STC50**	1.91	3.54	10	—	—	—	—	—	—	—	—
2	2.54	63	**SB63**	2.26	4.53	10	—	—	—	—	—	—	—	—	—	—	—	—
2½	3.11	75	**SB75**	2.76	5.91	10	—	—	—	—	—	—	—	—	—	—	—	—

	TYPE SB	TYPE STC	TYPE SSB	TYPE SSBGS
IP RATING WITH APPROPRIATE FITTING	For use with following fittings: Type SB Fittings	For use with following fittings: Type SB Fittings	For use with following conduit: Type SB Fittings	For use with following fittings: Type SB Fittings
IP40	Type SB Fittings — Type A & B	Type SB Fittings — Type A & B	Type SB Fittings — Type A & B	Type SB Fittings — Type A & B
IP65	N/A	N/A	N/A	N/A
IP66	N/A	N/A	N/A	N/A
IP67	N/A	N/A	N/A	N/A
IP68	N/A	N/A	N/A	N/A
***NEW* IP69K**	N/A	N/A	N/A	N/A
TEMPERATURE RANGE	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 660° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F
UV RESISTANCE	Very High	Very High	Very High	Very High
FLEXIBILITY & FATIGUE LIFE	High Flexiblity — High Fatigue Life	High Flexiblity — High Fatigue Life	High Flexiblity — High Fatigue Life	High Flexiblity — High Fatigue Life
FIRE PERFORMANCE EMI SCREEN & FITTING CHARACTERISTICS	ILFH · INHERENT · LOW FIRE HAZARD; ENHANCED · EMI SCREEN	ILFH · INHERENT · LOW FIRE HAZARD; ENHANCED · EMI SCREEN	ILFH · INHERENT · LOW FIRE HAZARD; ENHANCED · EMI SCREEN	ILFH · INHERENT · LOW FIRE HAZARD; ENHANCED · EMI SCREEN
APPROVALS	KM35161; CE	KM35161; CE	KM35161; CE	KM35161; CE
SYSTEM APPLICATIONS	Industrial OEM	Rail OEM	Corrosive Environments OEM	Chemicals Heavy Industrial

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Overbraided Metallic Flexible Conduits and Fittings

PRODUCT CHARACTERISTICS

	TYPE A	TYPE B
TYPE	**TYPE A**	**TYPE B**
DESCRIPTION	*STRAIGHT FITTING — FIXED EXTERNAL THREAD* *For insertion into knockouts using a locknut.*	*STRAIGHT FITTING — SWIVEL EXTERNAL THREAD* *For insertion into threaded enteries and knockouts.*
MATERIALS	Nickel-plated brass	Nickel-plated brass
EXAMPLE		

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	TYPE A METRIC THREAD	TYPE A CATALOG NUMBER	TYPE B METRIC THREAD	TYPE B CATALOG NUMBER
¼	0.39	10	M12	**SB10/M12/A**	M12	**SB10/M12/B**
5⁄16	0.55	12	M16	**SB12/M16/A**	M16	**SB12/M16/B**
⅜	0.67	16	M16	**SB16/M16/A**	M16	**SB16/M16/B**
½	0.85	20	M20	**SB20/M20/A**	M20	**SB20/M20/B**
¾	1.02	25	M25	**SB25/M25/A**	M25	**SB25/M25/B**
1	1.34	32	M32	**SB32/M32/A**	M32	**SB32/M32/B**
1¼	1.72	40	M40	**SB40/M40/A**	M40	**SB40/M40/B**
1½	2.21	50	M50	**SB50/M50/A**	M50	**SB50/M50/B**
2	2.54	63	M63	**SB63/M63/A**	—	—
2½	3.11	75	M75	**SB75/M75/A**	—	—

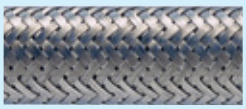
Note: *PG thread sizes available.* ***Note:*** *PG thread sizes available.*

	TYPE A	TYPE B
IP RATING WITH APPROPRIATE FITTING	For use with following conduit: Type SB, STC, SSB & SSBGS Conduit	For use with following conduit: Type SB, STC, SSB & SSBGS Conduit
IP40	Type SB, STC, SSB & SSBGS Conduit	Type SB, STC, SSB & SSBGS Conduit
IP65	N/A	N/A
IP66	N/A	N/A
IP67	N/A	N/A
IP68	N/A	N/A
NEW **IP69K**	N/A	N/A
TEMPERATURE RANGE	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F
FITTING CHARACTERISTICS		
APPROVALS		

Adaptasteel Type SPB and SPTC Specialist Liquid-Resistant, EMI Screen Conduit and Type SPB Fittings

To order, quote part no., color and reel length — e.g. SPB10/25M

PRODUCT CHARACTERISTICS

	TYPE SPB	TYPE SPTC	TYPE A	TYPE B
TYPE	**TYPE SPB**	**TYPE SPTC**	**TYPE A**	**TYPE B**
DESCRIPTION	*OVERBRAIDED FLEXIBLE CONDUIT*	*OVERBRAIDED FLEXIBLE CONDUIT*	*STRAIGHT FITTING — FIXED EXTERNAL THREAD For insertion into knockouts using a locknut.*	*STRAIGHT FITTING — SWIVEL EXTERNAL THREAD For insertion into threaded entries and knockouts.*
MATERIALS	Galvanized steel conduit with PVC covering Galvanized steel overbraid	Galvanized steel conduit with PVC covering Tinned copper overbraid	Nickel-plated brass	Nickel-plated brass
EXAMPLE				

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)	METRIC THREAD	CATALOG NUMBER	METRIC THREAD	CATALOG NUMBER
¼	0.39	10	**SPB10**	0.27	0.98	25	**SPTC10**	0.27	0.98	25	M12	**SPB10/M12/A**	M12	**SPB10/M12/B**
5⁄16	0.55	12	**SPB12**	0.41	1.18	25	**SPTC12**	0.41	1.18	25	M16	**SPB12/M16/A**	M16	**SPB12/M16/B**
⅜	0.67	16	**SPB16**	0.51	1.38	25	**SPTC16**	0.51	1.38	25	M16	**SPB16/M16/A**	M16	**SPB16/M16/B**
½	0.85	20	**SPB20**	0.67	1.77	25	**SPTC20**	0.67	1.77	25	M20	**SPB20/M20/A**	M20	**SPB20/M20/B**
¾	1.02	25	**SPB25**	0.84	2.17	25	**SPTC25**	0.84	2.17	25	M25	**SPB25/M25/A**	M25	**SPB25/M25/B**
1	1.34	32	**SPB32**	1.11	2.36	10	**SPTC32**	1.11	2.36	10	M32	**SPB32/M32/A**	M32	**SPB32/M32/B**
1¼	1.72	40	**SPB40**	1.48	3.15	10	**SPTC40**	1.48	3.15	10	M40	**SPB40/M40/A**	M40	**SPB40/M40/B**
1½	2.21	50	**SPB50**	1.91	3.54	10	**SPTC50**	1.91	3.54	10	M50	**SPB50/M50/A**	M50	**SPB50/M50/B**
											Note: *PG thread sizes available.*		***Note:*** *PG thread sizes available.*	

IP RATING WITH APPROPRIATE FITTING	For use with following fittings: Type SPB Fittings	For use with following fittings: Type SPB Fittings	For use with following conduit: Type SPB & SPTC Conduit	For use with following fittings: Type SPB & SPTC Conduit
IP54	Type SPB Fittings — Type A & B	Type SPB Fittings — Type A & B	Type SPB & SPTC Conduit	Type SPB & SPTC Conduit
IP65	N/A	N/A	N/A	N/A
IP66	N/A	N/A	N/A	N/A
IP67	N/A	N/A	N/A	N/A
IP68	N/A	N/A	N/A	N/A
NEW **IP69K**	N/A	N/A	N/A	N/A
TEMPERATURE RANGE	Static Applications: -58° F to 160° F Moving Applications: +23° F to 195° F	Static Applications: -58° F to 160° F Moving Applications: +23° F to 195° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -58° F to 575° F Moving Applications: -50° F to 480° F
UV RESISTANCE	Very High	Very High		
FLEXIBILITY & FATIGUE LIFE	High Flexiblity — Medium Fatigue Life	High Flexiblity — Medium Fatigue Life		
FIRE PERFORMANCE EMI SCREEN & FITTING CHARACTERISTICS	ENHANCED EMI SCREEN	HIGH EMI SCREEN		
APPROVALS				
SYSTEM APPLICATIONS	Security Lighting	Hospitals External Safety Critical Areas		

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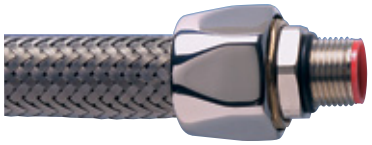
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Adaptasteel Type SPLHCB Specialist Liquidtight High-Strength Conduit and Type SPLB Fittings

To order, quote part no., color and reel length — e.g. SPB10/25M

PRODUCT CHARACTERISTICS

	TYPE SPLHCB	TYPE A	TYPE B
TYPE	**TYPE SPLHCB**	**TYPE A**	**TYPE B**
DESCRIPTION	*EXTREME TEMPERATURE, ABUSE-RESISTANT OVERBRAIDED FLEXIBLE CONDUIT*	*STRAIGHT FITTING — FIXED EXTERNAL THREAD For insertion into knockouts using a locknut.*	*STRAIGHT FITTING — SWIVEL EXTERNAL THREAD For insertion into threaded entries and knockouts.*
MATERIALS	Galvanized steel conduit, smooth thermoplatic rubber covering, stainless steel overbraid	Nickel-plated brass	Nickel-plated brass
EXAMPLE			

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	TYPE SB CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)	METRIC THREAD	CATALOG NUMBER	METRIC THREAD	CATALOG NUMBER
⅜	0.78	16	**SPLHCB16**	0.49	3.15	25	M16	**SPLB16/M16/A**	M16	**SPLB16/M16/B**
⅜	0.78	16	**SPLHCB16**	0.49	3.15	25	M20	**SPLB16/M20/A**	M20	**SPLB16/M20/B**
½	0.91	20	**SPLHCB20**	0.63	3.74	25	M20	**SPLB20/M20/A**	M20	**SPLB20/M20/B**
¾	1.12	25	**SPLHCB25**	0.83	4.53	25	M25	**SPLB25/M25/A**	M25	**SPLB25/M25/B**
1	1.38	32	**SPLHCB32**	1.05	5.71	25	M32	**SPLB32/M32/A**	M32	**SPLB32/M32/B**
1¼	1.73	40	**SPLHCB40**	1.39	7.09	10	M40	**SPLB40/M40/A**	—	—
1½	2.20	50	**SPLHCB50**	1.59	9.45	10	M50	**SPLB50/M50/A**	—	—
2	2.60	63	**SPLHCB63**	2.03	13.58	10	M63	**SPLB63/M63/A**	—	—
							Note: *PG thread sizes available.*		***Note:*** *PG thread sizes available.*	

	TYPE SPLHCB	TYPE A	TYPE B
IP RATING WITH APPROPRIATE FITTING	For use with following fittings: Type SPLB Fittings	For use with following Conduit: Type SPLHCB Conduit	For use with following conduit: Type SPLHCB Conduit
IP40	N/A	N/A	N/A
IP65	N/A	N/A	N/A
IP66	Type SPLB Fittings — Type A & B	Type SPLHCB Conduit	Type SPLHCB Conduit
IP67	Type SPLB Fittings — Type A & B	Type SPLHCB Conduit	Type SPLHCB Conduit
IP68	Type SPLB Fittings — Type A & B	Type SPLHCB Conduit — 10bar 30 mins	Type SPLHCB Conduit — 10bar 30 mins
NEW **IP69K**	N/A	N/A	N/A
TEMPERATURE RANGE	Static Applications: -85° F to 275° F Moving Applications: -50° F to 300° F	Static Applications: -85° F to 575° F Moving Applications: -50° F to 480° F	Static Applications: -85° F to 575° F Moving Applications: -50° F to 480° F
UV RESISTANCE	Very High		
FLEXIBILITY & FATIGUE LIFE	Very High Flexiblity — High Fatigue Life		
FIRE PERFORMANCE EMI SCREEN & FITTING CHARACTERISTICS			
APPROVALS			
SYSTEM APPLICATIONS	Railways Underground Steel Mills		

Adaptasteel Locknuts, P-Clips, 90° and 45° Elbows, Proximity Switch Adapters and Female Couplers

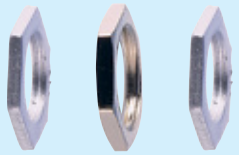
PRODUCT CHARACTERISTICS

TYPE **TYPE LNB/LNS**

DESCRIPTION *METALLIC LOCKNUTS*

MATERIALS Nickel-plated brass
Galvanized steel

EXAMPLE



NPT THREAD	STEEL	METRIC THREAD	NICKEL-PLATED BRASS	GALVANIZED STEEL
5/16"	—	M12 x1.0	LNB/M12 x1	—
5/16"	—	M12 x1.5	LNB/M12	
3/8"	LNS/038	M16	LNB/M16	LNS/M16
—	—	—	—	—
1/2"	LNS/050	M20	LNB/M20	LNS/M20
3/4"	LNS/075	M25	LNB/M25	LNS/M25
1"	LNS/100	M32	LNB/M32	LNS/M32
1 1/4"	LNS/125	M40	LNB/M40	—
1 1/2"	LNS/150	M50	LNB/M50	—
2"	LNS/200	M63	LNB/M63	—
2 1/2"	—	M75	LNB/M75	—

TYPE **TYPE P**

DESCRIPTION *P-CLIP CONDUIT SUPPORT*

MATERIALS Plated steel construction with PVC insert

EXAMPLE



NOMINAL CONDUIT SIZE (MM)	CATALOG NUMBER
1/4	**P CLIP/10**
5/16	**P CLIP/12**
3/8	**P CLIP/16**
3/8	**P CLIP/16**
1/2	**P CLIP/20**
3/4	**P CLIP/25**
1	**P CLIP/32**
1 1/4	**P CLIP/40**
1 1/2	**P CLIP/50**
2	**P CLIP/63**
2 1/2	**P CLIP/75**

TYPE **TYPE 90/45**

DESCRIPTION *BRASS ELBOWS*

MATERIALS Nickel-plated brass

EXAMPLE



METRIC INTERNAL THREAD	EXTERNAL THREAD	90° ELBOW CATALOG NUMBER	45° ELBOW CATALOG NUMBER
M20	1/2" NPT	B/050/90	B/050/45
M25	3/4 " NPT	B/075/90	B/075/45
M32	1 " NPT	B/100/90	B/100/45
—	—	—	—
M16	M16	B/PG9/90	—
M20	M16	—	B/M16/45
M20	M20	B/M20/90	B/M20/45
M25	M25	B/M25/90	B/M25/45
M32	M32	B/M32/90	B/M32/45

TYPE **TYPE TC**

DESCRIPTION *UNEF THREAD CONVERTERS WITH TWO INTERNAL THREADS*

MATERIALS Nickel-plated brass

EXAMPLE



INTERNAL THREAD	TO M16 INTERNAL THREAD	TO M20 INTERNAL THREAD	TO M25 INTERNAL THREAD	TO M32 INTERNAL THREAD	TO PG21 INTERNAL THREAD
5/8" UNEF	B/063U-M16/TC	—	—	—	—
3/4" UNEF	B/075U-M16/TC	B/075U-M20/TC	—	—	—
7/8" UNEF	—	B/088U-M20/TC	—	—	—
1" UNEF	—	B/100U-M20/TC	B/100U-M25/TC	—	—
1 3/16" UNEF	—	B/119U-M20/TC	B/119U-M25/TC	—	—
1 5/16" UNEF	—	B/131U-M20/TC	—	—	—
1 7/16" UNEF	—	—	B/144U-M25/TC	B/144U-M32/TC	B/144U-PG21/TC

FEMALE COUPLER

BRASS FEMALE COUPLER

Nickel-plated brass



THREAD	CATALOG NUMBER
M16	**B/M16/C**
M20	**B/M20/C**
M25	**B/M25/C**
M32	**B/M32/C**
M40	**B/M40/C**
M50	**B/M50/C**
M63	**B/M63/C**
M75	**B/M75/C**

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Accessories and Tools

Adaptasteel Enlargers, Reducers and Converters

PRODUCT CHARACTERISTICS

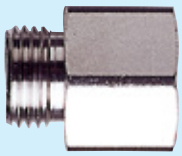
TYPE TYPE E, TYPE R & TYPE TC

DESCRIPTION *ENLARGERS, REDUCERS & CONVERTERS*

MATERIALS Nickel-plated brass

EXAMPLE







INTERNAL THREAD

EXTERNAL THREAD	TO M10	TO M12	TO M16	TO M20	TO M25	TO M32	TO M40
⅜" NPT	—	—	B/038-M16/TC	—	—	—	—
½" NPT	—	—	B/050-M16/TC	B/050-M20/TC	—	—	—
¾ " NPT	—	—	—	—	B/075-M25/TC	—	—
1" NPT	—	—	—	—	—	B/100-M32/TC	—
M16	B/M16-M10/R	B/M16-M12/R	—	B/M16-M20/E	—	—	—
M20	B/M16-M10/R	B/M20-M12/R	B/M20-M16/R	—	B/M20-M25/E	—	—
M25	—	—	—	B/M25-M20/R	—	B/M25-M32/E	—
M32	—	—	—	—	B/M32-M25/R	—	—
M40	—	—	—	—	—	B/M40-M32/R	—
M50	—	—	—	—	—	—	B/M50-M40/R

EXTERNAL THREAD	TO PG7 INTERNAL THREAD	TO PG9 INTERNAL THREAD	TO PG11 INTERNAL THREAD	TO PG13.5 INTERNAL THREAD	TO PG16 INTERNAL THREAD	TO PG21 INTERNAL THREAD	TO PG29 INTERNAL THREAD	TO PG36 INTERNAL THREAD	TO PG42 INTERNAL THREAD	TO PG48 INTERNAL THREAD
M16	B/M16-PG7/TC	B/M16-PG9/TC	B/M16-PG11/TC	—	—	—	—	—	—	—
M20	B/M20-PG7/TC	B/M20-PG9/TC	B/M20-PG11/TC	B/M20-PG13/TC	B/M20-PG16/TC	B/M20-PG21/TC	—	—	—	—
M25	—	—	—	—	—	B/M25-PG21/TC	—	—	—	—
M32	—	—	—	—	—	—	B/M32-PG29/TC	—	—	—
M40	—	—	—	—	—	—	—	—	—	—
M50	—	—	—	—	—	—	—	—	—	—

Cut-Vice, Rotocut and Swingcut

PRODUCT CHARACTERISTICS

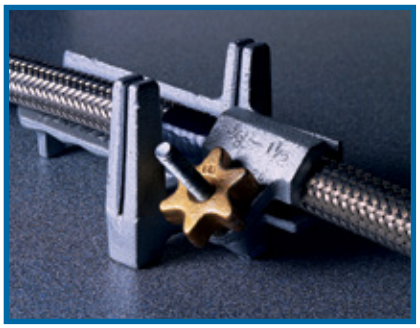
Type

Cut-Vice

Description

Cut-Vice offers the ability to produce a clean cut for conduit sizes 16mm to 40mm.

Example



Instructions

Place the conduit along the vice body and tighten the clamp. Holding the conduit and integral handle together, insert a hacksaw blade into the guide and cut.

For braided conduit, wrap adhesive tape around the cutting point to secure braid. Remove tape after cutting.

Type

Rotocut

Description

Rotocut offers a simple but effective method for cutting 20mm and 25mm S, SS, SP, LFH-SP and SN steel conduit types.

Example



Instructions

Adjust the clamping pin so that the conduit is just held in the recess. Squeeze the lever and body while rotating the cutting blade. When the blade appears on the inside of the conduit, release the pressure and remove the conduit. A simple twist will then separate the two parts. Where the conduit is covered, the covering can be cut prior to separation. Spare blades are available.

Type

Swingcut

Description

Swingcut is a versatile vice and saw combination tool which facilitates a neat, square cut for liquidtight and pliable conduits between 10mm and 32mm. Six-to-one leverage advantage provides a strong cutting action.

Example



INSTRUCTIONS

Place the conduit in the vice and secure. Move the operating handle backwards and forwards while applying increasing pressure to the supporting handle. Hardened, captive spring-loaded retaining pins make blade replacement easy. Spare blades are available.

WARNING

When operating these or other cutting tools, always keep hands clear of the cutting blades to avoid injury.

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Specialty Non-Metallic Flexible Conduit Systems

Quick Selection Guide — Non-Metallic Systems with Metallic Overbraid

	TYPE PK UNBRAIDED CONDUIT	TYPE PKTC LIGHTWEIGHT CONDUIT	TYPE PKSS LIGHTWEIGHT CONDUIT	TYPE PRTC STANDARD WEIGHT CONDUIT	TYPE PRSS STANDARD WEIGHT CONDUIT
TYPE					
EXAMPLE					
CONDUIT MATERIAL	PK	PK	PK	PA6	PA6
COVERING/OVERBRAID		Tinned Copper	Stainless Steel	Tinned Copper	Stainless Steel
IP RATING (with appropriate fitting)					
IP40					
IP54					
IP65					
IP66	●	●	●	●	●
IP67	●	●	●	●	●
IP68					
IP69K					
STATIC TEMP - MIN.	-76° F	-76° F	-76° F	-40° F	-40° F
MAX.	500° F	500° F	500° F	230° F	230° F
UV RESISTANCE	Very High	Very High	Very High	Very High	Very High
FLEXIBILITY	Very High	Very High	Very High	High	High
FATIGUE LIFE	High	High	High	Medium	Medium
LOW FIRE HAZARD	Super	Super	Super	Enhanced	Enhanced
HALOGEN FREE	●	●	●	●	●
SELF EXTINGUISHING	●	●	●	●	●
EMI SCREEN		High	Standard	High	Standard
HIGH MECHANICAL STRENGTH		●	●	●	●
HIGH ABRASION RESISTANCE	●	●	●	●	●
APPROVALS	KM35161 CE DB NF LR UNDERGROUND	KM35161 CE DB NF UNDERGROUND	KM35161 CE DB NF UNDERGROUND	KM35161 CE UL DB NF LR UNDERGROUND	KM35161 CE UL DB NF LR UNDERGROUND
PAGE NUMBER	E-288			E-289	

HI-SPEC Type PK, PKTC, PKSS, PRTC and PRSS Specialist Low Fire Hazard, EMI Screen Conduit and Fittings

To order, quote catalog no., color and reel length — e.g. SPB10/25M

PRODUCT CHARACTERISTICS

	TYPE PK — PEEK	TYPE A — PEEK	TYPE PKTC	TYPE PKSS
DESCRIPTION	*SUPER-LOW FIRE HAZARD CONDUIT*	*STRAIGHT FITTING — FIXED EXTERNAL THREAD For insertion into knockouts using a locknut.*	*SUPER-LOW FIRE HAZARD OVERBRAIDED*	*SUPER-LOW FIRE HAZARD OVERBRAIDED*
MATERIALS	Polyketone Color Black (BL) only	Nickel-plated brass	Polyketone conduit/tinned copper overbraid	Polyketone conduit/stainless steel overbraid
EXAMPLE				

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	CONDUIT PITCH F = FINE C = COARSE	CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)	METRIC THREAD	CATALOG NUMBER	TYPE PKTC CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)	TYPE PKSS CATALOG NUMBER	INSIDE DIAMETER (MM)	MINIMUM BEND RADIUS (MM)	REEL LENGTH (FT.)
5/16	0.51	13	F	**PKFS13**	0.39	1.38	80, 160	M16	**PK13/M16/A**	**PKFSTC13**	0.39	1.38	80, 160	**PKFSSS13**	0.39	1.38	80, 160
3/8	0.62	16	F	**PKFS16**	0.46	1.77	80, 160	M16	**PK16/M16/A**	**PKFSTC16**	0.46	1.77	80, 160	**PKFSSS16**	0.46	1.77	80, 160
1/2	0.84	21	F	**PKFS21**	0.65	2.36	80, 160	M20	**PK21/M20/A**	**PKFSTC21**	0.65	2.36	80, 160	**PKFSSS21**	0.65	2.36	80, 160
3/4	1.12	28	C	**PKCS28**	0.85	2.56	80, 160	M25	**PK28/M25/A**	**PKCSTC28**	0.85	2.56	80, 160	**PKCSSS28**	0.85	2.56	80, 160
1	1.36	34	C	**PKCS34**	0.85	3.15	80, 160	M32	**PK34/M32/A**	**PKCSTC34**	0.85	3.15	80, 160	**PKCSSS34**	0.85	3.15	80, 160

	For use with following fittings: Type PK	For use with following conduit: PEEK Type PK	For use with following fittings: HI-SPEC Type A & B	For use with following fittings: HI-SPEC Type A & B
IP40	N/A	N/A	N/A	N/A
IP65	N/A	N/A	N/A	N/A
IP66	Type PK Fitting	Type PK Conduit	Hi-Spec Type A & B Fittings	Hi-Spec Type A & B Fittings
IP67	Type PK Fitting	Type PK Conduit	Hi-Spec Type A & B Fittings	Hi-Spec Type A & B Fittings
IP68	N/A	N/A	N/A	N/A
NEW **IP69K**	N/A	N/A	N/A	N/A
TEMPERATURE RANGE	Static Applications: -76° F to 500° F Moving Applications: -50° F to 500° F	Static Applications: -76° F to 500° F Moving Applications: -50° F to 500° F	Static Applications: -76° F to 500° F Moving Applications: -50° F to 500° F	Static Applications: -76° F to 500° F Moving Applications: -50° F to 500° F
UV RESISTANCE	Very High		Very High	Very High
FLEXIBILITY & FATIGUE LIFE	High Flexiblity — High Fatigue Life		High Flexiblity — High Fatigue Life	High Flexiblity — High Fatigue Life
FIRE PERFORMANCE EMI SCREEN & FITTING CHARACTERISTICS	SLFH		SLFH, HIGH	SLFH, STANDARD
APPROVALS	NF, DB	NF, DB	NF, DB	NF, DB
SYSTEM APPLICATIONS	Railways Underground Public Buildings		Safety Critical Environment Nuclear Plant	Harsh Environments Petrochemical Offshore

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Specialty Non-Metallic Flexible Conduit Systems

PRODUCT CHARACTERISTICS

	TYPE PRTC	TYPE PRSS	TYPE A — HI-SPEC	TYPE B — HI-SPEC
TYPE				
DESCRIPTION	*ENHANCED LOW FIRE HAZARD OVERBRAIDED*	*ENHANCED LOW FIRE HAZARD OVERBRAIDED*	*STRAIGHT FITTING — FIXED EXTERNAL THREAD For insertion into threaded entries and knockouts.*	*STRAIGHT FITTING — SWIVEL EXTERNAL THREAD For insertion into threaded entries and knockouts.*
MATERIALS	PA (nylon) 6 conduit/tinned copper overbraid	PA (nylon) 6 conduit/tinned stainless steel overbraid	Nickel-plated brass	Nickel-plated brass
EXAMPLE				

NOMINAL CONDUIT SIZE (IN.)	OUTSIDE DIAMETER (IN.)	METRIC CONDUIT SIZE (MM)	CONDUIT PITCH F = FINE C = COARSE	TYPE PRTC CATALOG NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (M)	TYPE PRSS PART NUMBER	INSIDE DIAMETER (IN.)	MINIMUM BEND RADIUS (IN.)	REEL LENGTH (FT.)	METRIC THREAD	CATALOG NUMBER	METRIC THREAD	CATALOG NUMBER
⅜	0.62	16	F	**PRFSTC16**	0.46	1.38	160	**PRFSSS16**	0.46	1.38	160	M16	**PBF16/M16/A**	M16	**PBF16/M16/B**
½	0.84	21	F	**PRFSTC21**	0.65	1.77	160	**PRFSSS21**	0.65	1.77	160	M20	**PBF21/M20/A**	M20	**PBF21/M20/B**
¾	1.12	28	C	**PRCSTC28**	0.85	1.97	160	**PRCSSS28**	0.85	1.97	160	M25	**PBC28/M25/A**	M25	**PBC28/M25/B**
1	1.36	34	C	**PRCSTC34**	1.09	2.36	160	**PRCSSS34**	1.09	2.36	160	M32	**PBC34/M32/A**	M32	**PBC34/M32/B**
1¼	1.68	42	C	**PRCSTC42**	1.38	2.56	80	**PRCSSS42**	1.38	2.56	80	—	—	M40	**PBC42/M40/B**
1½	2.15	54	C	**PRCSTC54**	1.83	2.95	80	**PRCSSS54**	1.83	2.95	80	—	—	M50	**PBC54/M50/B**

	TYPE PRTC	TYPE PRSS	TYPE A — HI-SPEC	TYPE B — HI-SPEC
IP RATING WITH APPROPRIATE FITTING	For use with following fittings: HI-SPEC Type A & B	For use with following fittings: HI-SPEC Type A & B	For use with following conduit: Type PKTC, PKSS, PRTC & PRSS	For use with following conduit: Type PKTC, PKSS, PRTC & PRSS
IP40	N/A	N/A	N/A	N/A
IP65	N/A	N/A	N/A	N/A
IP66	HI-SPEC Type A & B Fittings	HI-SPEC Type A & B Fittings	Type PKTC, PKSS, PRTC & PRSS Conduit	Type PKTC, PKSS, PRTC & PRSS Conduit
IP67	HI-SPEC Type A & B Fittings	HI-SPEC Type A & B Fittings	Type PKTC, PKSS, PRTC & PRSS Conduit	Type PKTC, PKSS, PRTC & PRSS Conduit
IP68	N/A	N/A	N/A	N/A
***NEW* IP69K**	N/A	N/A	N/A	N/A
TEMPERATURE RANGE	Static Applications: -40° F to 250° F Moving Applications: +23° F to 250° F	Static Applications: -40° F to 250° F Moving Applications: +23° F to 250° F	Static Applications: -75° F to 500° F Moving Applications: -50° F to 500° F	Static Applications: -75° F to 500° F Moving Applications: -50° F to 500° F
UV RESISTANCE	Very High	Very High		
FLEXIBILITY & FATIGUE LIFE	Medium Flexiblity — High Fatigue Life	Medium Flexiblity — High Fatigue Life		
FIRE PERFORMANCE EMI SCREEN & FITTING CHARACTERISTICS	ELFH HIGH	ELFH STANDARD		
APPROVALS	CE NF DB	CE NF DB	CE NF DB	CE NF DB
SYSTEM APPLICATIONS	Rail Systems Safety Critical Environments	Rail Systems Harsh Environments		

Thread Data

NPT
US taper seal pipe thread conforming to ANSI/ASME B1.20.1 – 1983

THREAD SIZE (IN.)	EXT. THREAD OUTSIDE DIAMETER	PITCH
—	—	—
⅜	16.7	1.14
½	21.0	1.81
¾	26.4	1.81
1	33.3	2.21
1¼	41.9	2.21
1½	47.8	2.21
2	59.6	2.21
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—

UNEF
American Unified Thread conforming to ANSI/ASME B1.1 – 2003

THREAD SIZE (IN.)	EXT. THREAD OUTSIDE DIAMETER	INT. THREAD INSIDE DIAMETER	PITCH
⅝	15.9	14.7	1.06
¾	19.1	17.7	1.27
13⁄16	20.6	19.3	1.27
⅞	22.2	20.9	1.27
15⁄16	23.8	22.4	1.27
1	25.4	24.0	1.27
1⅛	28.6	27.0	1.41
1 3⁄16	30.2	28.6	1.41
1¼	31.8	30.2	1.41
1 5⁄16	33.3	31.8	1.41
1⅜	34.9	33.4	1.41
1 7⁄16	36.5	35.0	1.41
1¾	44.5	42.9	1.41
2	50.8	49.3	1.41
2¼	57.2	55.4	1.41

METRIC
Standard thread conforming to EN60423 & BS3643

THREAD SIZE (IN.)	EXT. THREAD OUTSIDE DIAMETER	INT. THREAD INSIDE DIAMETER	PITCH
M8	8.0	6.9	1.0
M10	10.0	8.9	1.0
M12	12.0	10.9	1.0
M12	12.0	10.4	1.5
M16	16.0	14.4	1.5
M18	18.0	16.9	1.0
M20	20.0	18.4	1.5
M25	25.0	23.4	1.5
M30	30.0	28.4	1.5
M32	32.0	30.4	1.5
M40	40.0	38.4	1.5
M50	50.0	48.4	1.5
M63	63.0	61.4	1.5
M75	75.0	73.4	1.5
—	—	—	—

PG
German Standard thread conforming to DIN40430

THREAD SIZE (IN.)	EXT. THREAD OUTSIDE DIAMETER	PITCH
—	—	—
⅜	16.7	1.14
½	21.0	1.81
¾	26.4	1.81
1	33.3	2.21
1¼	41.9	2.21
1½	47.8	2.21
2	59.6	2.21
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—

PF
Japanese conduit thread conforming to JIS B 0202

THREAD SIZE (IN.)	EXT. THREAD OUTSIDE DIAMETER	INT. THREAD INSIDE DIAMETER	PITCH
¼	13.0	—	1.34
⅜	16.7	15.0	1.34
½	21.0	18.6	1.81
¾	26.4	24.1	1.81
1	33.3	30.3	2.31
1¼	41.9	39.0	2.31
1½	47.8	44.8	2.31
2	59.6	56.7	2.31
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

***Note**: Dimensions are nominal and in mm unless otherwise stated.*

EMI Screen System and Fire Performance

EMI SCREEN SYSTEM



STANDARD EMI SCREEN



ENHANCED EMI SCREEN



HIGH EMI SCREEN

For applications where electromagnetic interference is of particular concern, we have classified suitable conduit systems by means of symbols. These are related in an ascending scale of performance from Standard EMI Screen (products featuring a stainless steel overbraid) through to High EMI Screen (products featuring a tinned copper overbraid).

FIRE PERFORMANCE



LOW FIRE HAZARD



ENHANCED LOW FIRE HAZARD



SUPER-LOW FIRE HAZARD



INHERENT LOW FIRE HAZARD

PROPERTY	LFH	ELFH	SLFH	ILFH
OXYGEN INDEX ISO4589	31% ≥ OI ≥ 28%	OI ≥ 35%	OI ≥ 35%	INHERENT LOW FIRE HAZARD I.E. TYPE S, SS, SPB STC, SSB & SSBGS METALLIC CONDUIT & FITTINGS
BS6853 SMOKE DENSITY 3M[3]	0.02 ≥ A ≥ 0.03	0.005 ≥ A ≥ 0.02	A ≤ 0.005	
ZERO HALOGEN	✔	✔	✔	
ZERO PHOSPHORUS	✔	✔	✔	
ZERO SULPHUR	✔	✔	✔	
LONDON UNDERGROUND	CONCESSION	APPROVED	APPROVED	
TOXICITY INDEX NES713 ISSUE 3	5.0 ≥ TI ≥ 6.0	0.5 ≥ TI ≥ 5.0	TI ≤ 0.5	
NFF16-102	I3F2	I2F2	I2F1	

Adaptaflex® has introduced a set of symbols to help the user specify conduit systems for installations where fire performance is of particular concern. Each symbol encompasses a range of properties relevant to the high specification materials used in the construction of the conduit. They are in an ascending scale of performance from Low Fire Hazard (LFH) featuring zero halogen through to Super-Low Fire Hazard (SLFH) featuring zero nitrogen. In addition, Inherent Low Fire Hazard (ILFH) systems are classified as being all-metal systems.

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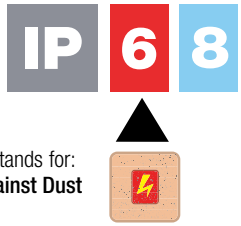
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Tel: 888.862.3289

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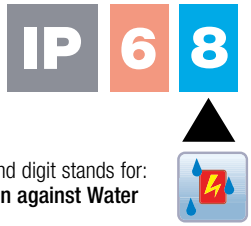
IP Ratings and Fitting Characteristics

Ingress Protection (IP) Rating according to EN 60529/DIN 40050

IP suitability ratings are a system for classifying the degree of protection provided by enclosures of electrical equipment. The higher the number, the greater the degree of protection; they apply ONLY to properly installed equipment. The numerals stand for the following:



The first digit stands for:
Protection against Dust



The second digit stands for:
Protection against Water

Protection against Solid Bodies

Degree of protection for persons against access to hazardous parts inside the enclosure and/or against the ingress of solid foreign objects.

0	No protection
1	Objects greater than 50mm, accidental touch by hands
2	Objects greater than 12mm, accidental touch by fingers
3	Objects greater than 2.5mm, e.g. tools/wires
4	Objects greater than 1mm, e.g. tools/wires/ small wires
5	Protected against dust; limited ingress (no harmful deposits)
6	Totally protected against dust (dust-tight)

Protection against Water

Degree of protection of equipment inside enclosures against damage from the ingress of water.

0	No protection
1	Protected against vertically falling drops of water
2	Protected against direct sprays of water up to 15° from vertical
3	Protected against sprays of water to 60° from vertical
4	Protected against water sprayed from all directions; limited ingress permitted
5	Protected against low-pressure jets of water from all directions; limited ingress permitted
6	Protected against strong-pressure jets of water, heavy seas; limited ingress permitted
7	Protection against the effects of immersion between 15cm–1m
8	Protection against long periods of immersion under a quoted pressure (e.g. 2bar at 24 hours)
9k	IP69k automotive standard DIN40050 and signifies resistance to high-pressure jets of water (up to 80bar) from any angle

NEMA 250 TO IEC 60529

NEMA 3	IP 54
NEMA 3S	IP 54
NEMA 4 & 4X	IP 56
NEMA 6 & 6P	IP 67
NEMA 13	IP 54

This is offered as a guide only.

Fitting Characteristics

Fitting or thread swivels independently of conduit during installation but is not suitable as a rotating joint in constantly moving applications.

Fitting rotates independently of the conduit to act as a rotating joint within constantly moving applications.

Technical Information

Chemical Resistance Comparison Table

PRODUCTS		S (INCLUDING BRAID)	SS (INCLUDING BRAID)	LFH-SP	SPL	SPLHC	TC BRAID	NICKEL-PLATED BRASS FITTINGS
CHEMICAL	ASTM NO. 1	●	●	■	●	●	●	●
	ASTM NO. 2	●	●	▲	●	▲	●	●
	ASTM NO. 3	●	●	▲	●	▲	●	●
	ACETIC ACID (10%)	■	●	●	●	●	▲	●
	ACETONE	●	●	■	■	●	●	●
	ALUMINIUM CHLORIDE	■	▲	●	●	●	▲	NT
	ANILINE	●	●	▲	■	●	●	●
	BENZALDEHYDE	●	●	■	■	▲	●	●
	BENZENE	●	●	■	■	■	●	●
	CARBON TETRACHLORIDE	●	●	■	▲	▲	●	●
	CHLORINE WATER	■	■	▲	■	●	■	●
	CHLOROFORM	●	●	■	■	▲	●	●
	CITRIC ACID	●	●	●	●	●	●	●
	COPPER SULPHATE	●	●	●	●	●	●	●
	CRESOL	●	●	■	▲	●	▲	●
	DIESEL OIL	●	●	▲	●	●	●	●
	DIETHYLAMINE	●	●	●	▲	●	●	●
	ETHANOL	●	●	▲	■	●	●	●
	ETHER	●	●	■	▲	●	●	●
	ETHYLAMINE	●	●	▲	▲	▲	●	●
	ETHYLENE GLYCOL	■	●	●	▲	●	●	●
	ETHYL ETHANOATE	●	●	■	■	●	●	●
	FREON 32	■	●	■	▲	■	●	●
	HYDRCHLORIC ACID (10%)	■	■	■	●	●	■	●
	HYDRCHLORIC ACID (36%)	■	■	■	●	●	■	●
	HYDROGEN PEROXIDE (35%)	■	●	▲	●	▲	●	●
	HYDROGEN PEROXIDE (87%)	■	●	■	●	■	▲	●
	LACTIC ACID	■	●	●	▲	▲	●	●
	LUBRICATING OIL	●	●	▲	●	▲	●	●
	METHANOL	●	●	▲	■	●	●	●
	METHYL BROMIDE	●	●	■	■	▲	●	●
	MEK	●	●	■	■	●	●	●
	NITRIC ACID (10%)	■	■	●	●	●	■	●
	NITRIC ACID (70%)	■	■	■	●	●	■	●
	OXALIC ACID	■	●	●	●	●	▲	●
	OZONE (GAS)	■	●	●	▲	▲	●	●
	PARAFFIN OIL	●	●	▲	●	●	●	●
	PETROL	●	●	■	●	●	●	●
	PHENOL	●	●	■	▲	●	▲	●
	SEA WATER	■	●	●	●	●	●	▲
	SILVER NITRATE	■	●	●	●	●	●	●
	SKYDROL	●	●	■	■	●	●	●
	SODIUM CHLORIDE	■	●	●	●	●	●	▲
	SODIUM HYDROXIDE (10%)	■	●	●	●	●	●	●
	SODIUM HYDROXIDE (60%)	■	▲	●	●	●	●	●
	SULPHUR DIOXIDE (GAS)	■	■	▲	●	●	▲	■
	SULPHURIC ACID (10%)	■	■	●	●	●	■	■
	SULPHURIC ACID (70%)	■	■	▲	●	●	■	■
	TOLUENE	●	●	▲	■	■	●	●
	TRANSFORMER OIL	●	●	▲	●	▲	●	●
	1,1,1-TRICHLOROETHANE	■	●	▲	■	▲	●	●
	TRICHLOROETHYLENE	■	●	▲	■	■	●	●
	TURPENTINE	●	●	■	▲	■	●	●
	VEGETABLE OIL	●	●	▲	●	●	●	●
	VINYL ACETATE	■	●	■	■	●	●	●
	WATER	■	●	●	●	●	●	●
	WHITE SPIRIT	●	●	■	▲	▲	●	●
	ZINC CHLORIDE	■	●	●	●	●	▲	●

KEY

SUITABLE	●
LIMITED SUITABILITY	▲
UNSUITABLE	■
NOT TESTED	NT

Note: *The information above is given as a guide only and is based on published technical data and experience.*

The chemical resistance of the above products is dependant on factors such as chemical exposure, concentration of the chemical and temperature. The above chemical table is valid for a temperature of 23° C.

Use of the above table is at the user's own discretion and risk. Those using it must satisfy themselves that their application presents no health and safety risks.

The end user should assess compatibility with their application and contact Thomas & Betts for further information.

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KOPEX-Ex™

Kopex-Ex™ Hazardous Location Conduit Systems



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Overview

Section 1: Introduction to Kopex

Kopex has been a manufacturer and supplier of electrical conduit systems since 1947 and is a recognized authority in all aspects of conduit system specification, design and manufacture.

As a world leader, Kopex offers an outstanding range of metallic and non-metallic conduit fittings and accessories for all applications, including hazardous areas, with its Kopex-Ex™ range.

Kopex-Ex offers global support with distributors and retailers in all areas of the world. If you are ordering products, looking for advice or making a general enquiry, Kopex-Ex distributors are fully trained in all aspects of the product range.

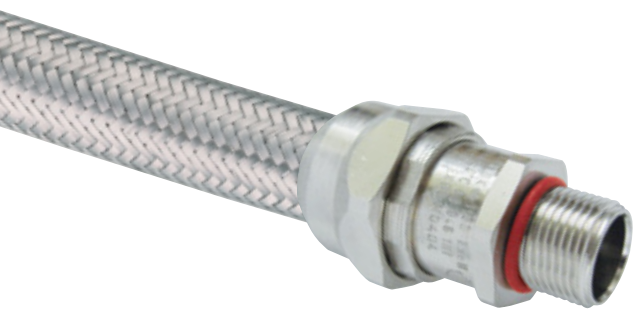
Our rigorous quality standards and a dedicated design and development program ensure that Kopex-Ex™ products are not only of the highest specification and reliability, but also meet many worldwide standards.

Kopex-Ex™ excels in delivering critical system protection across industrial and automotive applications, with leading brands such as Adaptaflex® and Harnessflex®.

Section 2: Introduction to Hazardous Areas

The information given in this catalog is intended to provide an insight into the products offered by Kopex-Ex™ for use in hazardous areas. We will outline the areas that are designated as hazardous, explain the reasons for the designation and the supporting legislation. In addition, we will outline what products can be used, as well as point out potential advantages in using our products over those of our competitors.

Please note that we can only give general advice on the application of our products, and we presume that the personnel working in these areas are fully qualified to determine the appropriate product for a particular installation. It should also be highlighted that in normal circumstances, it is the plant owner or operator who is responsible for plant safety and for ensuring that all products used therein meet the necessary codes of practice.





2.1 Explosive Atmospheres

The danger of explosion exists in all hazardous areas, and it is important to understand what constitutes an explosive atmosphere. This occurs when gas, vapor, mist, dust or flyings are mixed with air in such proportions that it has the potential to catch fire or explode.

Three things need to be present for an explosion to occur:

1. Flammable gas, vapor, mist, dust or flyings with
2. Air in the correct ratio, ignited by an
3. Ignition source (i.e. electrical spark)

This is commonly known as the “Ignition Triangle.”



Flammable Materials

The classification of flammable materials includes several key characteristics including:

- Relative Density: This is the density of the gas, vapor or dust relative to the density of air.
- Flash Point: This is the minimum temperature at which a vapor/air mixture forms over the surface of the liquid that can be ignited by a separate source.
- Flammable Limit: This is the upper or lower explosive limit at which a substance will ignite (mixture percentage of gas/dust to air), i.e. methane LEL 4.4%, UEL 17%.

Minimum Ignition Energy (MIE)

This is the lowest energy that is sufficient to effect ignition of the most easily ignitable explosive atmosphere under specified test conditions.

Sources of Ignition

There are many sources of ignition that can cause an explosion:

- Sparks
- Electrical arcs
- Heat from the sun
- Static charge
- Open flames
- Engine exhausts
- Chemical reaction

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2.2 Understanding Installations

It is the responsibility of the operator to prevent conditions favorable for explosions. Measures need to be taken with respect to electrical and non-electrical products to prevent ignition.

So what does the operator need to think about when providing a safe environment?

1. In the principle design of any plant, all hazards and risks should be reduced to a minimum.
2. When installing electrical plant equipment, it should be installed, where possible, in non-hazardous areas. If this is not an option, the least hazardous area possible should be selected (see Zones below for further details).
3. All electrical equipment and wiring connections need to be designed, installed, operated and maintained so that they do not become an ignition source.

There are also three requirements that electrical equipment must satisfy:

1. Construction and installation has to comply with the regulations and requirements for use in a hazardous areas (this may be country specific).
2. All electrical products have to be installed to the manufacturer's instructions and follow any constraints/limitations that any certification requires. (For example, if the product is certified as a component, then the piece of equipment that it is attached to may need to be tested and certified with this component in-situ.)
3. On completion of an installation, an inspection should be carried out by a competent body.

Zones/Classes

Hazardous zones/classes are defined in order to assess their risk and cite relevant measures to prevent ignition of flammable gases and dusts. The classifications of zones and divisions are laid down in the relevant standards. The classification of a zone or division can comprise the following data:

1. Area classification drawings.
2. Information on ventilation/air conditioning that may affect a hazardous area.
3. Details on the sources of release of gases and dusts.
4. Details of the flammable substances stored or being handled.





2.3 Product Marking Guide

Classification of Equipment for Use in Potentially Explosive Atmospheres

CLASSIFICATION OF HAZARDOUS AREAS		EUROPEAN/IEC OR NEC CLASSIFICATIONS		
FLAMMABLE SUBSTANCES	Temporary behavior of flammable substances in hazardous places	TYPICAL ZONES	REQUIRED MARKING FOR INSTALLATION: EQUIPMENT GROUP	REQUIRED MARKING FOR INSTALLATION: EQUIPMENT PROTECTION LEVEL
Gases Vapors	Is present continuously or for long periods or frequently	Zone 0	II	Ga
	Is likely to occur in normal opertion occasionally	Zone 1	II	Gb
	Is not likely to occur in normal operation but, if it does occur, will persist for a short period of time.	Zone 2	II	Gc
Dusts	Is present continuously or for long periods or frequently	Zone 20	III	Da
	Is likely to occur in normal opertion occasionally	Zone 21	III	Db
	Is not likely to occur in normal operation but, if it does occur, will persist for a short period of time.	Zone 22	III	Dc
Methane Dusts	—	Mines	I	Ma
	—	Mines	I	Mb

SUBDIVISION OF GASES AND VAPORS				
Apparatus may be used in group	GASES AND VAPORS			
IIA	Ammonia Methane Ethane Propane	Ethyl Alcohol Cyclohexane N-Butane	Gasoline N-Hexane	Acetaldehyde
IIB	Town gas, Acrylnitril	Ethylene Ethylene Oxide	Ethylene Glycol Hydrogen Sulphide	Ethyl-Ether
IIC	Hydrogen	Ethine (acetylene)	Sulphide of Carbon	

DUST	
IIIA	Combustible Flyings
IIIB	Non-Conductive Dust
IIIC	Conductive Dust



(Product stamp detail)

CLI.DIV1.ABCD **CLII.DIV1.EFG**

(Class & Divisions)

CLI (Class I), Div. 1 — Where ignitable concentrations of flammable gases, vapors or liquids are present within the atmosphere under normal operation conditions.

CLI (Class I), Div. 2 — Where ignitable concentrations of flammable gases, vapors or liquids are present within the atmosphere under abnormal operation conditions.

Class I Areas — Group A: Acetylene; Group B: Hydrogen; Group C: Propane and Ethylene; Group D: Benzene, Butane and Propane.

CLII (Class II), Div. 1 — Where ignitable concentrations of combustible dusts are present within the atmosphere under normal operation conditions.

CLII (Class II), Div. 2 — Where ignitable concentrations of combustible dusts are present within the atmosphere under abnormal operation conditions.

Class II Areas — Group E: Metal Dust; Group F: Carbon and Charcoal; Group G: Flour, Starch, Wood and Plastic.

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Overview

RETRICTION FOR USING APPARATUS	
Requirements	MARKING
Equipment without restriction	—
Equipment with special condition may be noted	X
Ex component, which is not intended to be used alone and requires additional certification before being used in hazardous area	U

PROTECTION TECHNIQUE

APPLICATION	TYPE OF PROTECTION	MARKING	EN/IEC STANDARD
All Applications	General Requirements	—	60079-0
Control Stations, Motors, Fuses, Switchgear, Power Electronics	Flameproof enclosure	**Exd**	60079-1
Installation Materials, Motors, Luminaires	Increased Safety	**Exe**	60079-7
Measurement and Control, Automation Technology, Sensors, Actuators	Intrinsic Safety	**Exi**	60079-11
Switch and Control Cupboards, Analyzers, Computers	Pressurization	**Exp**	60079-2
Coils of Motors or Relays, Solenoid Valves	Encapsulation	**Exm**	60079-18
Transformers, Relays, Control Stations, Magnetic Contactors	Oil Immersion	**Exo**	60079-6
Capacitors, Transformers	Powder Filling	**Exq**	60079-5
See at the Top — Only for Zone 2	"Non-Sparking"	**Exn**	60079-15
For Use in Zone 0, 1, 2/For Use in Zone 1, 2	Dust Atmospheres	**Ext**	60079-31

IECEx SIRA09.0103 X

(Certification Number)

New Marking — EPLs (Explosion Protection Levels)

The introduction of the EPLs and changes in the EN 60079 series standard has introduced new marking requirements.

Section 3: Standards and What They Mean

In this section, we outline the different standards used throughout the world and what they mean for products specified for use in hazardous areas. Below is a map of the world that illustrates the standards generally used in these regions.



3.1 The ATEX Europe Directives 94/9/EC

ATEX requires employers to eliminate or control risks from dangerous substances and to classify areas where explosive atmospheres may occur into zones, as laid down in regulations. ATEX directives are designed to protect employees, the public and the environment from accidents caused by explosive atmospheres. Since July 1, 2006, all existing sites, as well as new sites, must be fully ATEX compliant.

Directive ATEX100a applies to equipment suppliers and manufacturers; ATEX137 applies to end users. These directives complement each other but have different purposes. ATEX100A covers both electrical and non-electrical products intended for use in hazardous areas, including mechanical equipment. The directive came into existence in 2003, and products sold within the European Union designed for use in hazardous areas must have ATEX certification and bear the ATEX marking on the product or on a certificate plate. The obligation is placed upon the manufacturer or supplier of the product, and the intention is to facilitate free movement of goods within the EU.

Declaration of Conformance

This has to be issued by the supplier for every order that is to be installed in a hazardous area. This document has to show that the equipment supplied complies with the latest harmonized standard.

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Overview

Zone Definitions (as per ATEX 60079-10)

Zone 0

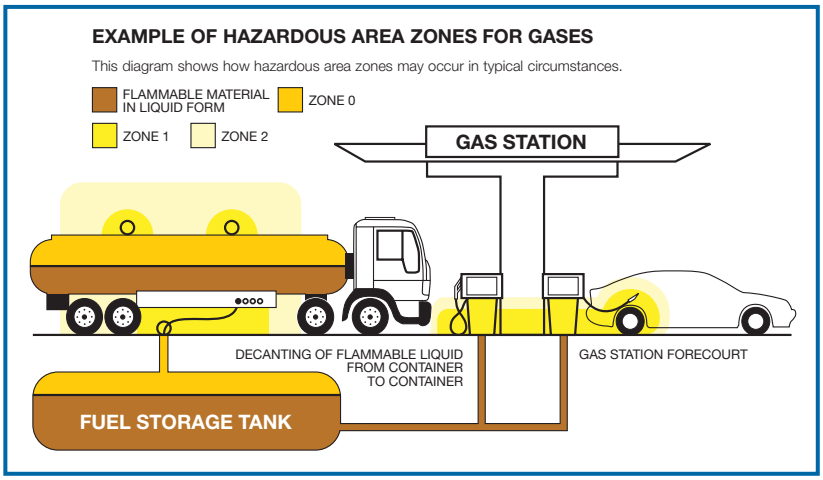
Place in which an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapor or mist is present continuously, for long periods or frequently.

Zone 1

Place in which an explosive mixture of air, gas, vapor or mist is likely to occur during normal operation, occasionally.

Zone 2

Place in which an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapor or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.



Zone 20

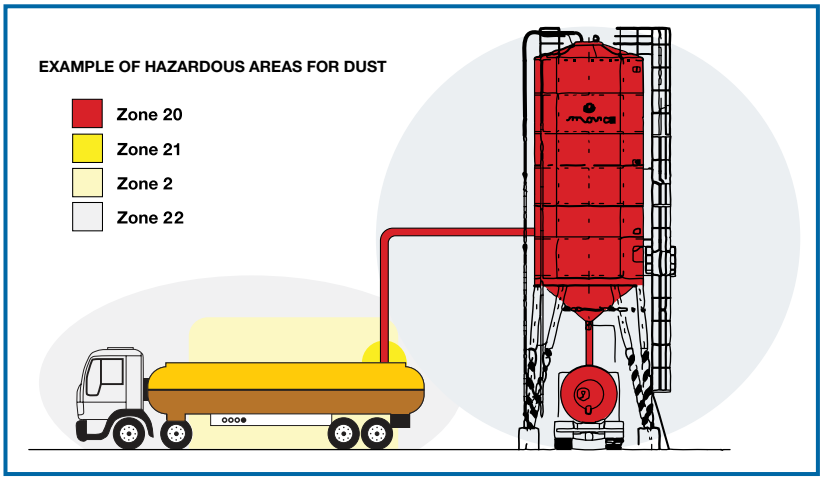
Area in which an explosive atmosphere in the form of a cloud of combustible dust in air is present continuously, or for long periods or frequently.

Zone 21

Area in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur in normal operation, occasionally.

Zone 22

Area in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur, will persist for a short period only.



Overview

Forms of Protection

Safety can be adhered to using two methods: either locating the equipment in a safe area outside the hazardous area or by having the equipment designed, installed and maintained to the standards for that area. There are a number of standards that equipment can be designed to meet. To understand this, we need to explain the different forms of protection.

Exd (Flameproof Enclosure Type D)

Equipment that includes electrical components may arc or spark in an atmosphere that is explosive. The construction of this equipment needs to be designed to prevent transmission of an explosion to an explosive gas atmosphere surrounding the enclosure. This equipment must be inspected to ensure that the integrity of the product is maintained as per the manufacturer's instructions.

Exe (Increased Safety Enclosures Type E)

This relates to equipment that may have mixtures of explosive dusts and gases within them but is not designed to withstand an internal explosion. Instead, the likelihood of explosion is reduced by the following conditions:

- Components fitted within the equipment shall not produce a spark/arc in normal operation that can ignite an explosive atmosphere
- Electrical equipment maintains a high level of reliability
- Electrical products need to meet a minimum level ingress protection of IP54
- Electrical products should have a high impact resistance

Exde

A combination of Exd and Exe type enclosures.

Exi

This applies to intrinsically safe equipment. These are products that incorporate circuits which, due to low energy potential, are not capable of igniting an explosive atmosphere. This section is split down into Ex ia for equipment in Zone 0/20, Ex ib for Zone 1/21 and Ex ic for Zone 2/22.

ATEX Kopex-Ex™ Products

RANGE NAME	ATEX NUMBER	STANDARD
Nylon Conduit Systems Anti-Static	BASEEFA08 ATEX0003X	EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004
Flameproof Conduit Glands Group II	BASEEFA06 ATEX0256X	EN60079-0:2004 EN60079-1:2003 EN60079-7:2001 EN61241-0:2004
Group I Glands G1, E, U	SIRA09A ATEX1231X	EN61241-1:2004
Thread Converters, Reducers, Enlargers	BASEEFA07 ATEX0247X	EN60079-0:2006 EN60079-1:2004 EN60079-7:2003 + Amendments EN61241-0:2004 EN61241-1:2004
Standard Stopping Plugs	BASEEFA08 ATEX6324	EN60079-0:2004 EN60079-1:2007
Tamper-Proof Stopping Plugs	BASEEFA08 ATEX6324	EN60079-0:2004 EN60079-1:2007
Hex-Head Stopping Plugs	BASEEFA08 ATEX0325X	EN60079-0:2006 EN60079-7:2007 EN61241-0:2004 EN61241-1:2004
Dome-Head Stopping Plugs	BASEEFA08 ATEX0325X	EN60079-0:2006 EN60079-7:2007 EN61241-0:2004 EN61241-1:2004
Nylon Cable Glands	SIRA00 ATEX1072X	
Nylon Stopping Plugs	SIRA00 ATEX1074X	EN50014:1997 EN50018:2000 EN50281-1-1:1998

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Overview

Kopex-Ex™ Products to Zones Comparison Chart

ZONES	PRODUCTS		
Zone 0, 20	No products certified		
Zones 1, 2, 21, 22	Nylon conduit systems Standard stopping plugs Dome-head stopping plugs	Liquidtight conduit systems Tamper-proof stopping plugs Nylon glands	Thread converters Hex-head stopping plugs Nylon stopping plugs

Kopex-Ex™ Protection Table

FORMS OF PROTECTION	DESCRIPTION OF FORM	KOPEX-EX PRODUCT RANGE
Exe (Increased Safety)	Designed to prevent ignition	Nylon conduit systems Liquidtight conduit glands Thread converters Hex-head stopping plugs Dome-head stopping plugs Nylon glands Nylon stopping plugs
Exd (Flameproof Enclosure)	Designed to prevent transmission	Liquidtight conduit glands Conduit gland Thread converters Standard stopping plugs Tamper-proof stopping plugs
Ext (Dust Environment)		Nylon conduit systems Conduit glands Thread converters Standard stopping plugs Tamper-proof stopping plugs

3.2 Hazardous Areas Class and Division or Class and Zone

Class I Div. 1

1. Location in which ignitable concentrations of flammable gases or vapors can exist under normal operating conditions.
2. Location in which ignitable concentrations of such gases or vapors may exist frequently because of repair or maintenance operations or because of leakage.
3. Location in which breakdown or faulty operation of equipment or processes might release ignitable concentration of flammable gases or vapor and might also cause simultaneous failure of electrical equipment in such a way as to directly cause the electrical equipment to become a source of ignition.

Class I Div. 2

1. Location in which volatile flammable liquids or flammable gases are handled, processed or used, but in which the liquids, vapors or gases normally confined within closed containers or closed systems can escape only if there is an accidental rupture or breakdown of such containers or systems or in case of abnormal operation of equipment.
2. Location in which ignitable concentrations of gases or vapors are normally prevented by positive mechanical ventilation and which might become hazardous through failure or abnormal operation of the ventilation equipment.
3. Location that is adjacent to a Class I Div. 1 location, and to which ignitable concentrations of gases or vapors might occasionally be communicated unless such communication is prevented by adequate positive-pressure ventilation from a source of clean air and effective safeguards against ventilation failure are provided.

Class II

Locations are those that are hazardous because of the presence of combustible dust.

Class II Div. 1

1. Location in which combustible dust is in the air under normal operating conditions in quantities sufficient to produce explosive or ignitable mixtures.
2. Location where mechanical failure or abnormal operation of machinery or equipment might cause such explosive or ignitable mixtures to be produced, and might also provide a source of ignition though simultaneous failure or electric equipment, through operation of protection devices or from other causes.
3. Location in which Group E combustible dusts (metal dusts such as aluminium, magnesium and their alloys) may be present in quantities sufficient to be hazardous.

Class II Div. 2

1. Location in which combustible dust due to abnormal operations may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.
2. Location where combustible dust accumulations are present but are normally insufficient to interfere with the normal operation of electrical equipment or other apparatus, but could as a result of infrequent malfunctioning of handling or processing equipment become suspended in the air.
3. Location in which combustible dust accumulations on, in or in the vicinity of the electrical equipment could be sufficient to interfere with the safe dissipation of heat from electrical equipment, or could be ignitable by abnormal operation or failure of electrical equipment.

Class III

Locations are those that are hazardous because of the presence of easily ignitable fibers or flyings, but in which such fibers or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures.

Class III Div. 1

Location in which easily ignitable fibers or materials producing combustible flyings are handled, manufactured or used. Includes rayon, cotton, jute, hemp, cocoa fiber and similar materials.

Class III Div. 2

Location in which easily ignitable fibers are stored or handled other than in the process of manufacture.

Class I Group Classifications

Group A: Acetylene

Copper(I) acetylide (or cuprous acetylide) is an inorganic chemical compound with the formula Cu_2C_2. It is a heat- and shock-sensitive high explosive, more sensitive than silver acetylide. Copper acetylide can be prepared by passing acetylene gas through a copper(I) chloride solution in presence of ammonia: $C_2H_2 + (2)CuCl \rightarrow Cu_2C_2 + (2)HCl$.

Copper acetylide can form inside pipes made of copper or an alloy with high copper content, which may result in a violent explosion. This was found to be the cause of explosions in acetylene plants, and it led to the abandonment of copper as a construction material in such plants. Copper catalysts used in petrochemistry can also possess a degree of risk under certain conditions.

Group B

Flammable gas, flammable liquid-produced vapor or combustible liquid-produced vapor mixed with air that may burn or explode, having either a maximum experimental safe gap (MESG) value less than or equal to 0.45mm or a minimum igniting current (MIC) ratio less than or equal to 0.40.

Group C

Flammable gas, flammable liquid-produced vapor or combustible liquid-produced vapor mixed with air that may burn or explode, having either a maximum experimental safe gap (MESG) value greater than 0.45mm and less than or equal to 0.75mm, or a minimum igniting current (MIC) ratio greater than 0.40 and less than or equal to 0.80.

Group D

Flammable gas, flammable liquid-produced vapor or combustible liquid-produced vapor mixed with air that may burn or explode, having either a maximum experimental safe gap (MESG) value greater than 0.75mm or a minimum igniting current (MIC) ratio greater than 0.80.

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Class II Group Classifications

Group E

Atmospheres containing combustible metal dusts (including aluminium, magnesium and their commercial alloys) or other combustible dusts whose particle size, abrasiveness and conductivity present similar hazards in the use of electrical equipment.

Group F

Atmospheres containing combustible carbonaceous dusts that have more than 8 percent total entrapped volatiles or that have been sensitized by other materials so that they present an explosion hazard. Coal, carbon black, charcoal and coke dusts are examples of carbonaceous dusts.

Group G

Atmospheres containing combustible dusts not included in Group E or F, including flour, grain, wood, plastic and chemicals.

Protection Techniques

Explosion-Proof Apparatus — Class I Div. 1 or Div. 2

Apparatus enclosed in a case that is capable of withstanding an explosion of a specified gas or vapor that may occur within it and of preventing the ignition of a specified gas or vapor surrounding the enclosure by sparks, flashes or explosion of the gas or vapor within, and that operates at such an external temperature that a surrounding flammable atmosphere will not be ignited thereby.

Dust Ignition Proof — Class II Div. 1 or Div. 2

Equipment enclosed in a manner that excludes dusts and does not permit arcs, sparks or heat otherwise generated or liberated inside of the enclosure to cause ignition of exterior accumulations or atmospheric suspensions of a specified dust on or in the vicinity of the enclosure.

Dust Tight — Class II Div. 2 or Class III Div. 1 or Div. 2

Enclosures constructed so that dust will not enter under specified test conditions.



Class I Zone 0, Zone 1 and Zone 2 Locations

Class I Zone 0

Location in which ignitable concentrations of flammable gases or vapors are present continuously or for long periods of time, i.e. locations inside vented tanks or vessels.

Class I Zone 1

1. Location in which ignitable concentrations of flammable gases or vapors are likely to exist under normal operating condition.
2. Location in which ignitable concentrations of flammable gases or vapors are likely to exist frequently because of repair or maintenance operations or because of leakage.
3. Location in which equipment is operated or processes are carried on, of such a nature that equipment breakdown or faulty operations could result in the release of ignitable concentrations of flammable gases or vapors and also cause simultaneous failure of electrical equipment in a way that causes the electrical equipment to become a source of ignition.
4. Location that is adjacent to a Class I Zone 0 location from which ignitable concentrations of vapors could be communicated, unless communication is prevented by adequate positive-pressure ventilation from a source of clean air and effective safeguards against ventilation failure are provided.

Class I Zone 2

1. Location in which ignitable concentrations of flammable gases or vapors are not likely to occur in normal operation. If ignitable concentrations do occur, they will happen only for a short period of time.
2. Location in which volatile flammable liquids, flammable gases or flammable vapors are handled, processed or used, but in which the liquids, gases or vapors normally confined within closed containers of closed systems can escape only if there is an accidental rupture or breakdown of the containers or system or as a result of abnormal operation of the equipment with which the liquids or gases are handled, processed or used.
3. Location in which ignitable concentrations of flammable gases or vapors normally are prevented by positive mechanical ventilation but which may become hazardous as a result of failure or abnormal operation of the ventilation equipment.
4. Location that is adjacent to a Class I Zone 1 location, from which ignitable concentrations of flammable gases or vapors could be communicated, unless such communication is prevented by adequate positive-pressure ventilation from a source of clean air and effective safeguards against ventilation failure are provided.

Note: *The Zone 2 classification usually includes locations where volatile flammable liquids or flammable gases or vapors are used that become hazardous due to an accident or some unusual operating condition.*

Overview

Material Groups for Class I Zones 0, 1 and 2

Group I For mining, not covered by NEC®.

Group II Subdivided into IIC, IIB and IIA for protection technique "D."

Group IIC Atmospheres containing acetylene, hydrogen, flammable gas or flammable liquid-produced vapor mixed with air that may burn or explode, having either a maximum experimental safe gap (MESG) value less than or equal to 0.50mm or a minimum igniting current (MIC) ratio less than or equal to 0.45.

Group IIB Atmospheres containing acetaldehyde, ethylene, flammable gas, flammable liquid-produced vapor or combustible liquid-produced vapor mixed with air that may burn or explode having either a maximum experimental safe gap (MESG) value greater than 0.50mm and less than or equal to 0.90mm or a minimum igniting current (MIC) ratio greater than 0.45 and less than or equal to 0.80.

Group IIA Atmospheres containing acetone, ammonia, ethyl alcohol, gasoline, methane, propane, flammable gas or flammable liquid-produced vapor mixed with air that may burn or explode, having either a maximum experimental safe gap (MESG) value greater than 0.90mm or a minimum igniting current (MIC) ratio greater than 0.80.

MESG

The maximum experimental safe gap of flammable gases and vapors is the lowest value of the safe gap measured, according to 60079-1-1, by varying the composition of the mixture ("flame propagation in the most incendive mixture"). The safe gap is the gap width at which, in the case of a given mixture composition, a flashback just fails to occur.

MIC

The ratio derived by dividing the minimum current required from an inductive spark discharge to ignite the most easily ignitable mixture of a gas or vapor by the minimum current required from an inductive spark discharge to ignite methane under the same test conditions.

Protection Techniques

Class I Zone 1 or 2

Flameproof "D" Type of protection where the enclosure will withstand an internal explosion or flammable mixture that has penetrated the interior.

Increased Safety "E" Type of protection applied to electrical equipment that does not produce arcs or sparks in normal service.

Wiring Methods

Class I Zone 0 Intrinsically safe only

Class I Zone 1 As Class I Zone 0
- MC-HL cable
- ITC-HL cable
- MI cable
- Rigid metallic conduit
- Rigid non-metallic conduit

Class I Zone 2 As Class I Zone 1
- Threaded rigid metal conduit
- Flexible metal conduit with listed fittings
- Liquidtight flexible metallic conduit with listed fittings
- Liquidtight flexible non-metallic conduit with listed fittings

Zones 20, 21 and 22 Locations for Combustible Dusts, Fibers and Flyings

Dust-tight enclosures constructed so that dust will not enter under specified test conditions.

Zone 20 An area in which combustible dust or ignitable fibers and flyings are present continuously or for long periods of time in quantities sufficient to be hazardous.

Zone 21 An area in which combustible dust or ignitable fibers and flyings are likely to exist occasionally under normal operation in quantities sufficient to be hazardous.

Zone 22 An area in which combustible dust or ignitable fibers and flyings are not likely to be present under normal operation in quantities sufficient to be hazardous.



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Overview

Wiring Methods

All Zones Threaded rigid metal conduit
Liquidtight metal conduit with listed fittings
Liquidtight non-metallic conduit with listed fittings

Wiring Methods

LOCATION	WIRING METHODS	KOPEX-EX™ PRODUCT RANGE
CLASS I DIV. 1	- Threaded rigid conduit or threaded steel intermediate metal conduit - Type MI cable with termination fittings - MC-HL cable for industrial establishments with restricted public access (other restrictions apply) - ITC-HL cable for industrial establishments with restricted public access (other restrictions apply)	- HA Universal Flameproof Gland with Rigid Conduit - SP/TSP Stopping Plugs - Thread Adapters
CLASS I DIV. 2	All as for Class I Div. 1: - Type PLTC cable - Type ITC cable - Type MI, MC, MV or TC cable - Flexible metal fittings - Flexible metallic conduit with listed fittings - Liquidtight flexible metal conduit with listed fittings - Liquidtight flexible non-metallic conduit with listed fittings	- All HA glands: HA - G1 HA - U HA - E HA - U/SW - SP/TSP Stopping Plugs - Thread Adapters
CLASS II DIV. 1	All as Class II Div. 1: - Threaded rigid conduit or threaded steel intermediate metal conduit - Type MI cable with termination fittings - MC-HL cable for industrial establishments with restricted public access (other restrictions apply) - Dust-tight flexible connectors - Liquidtight flexible metal conduit with listed fittings - Liquidtight flexible non-metallic conduit with listed fittings	- All HA glands: HA - G1 HA - U HA - E HA - U/SW - SP/TSP Stopping Plugs - Thread Adapters
CLASS III DIV. 1	- Rigid metal conduit, rigid non-metallic conduit, intermediate metal conduit, electrical metallic tubing, dust-tight wireways - Type MC or MI cable - Liquidtight flexible metallic conduit with listed fittings - Liquidtight flexible non-metallic conduit with listed fittings	- All HA glands: HA - G1 HA - U HA - E HA - U/SW - SP/TSP Stopping Plugs - Thread Adapters
CLASS III DIV. 2	As for Class III Div. 1	- All HA glands: HA - G1 HA - U HA - E HA - U/SW - SP/TSP Stopping Plugs - Thread Adapters

3.3 IECEx

The IECEx designation is an international certificate of conformance that applies to products used in a hazardous area.

This designation provides:

a) A single certification of conformity for manufacturers to comply with that includes:

i) Testing and assessment of products to a standard, including a full test report

ii) Ongoing surveillance of manufacturer's premises

b) A fast-track process for countries where regulations still require the issuing of national Ex certificates or approvals

This designation is gradually being adopted by all the known standards organizations across the world.

IECEx Kopex-Ex™ Products

RANGE NAME	IECEX NUMBER	STANDARD
NYLON CONDUIT SYSTEMS ANTI-STATIC	IECEx BAS08.0001X	IEC60079-0:2006 IEC60079-7:2007 IEC61241-0:2006 IEC61241-1:2004
FLAMEPROOF CONDUIT GLANDS	IECEx BAS06.0059X	IEC60079-0:2004 IEC60079-1:2003 IEC60079-7:2001
GROUP 1 GLANDS G1, U, E	IECEx SIRA09.0103X	IEC61241-0:2004 IEC61241-1:2004
THREAD CONVERTERS REDUCERS ENLARGERS	IECEx BAS07.0090X	IEC60079-0:2006 IEC60079-1:2004 IEC60079-7:2003 + Amendments IEC61241-0:2004 IEC61241-1:2004
STANDARD STOPPING PLUGS	IECEx BAS08.0109X	IEC60079-0:2004 IEC60079-1:2007
TAMPER-PROOF STOPPING PLUGS	IECEx BAS08.0109X	IEC60079-0:2004 IEC60079-1:2007
HEX-HEAD STOPPING PLUGS	IECEx BAS08.0108X	IEC60079-0:2006 IEC60079-7:2007 IEC61241-0:2004 IEC61241-1:2004
DOME-HEAD STOPPING PLUGS	IECEx BAS08.0108X	IEC60079-0:2006 IEC60079-7:2007 IEC61241-0:2004 IEC61241-1:2004

3.4 UL® (America) and CSA (Canada)

The American standard is the only one to have different classifications and locations. ATEX and IECEx designate Groups and Zones whereas the NEC® designates Classes and Divisions — and there is no direct comparison between the two. This means it is imperative that the American and international standards' designations are not interchanged within an area.

3.5 GOST (Russia)

GOST follows rules similar to IECEx as far as the breakdown of the Zones and other criteria are concerned. However, Russia requires separate GOST markings on a product.

GOST is divided into GOST (R), which is the standard for the Russian Federation, and GOST (K), which is the standard for Kazakhstan.

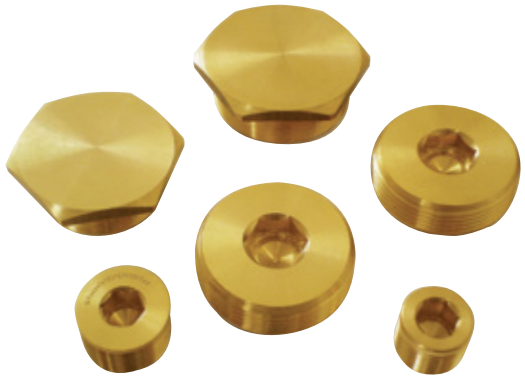
Section 4: Equipment vs. Component

Within the ATEX and IECEx standards, hazardous area products can be classified as Equipment Restricted, Equipment Unrestricted or Components.

This is symbolized in the part marking by a character immediately following the certificate number:

10ATEX1234	Equipment for use without restriction
10ATEX1234X	Equipment for use under special conditions or restrictions (outlined in certificate schedule)
10ATEX1234U	Component not intended to be used alone and requires additional certification when in-situ (partial certificate can form basis for testing)

Products certified as pieces of equipment can be used with any other piece of certified equipment without the need for product or installation testing. However, products certified as components will require further testing when in-situ to confirm the overall assembly of finished product complies with and meets the requirements of the ATEX standard.





4.1 Kopex-Ex™ Classifications

PRODUCT	ATEX CLASSIFICATION	RESTRICTIONS/CONDITIONS
Non-Metallic Conduit System	Equipment	Conduit and gland must be used together
HA-GI Barrier Glands	Equipment	IP must be maintained upon installation
HA-U Universal Glands	Equipment	IP must be maintained upon installation
HA-GII Barrier Glands	Equipment	IP must be maintained upon installation
Thread Converters	Equipment	IP must be maintained upon installation
SP Stopping Plugs	Equipment	None
TSP Stopping Plugs	Equipment	None
HSP Stopping Plugs	Equipment	IP must be maintained upon installation
DSP Stopping Plugs	Equipment	IP must be maintained upon installation
Couplers	Component	Must be certified in conjunction with usage

4.2 UL®/CSA Classifications

Unlike ATEX and IECEx, UL®/CSA do not classify products as Equipment or Components. Instead, they are simply "Listed" for consumer use or "Recognized" as approved components. All Kopex-Ex™ products are Listed products and can be used with the following limitations:

UL®/CSA Classifications

PRODUCT	UL/CSA HAZLOC	RESTRICTIONS/CONDITIONS
HA-GI Barrier Glands	Class I Div. 2	Flexible conduit gland
HA-U Universal Glands	Class I Div. 1	Rigid conduit only
Thread Converters	Class I Div. 1	Plated brass and stainless steel only
SP Stopping Plugs	Class I Div. 1	Plated brass and stainless steel only
TSP Stopping Plugs	Class I Div. 1	Plated brass and stainless steel only

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Section 5: Cable vs. Conduit

The feeding of electrical and data cables around a hazardous area is often complex and requires a great deal of thought. In this section, we outline the decisions that need to be made as well as list possible options from Kopex-Ex™.

5.1 Cable

Besides narrowing down selections, choosing the right cable is further complicated by requirements of Exd, which requires:

- Cable to be substantially compact and circular
- Cable to include extruded beading
- Cable to include non-hygroscopic fillers

The next thing to consider is the amount of cables required and where they are terminating. For example, if they are terminating at the same control box, then this may impact on the size of the enclosure due to size limitations of the glanding plate (see example below).

5.2 Conduit

When applying conduit systems, the cable limitations are negated because you can run cables through the conduit system. This permits multi-cores to be run through the same conduit, reducing the number of cable entries required (see examples below).

This method can have a number of benefits, and selection criteria can be greatly reduced by answering the following questions:

- Is the application Exe or Exd?
- How many cables are required? Knowing your count enables you to calculate the cable cross-sectional area to establish the conduit size.

Advantages of conduit systems:

- Easier termination of the cables
- Reduced installation time
- Greatly reduced risk of the enclosure's integrity being compromised
- Additional cables can be added without the need for drilling more entries (Exe only)
- Potential to reduce the enclosure size
- Minimized risk of damage through crushing
- Potential to run power and data through one conduit system (data needs to be screened)
- EMC can be obtained through the conduit
- Use of SWA cable not required



Exd



Exe



Exd



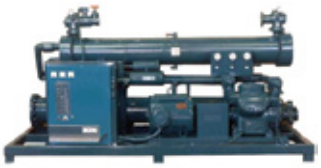
Exe

Section 6: Applications of Products

Exd









Skids

- Liquidtight conduit systems
- Conduit glands
- Thread converters
- Standard stopping plugs
- Tamper-proof stopping plugs

Control Boxes

- Thread converters
- Standard stopping plugs
- Tamper-proof stopping plugs

Motors

- Liquidtight conduit systems
- Conduit glands
- Thread converters
- Standard stopping plugs
- Tamper-proof stopping plugs

Lighting

- Thread converters
- Standard stopping plugs
- Tamper-proof stopping plugs

Exe

Skids

- Nylon conduit systems
- Thread converters
- Hex-head stopping plugs
- Dome-head stopping plugs
- Nylon glands
- Nylon stopping plugs

Control Boxes

- Nylon conduit systems
- Thread converters
- Hex-head stopping plugs
- Dome-head stopping plugs
- Nylon glands
- Nylon stopping plugs

Motors

- Nylon conduit systems
- Thread converters
- Hex-head stopping plugs
- Dome-head stopping plugs
- Nylon glands
- Nylon stopping plugs

Lighting

- Nylon conduit systems
- Thread converters
- Hex-head stopping plugs
- Dome-head stopping plugs
- Nylon glands
- Nylon stopping plugs

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Overview

Section 7: Product Features and Benefits

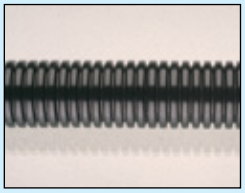
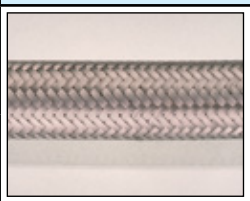
RANGE NAME	FEATURES	BENEFITS
NYLON CONDUIT SYSTEMS	Dual-certified ATEX/IECEx	Highly flexible and high strength
ANTI-STATIC	Braided versions available	No requirement for double stocking
		Reduces the amount of glanding
		Allows for running of multi-core
CONDUIT GLANDS	Certified to ATEX, IECEx and CSA	No requirement for retesting
GROUP I		Mining applications installation options
G1, U, E		High temperature can be used with rigid conduit
CONDUIT GLANDS	Dual-certified ATEX/IECEx	No requirement for retesting once installed
GROUP II		Reduces the amount of glanding
THREAD CONVERTERS	Tested as Equipment	No requirement for retesting once installed
	Dual-certified ATEX/IECEx	No requirement for double stocking
	Full identification marking	No problems on site with inspections
	Tested to the latest 60079 version	
	Certified to UL® Standard for Class I Div. 1	
STANDARD STOPPING PLUGS	Tested as Equipment	No requirement for retesting once installed
	Dual-certified ATEX/IECEx	
	Tested to the latest 60079 version	
	Certified to UL Standard for Class I Div. 1	
TAMPER-PROOF STOPPING PLUGS	Tested as Equipment	No requirement for retesting once installed
	Dual-certified ATEX/IECEx	
	Tested to the latest 60079 version	
	Certified to UL Standard for Class I Div. 1	
HEX-HEAD STOPPING PLUGS	Tested as Equipment	No requirement for retesting once installed
	Dual-certified ATEX/IECEx	IP rating guaranteed
	Sealing washers and O-rings supplied C/W	
DOME-HEAD STOPPING PLUGS	Tested as Equipment	No requirement for retesting once installed
	Dual-certified ATEX/IECEx	IP rating guaranteed
	Sealing washers and O-rings supplied C/W	

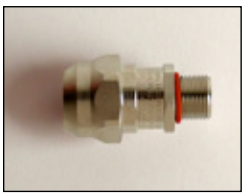
ATEX

Advice on the Latest Standards

Kopex-Ex can help you with the latest laws and directives. Just contact the Thomas & Betts Technical Support team by phone or e-mail for prompt and up-to-date advice.

Exe Application for Zones 1, 2, 21 and 22

		TEMP. RATING	SPECIAL CHARACTERISTICS	APPROVALS	MATERIAL
ANTI-STATIC POLYAMIDE 12		Static -20° C to 80° C	Specialist anti-static grade Surface resistivity 106 Ω RTI 110° C to EN60079-0	BASEEFA 08 ATEX 0003X IECEx BAS08.0001X	Anti-Static Nylon 12
OVERBRAIDED POLYAMIDE 12		Static -20° C to 80° C	EMC screening level: 60 dB at 1 MHz RTI 110° C to EN60079-0	BASEEFA 08 ATEX 0003X IECEx BAS08.0001X	Anti-Static Nylon 12 with Stainless Steel Overbraid

		TEMP. RATING	SUITABLE CONDUIT	APPROVALS	IP RATING*
STRAIGHT MALE (NICKEL-PLATED BRASS)		Static -20° C to 80° C	Unbraided Nylon Conduit EXB	BASEEFA 08 ATEX 0003X IECEx BAS08.0001X	IP66
FIXED STRAIGHT MALE (NICKEL-PLATED BRASS)		Static -20° C to 80° C	Overbraided Conduit EXBB	BASEEFA 08 ATEX 0003X IECEx BAS08.0001X	IP66

** With recommended seal and washer.*

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Liquidtight Non-Metallic Flexible Conduits and Fittings

ATEX

BRITISH CONDUIT SIZE (MM)	16	20	25	32	42	54
COIL LENGTHS (M)	10/30/50	10/30/50	10/30/50	10/30/50	10/30/50	10/30/50
MINIMUM BORE (MM)	11.15	16.45	21.5	27.5	35.2	46.2
OUTSIDE DIAMETER (MM)	16.5	21.20	28.35	34.5	42.4	54.3
COLOR						
BLACK	EXB03*	EXB04*	EXB05*	EXB06*	EXB07*	EXB08*
	EXBB03*	EXBB04*	EXBB05*	EXBB06*	EXBB07*	EXBB08*

** Add coil length to complete part number (e.g. 10 meters = EXB0510).*

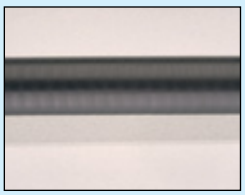
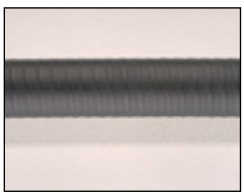
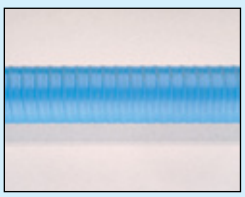
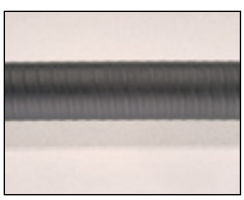
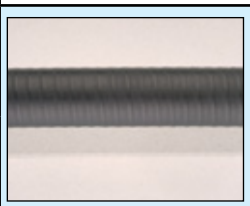
METRIC THREAD SIZE (MM)	16	20	25	32	42	54
NPT THREAD SIZE (IN.)	½	½	¾	1	1¼	1½
METRIC	EXPQM0303	EXPQM0404	EXPQM0505	EXPQM0606	EXPQM0707	EXPQM0808
NPT	EXPQA0304	EXPQA0404	EXPQA0505	EXPQA0606	EXPQA0707	EXPQA0808
METRIC FIXED	EXBQM0303	EXBQM0404	EXBQM0505	EXBQM0606	EXBQM0707	EXBQM0808
NPT FIXED	EXBQA0304	EXBQA0404	EXBQA0505	EXPBQA0606	EXBQA0707	EXBQA0808

*For locknuts and seals, see **pages E-324–E-325**.*

Liquidtight Flexible Metallic Conduit System — Galvanized Steel

Conduit Selection

See **pages E-316–E-317** for suitable Hazardous Area Glands.

GALVANIZED STEEL		GENERAL TEMP. RATING	FLAME PROPAGATION	SPECIAL CHARACTERISTICS	APPROVALS
GENERAL OIL RESISTANT		Static -25° C to 105° C Flexing -25° C to 105° C	Flame dies in less than 30 seconds after ignition source is removed	Flame-retardant PVC covering	IEC 61386
LOW FIRE HAZARD		Static -25° C to 90° C Flexing -5° C to 90° C	Flame dies in less than 30 seconds after ignition source is removed	Limited fire hazard, zero halogen (BS6425 Pt. 1)	LUL Fully Compliant (E1042A6) MOD to NES 518: Issue 3 DEF STAN 61-12 (Part 31) Issue 1 IEC 61386
HIGH TEMPERATURE		Static -50° C to 130° C Flexing -5° C to 130° C	Flame dies in less than 30 seconds after ignition source is removed	Flame resistance: (UL94V-2) Chemical and oil resistant	IEC 61386
LIMITED FIRE HAZARD FLEXIBLE		Static -25° C to 90° C Flexing -5° C to 90° C	Flame dies in 30 seconds after ignition source is removed	Limited fire hazard covering EMC screening level: 60 dB at 1 MHz braided	MOD NES 518: Issue 3 DEF STAN 61-12 (Part 31) Issue 1
HIGH FLEXIBILITY HIGH TEMPERATURE		Static -65° C to 150° C Flexing -45° C to 135° C	Flame dies in 30 seconds after ignition source is removed	High flexibility High temperature	IEC 61386

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Liquidtight Metallic Flexible Conduits

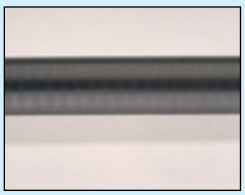
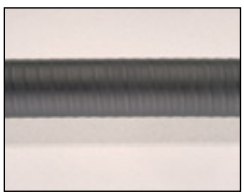
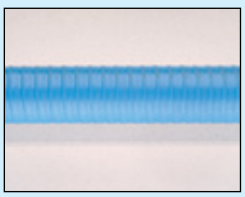
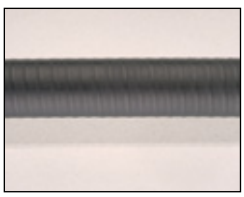
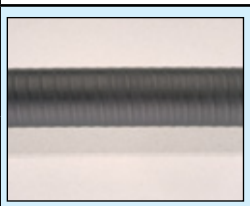
BRITISH CONDUIT SIZE (MM)	16	20	25	32	40	50	63
US TRADE SIZE (IN.)	⅜	½	¾	1	1¼	1½	2
INSIDE DIAMETER (MM)	12.5	16.0	21.0	26.4	35.3	40.4	51.6
COIL LENGTHS (M)	10/30	10/30	10/30	10/20	10/20	10/20	10/20
COLOR							
BLACK	EXLB03*	EXLB04*	EXLB05*	EXLB06*	EXLB07*	EXLB08*	EXLB09*
BLACK	EXLT03*	EXLT04*	EXLT05*	EXLT06*	EXLT07*	EXLT08*	EXLT09*
BLACK	EXLH03*	EXLH04*	EXLH05*	EXLH06*	EXLH07*	—	—
BLUE	EXLLH03*	EXLLH04*	EXLLH05*	EXLLH06*	EXLLH07*	—	—
BLACK	EXLBBT03*	EXLBBT04*	EXLBBT05*	EXLBBT06*	EXLBBT07*	EXLBBT08*	EXLBBT09*
BLACK	EXLHC03*	EXLHC04*	EXLHC05*	EXLHC06*	EXLHC07*	EXLHC08*	EXLHC09*

** Add coil length to complete part number (e.g. 10 meters = EXLB0310).*

Liquidtight Flexible Metallic Conduit System — Stainless Steel 316

Conduit Selection

See **pages E-316–E-317** for suitable Hazardous Area Glands.

STAINLESS STEEL 316		GENERAL TEMP. RATING	FLAME PROPAGATION	SPECIAL CHARACTERISTICS	APPROVALS
GENERAL OIL RESISTANT		Static -25° C to 105° C Flexing -25° C to 105° C	Flame dies in less than 30 seconds after ignition source is removed	Flame-retardant PVC covering	IEC 61386
LOW FIRE HAZARD		Static -25° C to 90° C Flexing -5° C to 90° C	Flame dies in less than 30 seconds after ignition source is removed	Limited fire hazard, zero halogen (BS6425 Pt. 1	LUL Fully Compliant (E1042A6) MOD to NES 518: Issue 3 DEF STAN 61-12 (Part 31) Issue 1 IEC 61386
HIGH TEMPERATURE		Static -50° C to 130° C Flexing -5° C to 130° C	Flame dies in less than 30 seconds after ignition source is removed	Flame resistance: (UL94V-2) Chemical and oil resistant	IEC 61386
LIMITED FIRE HAZARD FLEXIBLE		Static -25° C to 90° C Flexing -5° C to 90° C	Flame dies in less than 30 seconds after ignition source is removed	Limited fire hazard, zero halogen (BS6425 Pt. 1) EMC screening level: 60 dB at 1 MHz braided	LUL Fully Compliant (E1042A6) MOD to NES 518: Issue 3 DEF STAN 61-12 (Part 31) Issue 1 IEC 61386
HIGH FLEXIBILITY HIGH TEMPERATURE		Static -65° C to 150° C Flexing -45° C to 135° C	Flame dies in less than 30 seconds after ignition source is removed	High flexibility High temperature	IEC 61386

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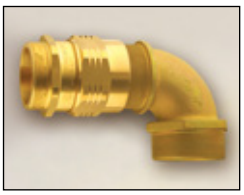
Liquidtight Metallic Flexible Conduits

BRITISH CONDUIT SIZE (MM)	16	20	25	32	40	50	63
US TRADE SIZE (IN.)	⅜	½	¾	1	1¼	1½	2
INSIDE DIAMETER (MM)	12.5	16.0	21.0	26.4	35.3	40.4	51.6
COIL LENGTHS (M)	10/30	10/30	10/30	10/20	10/20	10/20	10/20
COLOR							
BLACK	EXSB03*	EXSB04*	EXSB05*	EXSB06*	EXSB07*	EXSB08*	EXSB09*
BLACK	EXST03*	EXST04*	EXST05*	EXST06*	EXST07*	EXST08*	EXST09*
BLACK	EXSH03*	EXSH04*	EXSH05*	EXSH06*	EXSH07*	—	—
BLUE	EXSLLH03*	EXSLLH04*	EXSLLH05*	EXSLLH06*	EXSLLH07*	—	—
BLACK	EXSBBT03*	EXSBBT04*	EXSBBT05*	EXSBBT06*	EXSBBT07*	EXSBBT08*	EXSBBT09*
BLACK	EXSHC03*	EXSHC04*	EXSHC05*	EXSHC06*	EXSHC07*	EXSHC08*	EXSHC09*

** Add coil length to complete part number (e.g. 10 meters = EXLB0310).*

ATEX Flameproof Gland

See data sheets for full approval information.

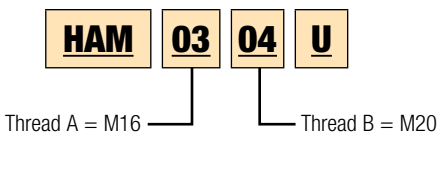
GROUPS, ZONES, CLASS & DIVISION		IP RATING	TEMPERATURE	APPROVALS
GROUPS I & II ZONES 1, 2, 21 AND 22 CLASS I DIV. 2 ABCD CLASS II DIV. 1 EFG	 *See **pages E-312–E-315** for suitable conduits.*	IP66	-60° C to 130° C	SIRA 09 ATEX 1231X IECEx SIRA 09.0103X Exde I Mb Exde IIC Gb Extb IIIC Db CSA File No. 2310045
GROUPS I & II ZONES 1, 2, 21 AND 22 CLASS I DIV. 1 BCD (RIGID CONDUIT ONLY) CLASS II DIV. 1 EFG	 *See **pages E-312–E-315** for suitable conduits.*	IP66	-60° C to 130° C	SIRA 09 ATEX 1231X IECEx SIRA 09.0103X Exde I Mb Exde IIC Gb Extb IIIC Db CSA File No. 2310045
UNIVERSAL GROUPS I & II ZONES 1, 2, 21 AND 22 CLASS I DIV. 1 BCD (RIGID CONDUIT ONLY) CLASS II DIV. 1 EFG	 *See **pages E-312–E-315** for suitable conduits.*	IP66	-60° C to 130° C	SIRA 09 ATEX 1231X IECEx SIRA 09.0103X Exde I Mb Exde IIC Gb Extb IIIC Db CSA File No. 2310045
UNIVERSAL SWIVEL GROUPS I & II ZONES 1, 2, 21 AND 22 CLASS I DIV. 1 BCD (RIGID CONDUIT ONLY) CLASS II DIV 1. EFG	 *For use with all conduits including rigid.*	IP66	-60° C to 130° C	SIRA 09 ATEX 1231X IECEx SIRA 09.0103X Exde I Mb Exde IIC Gb Extb IIIC Db CSA File No. 2310045

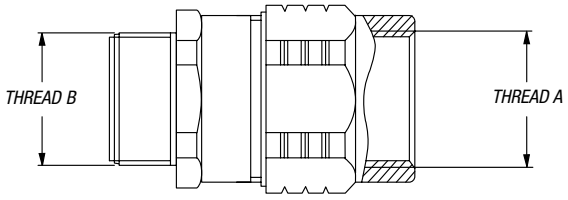
Groups I & II
Cat. No. Explanation

HAM = Metric Male Thread

HAA = NPT Male Thread

0304 = Thread Sizes





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Liquidtight Hazardous Location Glands

See **pages E-328–E-333** for Fitting Instructions.

BRITISH CONDUIT SIZE (MM)	16	20	25	32	40	50	63
METRIC THREAD SIZE (MM)	20	20	25	32	40	50	63
NPT THREAD SIZE (IN.)	⅜	½	¾	1	1¼	1½	2
METRIC - BRASS	HAM0304G1	HAM0404G1	HAM0505G1	HAM0606G1	HAM0707G1	HAM0808G1	HAM0909G1
METRIC - NICKEL-PLATED BRASS	HAMM0304G1	HAMM0404G1	HAMM0505G1	HAMM0606G1	HAMM0707G1	HAMM0808G1	HAMM0909G1
METRIC - STAINLESS STEEL	HAMS0304G1	HAMS0404G1	HAMS0505G1	HAMS0606G1	HAMS0707G1	HAMS0808G1	HAMS0909G1
NPT THREAD - BRASS	HAA0304G1	HAA0404G1	HAA0505G1	HAA0606G1	HAA0707G1	HAA0808G1	HAA0909G1
NPT THREAD - NICKEL-PLATED BRASS	HAAM0304G1	HAAM0404G1	HAAM0505G1	HAAM0606G1	HAAM0707G1	HAAM0808G1	HAAM0909G1
NPT THREAD - STAINLESS STEEL	HAAS0304G1	HAAS0404G1	HAAS0505G1	HAAS0606G1	HAAS0707G1	HAAS0808G1	HAAS0909G1
METRIC - BRASS	HAM0304E	HAM0404E	HAM0505E	HAM0606E	HAM0707E	HAM0808E	HAM0909E
METRIC - NICKEL-PLATED BRASS	HAMM0304E	HAMM0404E	HAMM0505E	HAMM0606E	HAMM0707E	HAMM0808E	HAMM0909E
NPT THREAD - BRASS	HAA0304E	HAA0404E	HAA0505E	HAA0606E	HAA0707E	HAA0808E	HAA0909E
NPT THREAD - NICKEL-PLATED BRASS	HAAM0304E	HAAM0404E	HAAM0505E	HAAM0606E	HAAM0707E	HAAM0808E	HAAM0909E
METRIC - BRASS	HAM0304U	HAM0404U	HAM0505U	HAM0606U	HAM0707U	HAM0808U	HAM0909U
METRIC - NICKEL-PLATED BRASS	HAMM0304U	HAMM0404U	HAMM0505U	HAMM0606U	HAMM0707U	HAMM0808U	HAMM0909U
METRIC - STAINLESS STEEL	HAMS0304U	HAMS0404U	HAMS0505U	HAMS0606U	HAMS0707U	HAMS0808U	HAMS0909U
NPT THREAD - BRASS	HAA0304U	HAA0404U	HAA0505U	HAA0606U	HAA0707U	HAA0808U	HAA0909U
NPT THREAD - NICKEL-PLATED BRASS	HAAM0304U	HAAM0404U	HAAM0505U	HAAM0606U	HAAM0707U	HAAM0808U	HAAM0909U
NPT THREAD - STAINLESS STEEL	HAAS0304U	HAAS0404U	HAAS0505U	HAAS0606U	HAAS0707U	HAAS0808U	HAAS0909U
METRIC - BRASS	HAM0304U/SW	HAM0404U/SW	HAM0505U/SW	HAM0606U/SW	HAM0707U/SW	HAM0808U/SW	HAM0909U/SW
METRIC - NICKEL-PLATED BRASS	HAMM0304U/SW	HAMM0404U/SW	HAMM0505U/SW	HAMM0606U/SW	HAMM0707U/SW	HAMM0808U/SW	HAMM0909U/SW
METRIC - STAINLESS STEEL	HAMS0304U/SW	HAMS0404U/SW	HAMS0505U/SW	HAMS0606U/SW	HAMS0707U/SW	HAMS0808U/SW	HAMS0909U/SW
NPT THREAD - BRASS	HAA0304U/SW	HAA0404U/SW	HAA0505U/SW	HAA0606U/SW	HAA0707U/SW	HAA0808U/SW	HAA0909U/SW
NPT THREAD - NICKEL-PLATED BRASS	HAAM0304U/SW	HAAM0404U/SW	HAAM0505U/SW	HAAM0606U/SW	HAAM0707U/SW	HAAM0808U/SW	HAAM0909U/SW
NPT THREAD - STAINLESS STEEL	HAAS0304U/SW	HAAS0404U/SW	HAAS0505U/SW	HAAS0606U/SW	HAAS0707U/SW	HAAS0808U/SW	HAAS0909U/SW

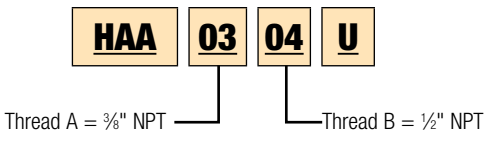
For thread conversion options, contact Technical Support.

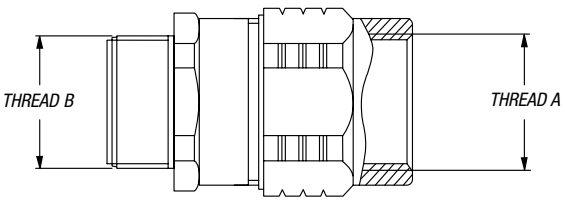
Universal Groups I & II Cat. No. Explanation

HAM = Metric Male Thread

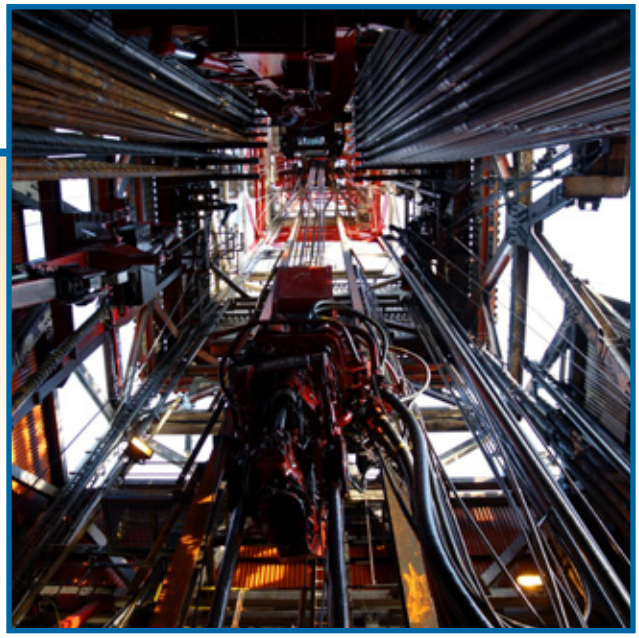
HAA = NPT Male Thread

0304 = Thread Sizes





Exd "Flameproof" and Exe "Increased Safety" Enlargers, Reducers and Thread Converters



Our comprehensive range of Adapters and Reducers provides a method of matching threadforms on hazardous area-approved equipment while ensuring the integrity and Ex approval of the installation is maintained.

The new Kopex-Ex™ line of converters meets the latest ATEX/IECEx and CSA/UL® standards. This means that all the standards are marked on the product around the main body, which allows for them to be seen easily once installed — a key component of the new standard.

Enlargers (/E) are used where the thread size of the female side of the device is larger than the male side

Reducers (/R) are used where the thread size of the female side of device is smaller than the male side

Thread Converters (/TC) are used where a conversion is required between thread types (e.g. metric to PG)

Kopex-Ex™ Enlargers, Reducers and Thread Converters are designed for hazardous area applications and are certified to protection concepts Exd "Flameproof" and Exe "Increased Safety" for use in Zone 1, 2, 21 and 22 applications under NEC® Class I Div. 1 ABCD Class II Div. 1 EFG.

For assembly instruction, see **page E-335**.

MALE EXTERNAL THREAD	METRIC FEMALE INTERNAL THREAD			
	M16	M20	M25	M32
M16		EX/M16-M20/E	EX/M16-M25/E	
M20	EX/M20-M16/R		EX/M20-M25/E	EX/M20-M32/E
M25	EX/M25-M16/R	EX/M25-M20/R		EX/M25-M32/E
M32	EX/M32-M16/R	EX/M32-M20/R	EX/M32-M25/R	
M40	EX/M40-M16/R	EX/M40-M20/R	EX/M40-M25/R	EX/M40-M32/R
M50	EX/M50-M16/R	EX/M50-M20/R	EX/M50-M25/R	EX/M50-M32/R
M63	EX/M63-M16/R	EX/M63-M20/R	EX/M63-M25/R	EX/M63-M32/R
M75	EX/M75-M16/R	EX/M75-M20/R	EX/M75-M25/R	EX/M75-M32/R
PG9	EX/PG9-M16/TC	EX/PG9-M20/TC		
PG11	EX/PG11-M16/TC	EX/PG11-M20/TC		
PG13	EX/PG13-M16/TC	EX/PG13-M20/TC		
PG16	EX/PG16-M16/TC	EX/PG16-M20/TC	EX/PG16-M25/TC	
PG21	EX/PG21-M16/TC	EX/PG21-M20/TC	EX/PG21-M25/TC	EX/PG21-M32/TC
PG29	EX/PG29-M16/TC	EX/PG29-M20/TC	EX/PG29-M25/TC	EX/PG29-M32/TC
PG36	EX/PG36-M16/TC	EX/PG36-M20/TC	EX/PG36-M25/TC	EX/PG36-M32/TC
PG42	EX/PG42-M16/TC	EX/PG42-M20/TC	EX/PG42-M25/TC	EX/PG42-M32/TC
PG48	EX/PG48-M16/TC	EX/PG48-M20/TC	EX/PG48-M25/TC	EX/PG48-M32/TC
NPT ⅜"	EX/038-M16/TC			
NPT ½"	EX/050-M16/TC	EX/050-M20/TC	EX/050-M25/TC	
NPT ¾"	EX/075-M16/TC	EX/075-M20/TC	EX/075-M25/TC	EX/075-M32/TC
NPT 1"	EX/100-M16/TC	EX/100-M20/TC	EX/100-M25/TC	EX/100-M32/TC
NPT 1¼"	EX/125-M16/TC	EX/125-M20/TC	EX/125-M25/TC	EX/125-M32/TC
NPT 1½"	EX/150-M16/TC	EX/150-M20/TC	EX/150-M25/TC	EX/150-M32/TC
NPT 2"	EX/200-M16/TC	EX/200-M20/TC	EX/200-M25/TC	EX/200-M32/TC
NPT 2½"	EX/250-M16/R	EX/250-M20/R	EX/250-M25/R	EX/250-M32/R
NPT 3"	EX/300-M16/R	EX/300-M20/R	EX/300-M25/R	EX/300-M32/R

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Enlargers, Reducers and Thread Converters

Connector Description

EX - Brass
EXN - Nickel-Plated Brass
EXS - Stainless Steel 316

IP Rating

IP66



Approvals

- Approved to Exe II and Exd IIc, Groups 1 and 2, Zones 1, 2, 21, 22
- ATEX Certification: BASEEFA 07 ATEX 0247X
- IECEx Certification: IECEx BAS07.0090X
- Approved to Class I Div. 1 ABCD Class II Div. 1 EFG (does not include M16 and ⅜" NPT or unplated brass products)
- UL® 1203
- CSA C22.2 No. 60079-04, C22.2 No. 60079-1

M40	M50	M63	M75
EX/M25-M40/E			
EX/M32-M40/E	EX/M32-M50/E		
	EX/M40-M50/E	EX/M40-M63/E	
EX/M50-M40/R		EX/M50-M63/E	EX/M50-M75/E
EX/M63-M40/R	EX/M63-M50/R		EX/M63-M75/E
EX/M75-M40/R	EX/M75-M50/R	EX/M75-M63/R	
EX/PG29-M40/TC			
EX/PG36-M40/TC	EX/PG36-M50/TC		
EX/PG42-M40/TC	EX/PG42-M50/TC	EX/PG42-M63/TC	
EX/PG48-M40/TC	EX/PG48-M50/TC	EX/PG48-M63/TC	
EX/100-M40/TC			
EX/125-M40/TC	EX/125-M50/TC		
EX/150-M40/TC	EX/150-M50/TC	EX/150-M63/TC	
EX/200-M40/TC	EX/200-M50/TC	EX/200-M63/TC	
EX/250-M40/R	EX/250-M50/R		
EX/300-M40/R	EX/300-M50/R		EX/300-M75/R

Enlargers, Reducers and Thread Converters *(continued)*

For assembly instruction, see **page E-335.**

MALE EXTERNAL THREAD	NPT FEMALE INTERNAL THREAD				
	NPT ⅜	NPT ½	NPT ¾	NPT 1	NPT 1¼
M16	EX/M16-038/TC	EX/M16-050/TC			
M20		EX/M20-050/TC	EX/M20-075/TC		
M25		EX/M25-050/TC	EX/M25-075/TC	EX/M25-100/TC	
M32		EX/M32-050/TC	EX/M32-075/TC	EX/M32-100/TC	EX/M32-125/TC
M40		EX/M40-050/TC	EX/M40-075/TC	EX/M40-100/TC	EX/M40-125/TC
M50		EX/M50-050/TC	EX/M50-075/TC	EX/M50-100/TC	EX/M50-125/TC
M63		EX/M63-050/TC	EX/M63-075/TC	EX/M63-100/TC	EX/M63-125/TC
M75		EX/M75-050/TC	EX/M75-075/TC	EX/M75-100/TC	EX/M75-125/TC
PG11		EX/PG11-050/TC			
PG13		EX/PG13-050/TC			
PG16		EX/PG16-050/TC	EX/PG16-075/TC		
PG21		EX/PG21-050/TC	EX/PG21-075/TC	EX/PG21-100/TC	
PG29		EX/PG29-050/TC	EX/PG29-075/TC	EX/PG29-100/TC	EX/PG29-125/TC
PG36		EX/PG36-050/TC	EX/PG36-075/TC	EX/PG36-100/TC	EX/PG36-125/TC
PG42		EX/PG42-050/TC	EX/PG42-075/TC	EX/PG42-100/TC	EX/PG42-125/TC
PG48		EX/PG48-050/TC	EX/PG48-075/TC	EX/PG48-100/TC	EX/PG48-125/TC
NPT ½"			EX/050-075/E		
NPT ¾"		EX/075-050/R		EX/075-100/E	
NPT 1"		EX/100-050/R	EX/100-075/R		EX/100-125/E
NPT 1¼"		EX/125-050/R	EX/125-075/R	EX/125-100/R	
NPT 1½"		EX/150-050/R	EX/150-075/R	EX/150-100/R	EX/150-125/R
NPT 2"		EX/200-050/R	EX/200-075/R	EX/200-100/R	EX/200-125/R
NPT 2½"		EX/250-050/R	EX/250-075/R	EX/250-100/R	EX/250-125/R
NPT 3"		EX/300-050/R	EX/300-075/R	EX/300-100/R	EX/300-125/R

MALE EXTERNAL THREAD	PG9	PG11	PG FEMALE INTERNAL THREAD		
			PG13	PG16	PG21
M16	EX/M16-PG9/TC	EX/M16-PG11/TC	EX/M16-PG13/TC		
M20	EX/M20-PG9/TC	EX/M20-PG11/TC	EX/M20-PG13/TC	EX/M20-PG16/TC	
M25	EX/M25-PG9/TC	EX/M25-PG11/TC	EX/M25-PG13/TC	EX/M25-PG16/TC	EX/M25-PG21/TC
M32	EX/M32-PG9/TC	EX/M32-PG11/TC	EX/M32-PG13/TC	EX/M32-PG16/TC	EX/M32-PG21/TC
M40	EX/M40-PG9/TC	EX/M40-PG11/TC	EX/M40-PG13/TC	EX/M40-PG16/TC	EX/M40-PG21/TC
M50	EX/M50-PG9/TC	EX/M50-PG11/TC	EX/M50-PG13/TC	EX/M50-PG16/TC	EX/M50-PG21/TC
M63	EX/M63-PG9/TC	EX/M63-PG11/TC	EX/M63-PG13/TC	EX/M63-PG16/TC	EX/M63-PG21/TC
M75	EX/M75-PG9/TC	EX/M75-PG11/TC	EX/M75-PG13/TC	EX/M75-PG16/TC	EX/M75-PG21/TC
PG11	EX/PG11-PG9/TC				
PG13	EX/PG13-PG9/TC	EX/PG13-PG11/TC			
PG16	EX/PG16-PG9/TC	EX/PG16-PG11/TC	EX/PG16-PG13/R		EX/P16-PG21/E
PG21	EX/PG21-PG9/TC	EX/PG21-PG11/TC	EX/PG21-PG13/R	EX/PG21-PG16/R	
PG29	EX/PG29-PG9/TC	EX/PG29-PG11/TC	EX/PG29-PG13/R	EX/PG29-PG16/R	EX/PG29-PG21/R
PG36	EX/PG36-PG9/TC	EX/PG36-PG11/TC	EX/PG36-PG13/R	EX/PG36-PG16/R	EX/PG36-PG21/R
PG42	EX/PG42-PG9/TC	EX/PG42-PG11/TC	EX/PG42-PG13/R	EX/PG42-PG16/R	EX/PG42-PG21/R
PG48	EX/PG48-PG9/TC	EX/PG48-PG11/TC	EX/PG48-PG13/R	EX/PG48-PG16/R	EX/PG48-PG21/R
NPT ½"	EX/050-PG9/TC	EX/050-PG11/TC	EX/050-PG13/TC	EX/050-PG16/TC	
NPT ¾"	EX/075-PG9/TC	EX/075-PG11/TC	EX/075-PG13/TC	EX/075-PG16/TC	EX/075-PG21/TC
NPT 1"	EX/100-PG9/TC	EX/100-PG11/TC	EX/100-PG13/TC	EX/100-PG16/TC	EX/100-PG21/TC
NPT 1¼"	EX/125-PG9/TC	EX/125-PG11/TC	EX/125-PG13/TC	EX/125-PG16/TC	EX/125-PG21/TC
NPT 1½"	EX/150-PG9/TC	EX/150-PG11/TC	EX/150-PG13/TC	EX/150-PG16/TC	EX/150-PG21/TC
NPT 2"	EX/200-PG9/TC	EX/200-PG11/TC	EX/200-PG13/TC	EX/200-PG16/TC	EX/200-PG21/TC

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Enlargers, Reducers and Thread Converters

NPT 1½	NPT 2	NPT 2½	NPT 3
EX/M40-150/TC			
EX/M50-150/TC	EX/M50-200/TC		
EX/M63-150/TC	EX/M63-200/TC		
EX/M75-150/TC	EX/M75-200/TC		
EX/PG29-150/TC			
EX/PG36-150/TC			
EX/PG42-150/TC	EX/PG42-200/TC		
EX/PG48-150/TC	EX/PG48-200/TC		
EX/125-150/E			
	EX/150-200/E		
EX/200-150/R			
EX/250-150/R	EX/250-200/R		EX/250-300/E
EX/300-150/R	EX/300-200/R	EX/300-250/R	

PG29	PG36	PG42	PG48
EX/PG21-PG29/E			
	EX/PG29-PG36/E		
EX/PG36-PG29/R		EX/PG36-PG48/E	
EX/PG42-PG29/R	EX/PG42-PG36/R		EX/PG42-PG48/E
EX/PG48-PG29/R	EX/PG48-PG36/R	EX/PG48-PG42/R	
EX/PG21-PG29/E			
	EX/PG29-PG36/E		
EX/PG36-PG29/R		EX/PG36-PG48/E	
EX/PG42-PG29/R	EX/PG42-PG36/R		EX/PG42-PG48/E
EX/PG48-PG29/R	EX/PG48-PG36/R	EX/PG48-PG42/R	
EX/100-PG29/TC			
EX/125-PG29/TC	EX/125-PG36/TC		
EX/150-PG29/TC	EX/150-PG36/TC	EX/150-PG42/TC	
EX/200-PG29/TC	EX/200-PG36/TC	EX/200-PG42/TC	EX/200-PG48/TC

Stopping Plugs

GROUPS, ZONES, CLASS & DIVISION			IP RATING	APPROVALS
GROUPS I & II ZONES 1, 2, 21 AND 22 CLASS I DIV. 1 ABCD CLASS II DIV. 1 EFG (UL® 1203 NICKEL-PLATED BRASS AND ST/ST ONLY)		Stopping Plug	IP66	BASEEFA 08 ATEX 6324 IECEx BAS08.0109X UL 1203 Exd I Exd IIC
GROUPS I & II ZONES 1, 2, 21 AND 22 CLASS I DIV. 1 ABCD CLASS II DIV. 1 EFG (UL® 1203 NICKEL-PLATED BRASS AND ST/ST ONLY)		Tamper-Proof Stopping Plug	IP66	BASEEFA 08 ATEX 6324 IECEx BAS08.0109X UL 1203 Exd I Exd IIC
GROUPS I & II ZONES 1, 2, 21 AND 22 CLASS I DIV. 1 ABCD CLASS II DIV. 1 EFG (UL® 1203 NICKEL-PLATED BRASS AND ST/ST ONLY)		Hex-Head Stopping Plug	IP66 for thread holes IP65 for plain holes -60° C to 80° C	BASEEFA 08 ATEX 0325X IECEx BAS08.0108X UL 1203 Exe I Exe II Extb IIIC
GROUPS I & II ZONES 1, 2, 21 AND 22 CLASS I DIV. 1 ABCD CLASS II DIV. 1 EFG (UL® 1203 NICKEL-PLATED BRASS AND ST/ST ONLY)		Dome-Top Stopping Plug	IP66 for thread holes IP65 for plain holes -60° C to 80° C	BASEEFA 08 ATEX 0325X IECEx BAS08.0108X UL 1203 Exe I Exe II Extb IIIC
GROUPS I & II ZONES 1, 2, 21 AND 22		Nylon Stopping Plug	IP66 for thread holes	SIRA 00 ATEX 1074X

Note: *For items ⅜ (M20) to ¾ (M25) with "US" in part number – UL Listed only.*
For items ⅜ (M20) to ¾ (M25) without "US" in part number – ATEX/IECEx only.
For items larger than ¾ (M25) – Dual Listed ATEX/IECEx and UL.

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Stopping Plugs

FOR BRASS — EX/ NICKEL-PLATED BRASS — EXN/ STAINLESS STEEL — EXS

See **page E-336** for Fitting Instructions.

NPT THREAD SIZE (IN.)	⅜	½	¾	1	1¼	1½	2		
METRIC THREAD SIZE (MM)	20	20	25	32	40	50	63		
PG THREAD SIZE	PG9	PG11	PG13	PG16	PG21	PG29	PG36	PG42	PG48
THREAD TYPE - NPT	EX/038/SP	EX/050/SP	EX/075/SP	EX/100/SP	EX/125/SP	EX/150/SP	EX/200/SP	—	—
THREAD TYPE - METRIC	EX/M16/SP	EX/M20/SP	EX/M25/SP	EX/M32/SP	EX/M40/SP	EX/M50/SP	EX/M63/SP	—	—
THREAD TYPE - PG	EX/PG9/SP	EX/PG11/SP	EX/PG13/SP	EX/PG16/SP	EX/PG21/SP	EX/PG29/SP	EX/PG36/SP	EX/PG42/SP	EX/PG48/SP
THREAD TYPE - NPT	EXUS/038/SP-NP	EXUS/050/SP	EXUS/075/SP	—	—	—	—	—	—
THREAD TYPE - NPT	—	EXNUS/050/SP	EXNUS/075/SP	—	—	—	—	—	—
THREAD TYPE - NPT	—	EXUS/050/SP-UP	EXUS/075/SP-UP	—	—	—	—	—	—
THREAD TYPE - METRIC	—	EXUS/M20/SP	EXUS/M25/SP	—	—	—	—	—	—
THREAD TYPE - METRIC	—	EXNUS/M20/SP	EXNUS/M25/SP	—	—	—	—	—	—
THREAD TYPE - METRIC	—	EXSUS/M20/SP	—	—	—	—	—	—	—
THREAD TYPE - METRIC	—	EXSUS/M20/SP-Z	—	—	—	—	—	—	—
THREAD TYPE - METRIC	—	EXUS/M20/SP-UP	EXUS/M25/SP-UP	—	—	—	—	—	—
THREAD TYPE - METRIC	—	EXUS/M20/SP-NP	EXUS/M25/SP-NP	—	—	—	—	—	—
THREAD TYPE - NPT	EX/038/TSP	EX/050/TSP	EX/075/TSP	EX/100/TSP	EX/125/TSP	EX/150/TSP	EX/200/TSP	—	—
THREAD TYPE - METRIC	EX/M16/TSP	EX/M20/TSP	EX/M25/TSP	EX/M32/TSP	EX/M40/TSP	EX/M50/TSP	EX/M63/TSP	—	—
THREAD TYPE - PG	EX/PG9/TSP	EX/PG11/TSP	EX/PG13/TSP	EX/PG16/TSP	EX/PG21/TSP	EX/PG29/TSP	EX/PG36/TSP	EX/PG42/TSP	EX/PG48/TSP
THREAD TYPE - NPT	—	EXUS/050/TSP	EXUS/075/TSP	—	—	—	—	—	—
THREAD TYPE - NPT	—	EXNUS/050/TSP	EXNUS/075/TSP	—	—	—	—	—	—
THREAD TYPE - NPT	—	EXNUS/050/TSP-UP	EXNUS/075/TSP-UP	—	—	—	—	—	—
THREAD TYPE - NPT	—	EXNUS/050/TSP-NP	EXNUS/075/TSP-NP	—	—	—	—	—	—
THREAD TYPE - METRIC	—	EXUS/M20/TSP	EXUS/M25/TSP	—	—	—	—	—	—
THREAD TYPE - METRIC	—	EXNUS/M20/TSP	EXNUS/M25/TSP	—	—	—	—	—	—
THREAD TYPE - METRIC	—	EXUS/M20/TSP-UP	EXUS/M25/TSP-UP	—	—	—	—	—	—
THREAD TYPE - METRIC	—	EXUS/M20/TSP-NP	EXUS/M25/TSP-NP	—	—	—	—	—	—
THREAD TYPE - METRIC	EX/M16/HSP	EX/M20/HSP	EX/M25/HSP	EX/M32/HSP	EX/M40/HSP	EX/M50/HSP	EX/M63/HSP	—	—
THREAD TYPE - PG	EX/PG9/HSP	EX/PG11/HSP	EX/PG13/HSP	EX/PG16/HSP	EX/PG21/HSP	EX/PG29/HSP	EX/PG36/HSP	EX/PG42/HSP	EX/PG48/HSP

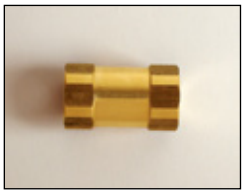
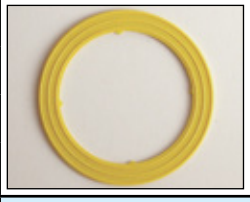
Products supplied with sealing washers and "O" rings.

THREAD TYPE - METRIC	EX/M16/DSP	EX/M20/DSP	EX/M25/DSP	EX/M32/DSP	EX/M40/DSP	EX/M50/DSP	EX/M63/DSP	—	—
THREAD TYPE - PG	EX/PG9/DSP	EX/PG11/DSP	EX/PG13/DSP	EX/PG16/DSP	EX/PG21/DSP	EX/PG29/DSP	EX/PG36/DSP	EX/PG42/DSP	EX/PG48/DSP

Products supplied with sealing washers and "O" rings.

THREAD TYPE - METRIC	EX-M16	EX-M20	EX-M25	EX-M32	EX-M40	EX-M50	EX-M63	—	—
THREAD TYPE - PG	EX-PG9	EX-PG11	EX-PG13	EX-PG16	EX-PG21	EX-PG29	EX-PG36	EX-PG42	—

Index Exe Cable Glands, Sealing Washers and Locknuts

		CONNECTOR DESCRIPTION	IP RATING	APPROVALS	THREAD TYPE — METRIC NPT
HAZARDOUS AREA INDEX EEXE CABLE GLAND		Grilon 2 R40 GM Santroprene® Seal	IP68	SIRA 00 ATEX 1072X Ex ATEX II2GD EExeII	**ORDERING CODE**
COUPLER		EX Brass EXN Nickel-Plated Brass EXS Stainless Steel 316	IP66	BASEEFA 08 ATEX 0359U IECEx BAS08.0121U -60° C to 200° C UL1203	**THREAD SIZE - METRIC** **THREAD SIZE - NPT**
HEX LOCKNUT METRIC		EX Brass EXN Nickel-Plated Brass EXS Stainless Steel 316	**MATERIAL** Stainless Steel Brass Nickel-Plated Brass		
HEX LOCKNUT NPT		EX Brass EXN Nickel-Plated Brass EXS Stainless Steel 316	**MATERIAL** Brass/Nickel Plated		**THREAD TYPE - NPT** Dimension across Flats (mm)
SEALING JOINT WASHER METRIC			**MATERIAL** Nylon Metric Approved for Use with All ATEX/IECEx Products		Outside Diameter (mm) Thickness (mm)
EARTH TAG			**MATERIAL** Brass		

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Index Exe Cable Glands, Sealing Washers and Locknuts

M16	M20	M25	M32	M40	M50	M63	M75
⅜"	½"	¾"	1"	1¼"	1½"	2"	2½"
EX-8160	EX-8240	EX-8560	EX-8640	EX-8720	EX-8800	—	—
EX/M16/C	EX/M20/C	EX/M25/C	EX/M32/C	EX/M40/C	EX/M50/C	EX/M63/C	EX/M75/C
EX/038/C	EX/050/C	EX/075/C	EX/100/C	EX/M125/C	EX/M150/C	EX/M200/C	EX/250/C
—	MXWH04	MXWH05	MXWH06	MXWH07	MXWH08	—	—
WHMB03	WHMB04	WHMB05	WHMB06	WHMB07	WHMB08	—	—
WHMM03	WHMM04	WHMM05	WHMM06	WHMM07	WHMM08	WHMM09	—
—	WHAM04	WHAM05	WHAM06	WHAM07	WHAM08	WHAM09	—
22.0	26.0	34.3	41.5	52.0	66.5	84.5	—
1.6	1.6	1.7	1.7	2.0	2.0	2.0	—
EXFM03	EXFM04	EXFM05	EXFM06	EXFM07	EXFM08	EXFM09	—
EXFM03	EXFM04	EXFM05	EXFM06	EXFM07	EXFM08	—	—
EX/M16/TAG	EX/M20/TAG	EX/M25/TAG	EX/M32/TAG	EX/M40/TAG	EX/M53/TAG	EX/M63/TAG	EX/M75/TAG

Fitting Instructions for Index EExe Hazardous Area Cable Glands

Installation:

INTO NON-THREADED ENCLOSURE

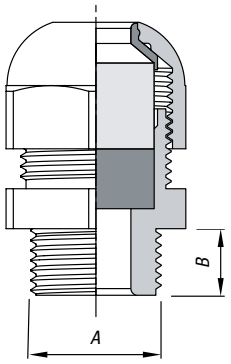
Unscrew cap and remove sealing ring. The molded dust shield must be removed. (A screwdriver or similar tool may be a useful aid.) Replace the seal (external chamfer to the cap). Replace the cap and give it half a turn. Pass the cable the required distance through the gland and tighten cap onto body. The tightening action will cause the seal to deform and close onto the cable. The entry thread is passed into the enclosure and the nut fitted. Use cable clamps to secure the cable.

THREADED ENCLOSURE

Unscrew cap and remove sealing ring. The molded dust shield must be removed. (A screwdriver or similar tool may be a useful aid.) Screw the body into the enclosure and tighten. Replace the grip and seal (external chamfer to the cap). Replace the cap and give half a turn. Pass the cable through the gland to the required distance and tighten the cap. The tightening action will cause the seal to deform and close onto the cable. Use cable clamps to secure the cable.

Routine Checking and Maintenance:

Nylon glands are items that, once assembled, do not require maintenance. An occasional check to ensure cable has not been damaged or pulled is advisable.



Nr	A	B	MAX.	MIN.
EX-8160	M16	9.0	8.0	5.0
EX-8240	M20	10.0	13.0	8.0
EX-8560	M25	11.0	19.0	13.0
EX-8640	M32	12.0	25.0	18.0
EX-8720	M40	14.0	32.0	24.0
EX-8800	M50	16.0	38.0	29.0

Fitting Instructions for Exe Non-Metallic Conduits

Kopex will not take responsibility for any damage, injury or form of loss caused where products are not installed or used as detailed in these instructions. If in doubt, contact Thomas & Betts Technical Support for advice.

Product Certification

PART NO.	ATEX CERT.	IECEX CERT.	OPERATING TEMP.	IP RATING
EXBQ/EXPQ	BASEEFA 08 ATEX 0003X	IECEx BAS08.0001X	-20° C to 80° C	IP66

Note: *For ingress protection above IP54, the use of a sealing washer or thread sealant is recommended.*

Specifications

In accordance with IEC60079-0, IEC60079-7, EN60079-0, EN600797, IEC61241-0, IEC61241-1, EN61241-0, EN61241-1

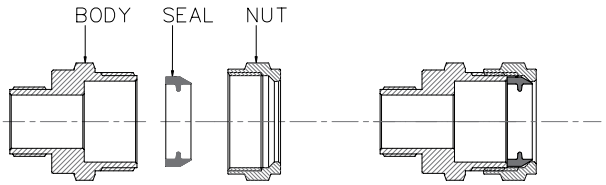
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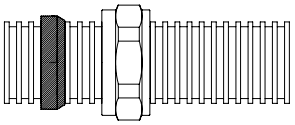
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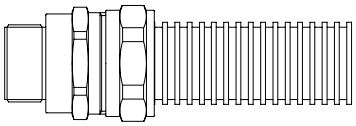
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Fitting Instructions for Non-Metallic EXPQ







Apply nut and seal over conduit, ensuring chamfered edge of seal is facing towards nut. Seal to be positioned three corrugations in from the end of the conduit.

If using with plain hole, fully tighten nut onto body to secure gland onto conduit.

If using with threaded entry, leave nut loose to allow gland to freely rotate about the conduit. Screw body into entry, then fully tighten nut to complete installation.

Marking Details

Components will be marked in the following format.

CMPL BASEEFA08 ATEX0003X Ex ATEX II 2GD Exe II
ExtD IIC A21 IP66 -20 to 80 °Z (year of manufacture) B46 1HT CE
1180 IECEx BAS08.0001X (type designation)

CMPL BASEEFA08 ATEX0003X Ex ATEX II 2GD Exe II
ExtD IIC A21 IP66 -20 to 80 °C) 08 B46 1HT CE
1180 IECEx BAS08.0001X EXBQM0808

Notes:

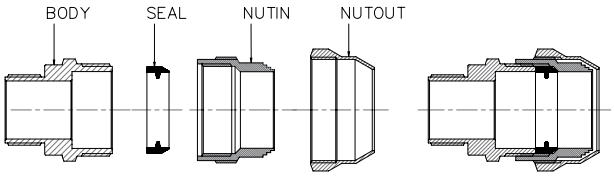
Ensure that the product is certified to the same method of protection as the equipment to which it is to be installed.

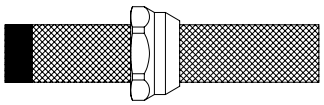
Ensure that the product can maintain the same ingress protection levels as the equipment to which it is to be installed.

Exe equipment should not be used with Exd equipment.

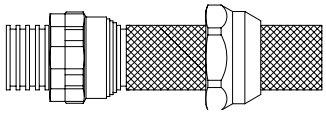
This equipment consists of discharging material and is therefore not suitable as an insulating medium.

Fitting Instructions for Non-Metallic Braided EXBQ

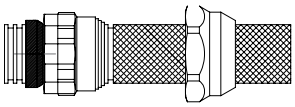




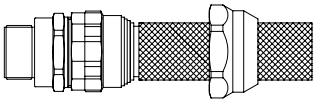
Wrap sellotape around conduit and cut to length required.
Apply the “nut out” over the braiding before removing tape.



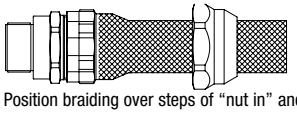
Remove tape and pull back braided sheath.
Apply “nut in” so that approximately five convolutions protrude.



Apply seal with chamfered edge towards the “nut in” three corregations in from the end of the conduit.



Loosely assemble body into the “nut in.”
If using with a plain hole, fully tighten nut into body to secure gland on conduit.
If using with a threaded entry, leave nut loose to allow gland to freely rotate about the conduit. Screw body into entry, then fully tighten nut.



Position braiding over steps of “nut in” and secure with “nut out” ensuring braid is trapped between the nuts.

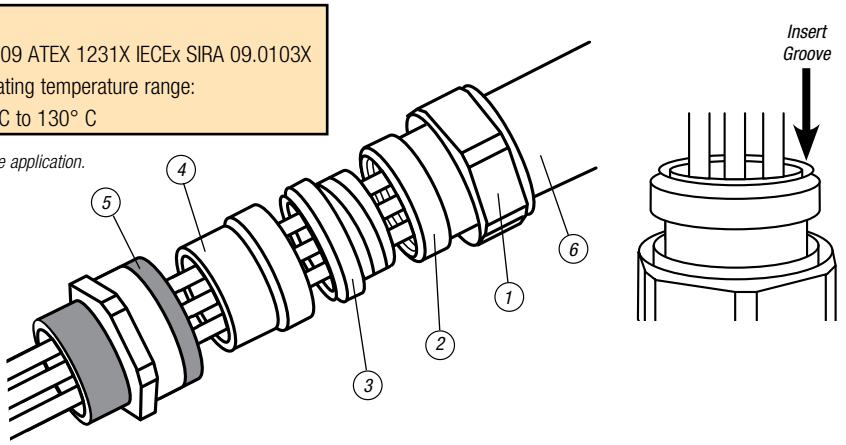
Special Conditions for Safe Use:

When the gland is used for increased safety or dust protection, the entry of the enclosure and the female thread of the gland is to be sealed (in accordance with IEC60079-14) in order to maintain the ingress protection rating of the associated enclosure.

Fitting Instructions for Exd I and IIC/Exe I and II/Extb IIIC Group I Cable Gland

Certification Details	
Approved in Exd I and IIC/Exe I and II/Extb IIIC	SIRA 09 ATEX 1231X IECEx SIRA 09.0103X
CSA Class I Div. 2 ABCD;	Operating temperature range:
Class II Div. 1 EFG	-60º C to 130° C

IMPORTANT: *Ensure cables have suitable temperature rating for the application.*



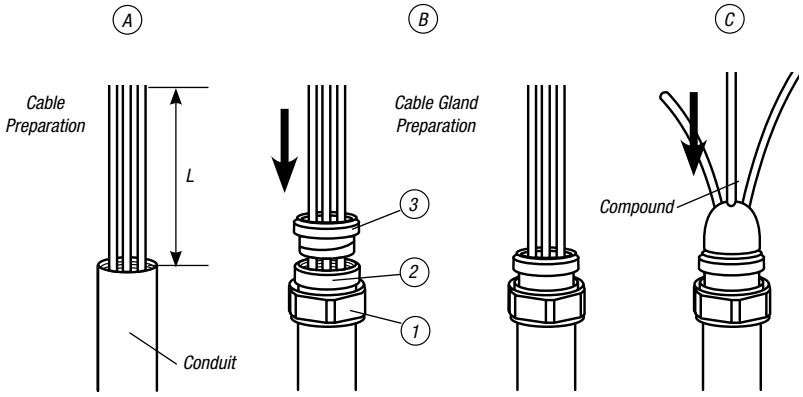
1. Backnut
2. Olive
3. Insert
4. Pot
5. Body
6. Conduit

Conduit Preparation

A. Cut conduit square using a hacksaw with a minimum of 30 teeth per inch. Pull sufficient length "L" of conductors to suit equipment and twist to form a helix, which provides maximum flexibility.

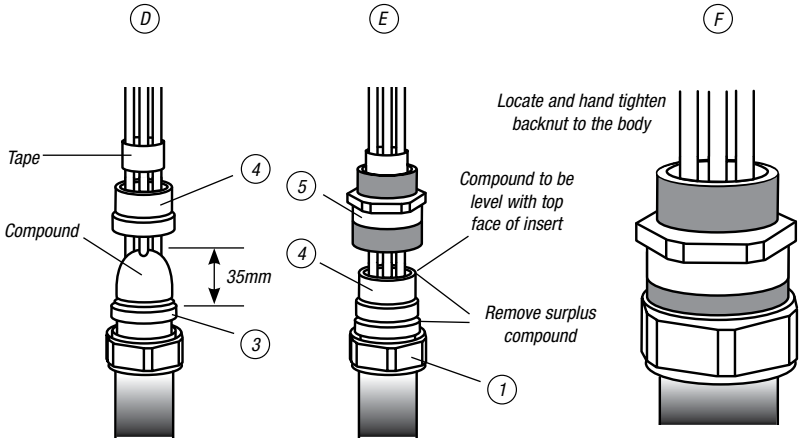
B. Pass backnut (1) and olive (2) over the conduit and conductors. Pass insert (3) over the conductors and screw into the conduit (6). Remove the pot (4) from the body (5) and pass the body (5) over the conductors. Assemble the gland. Fully tighten backnut (1) onto body (5) over the conductors, until the olive (2) is locked onto the conduit (6), then remove body (5).

C. Spread the conductors out for the compound packing. Pack the compound between the conductors as shown (see Epoxy Compound Preparation on **page E-329**).



IMPORTANT: Ensure putty fully fills insert groove.

D. With all gaps and voids filled, bring the conductors back together and pack more compound around the outside of the conductors. Tape the conductors together to prevent disturbance of the compound seal. Pass the pot (4) over the insert (3) and push until it fully locates over the insert shoulder. Push excess compound into the insert (3) and add additional amount if required. Remove all surplus compound from the top of the pot (4) and the joint face as indicated.



IMPORTANT: All surplus compound must be removed.

E. Pass the conductors through the body (5), which may have been previously fitted into the equipment. Ensure that compound does not cover end of pot (4).

F. Locate and hand tighten backnut (1) to the body.

G. Allow the compound to cure. (See Fig. 7 on **page E-329** for curing times.) To hard mass: 3 to 4 hours @ 20º C to 30º C. For optimum properties: 12 to 24 hours @ 20º C to 30º C.

IMPORTANT: The conductors must not be moved for a minimum of four hours.

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Technical Information

Epoxy Compound Preparation

Gloves supplied must be worn when handling this material. The epoxy compound is supplied in the form of a two-part package. These should be mixed into the ratio of 1:1 until both colors have blended into one, without any streaks. Rolling and folding is the most satisfactory method of obtaining an even blend. Once mixed, the compound must be used within 30 minutes. After this time it will begin to stiffen. The compound should be kept at an ambient temperature of no less than 20° C prior to using. At lower temperatures it becomes difficult to mix. Should any compound come into contact with the skin, it should be cleaned off with a skin cleaner and not be allowed to dry on the skin. Only compound for immediate terminations should be mixed.

- The compound may be adversely affected by some solvent vapors. If such vapors are likely to be present in the vicinity of the cable gland in service, suitable precautions may be necessary.
- The compound cures at a Shore D hardness of 85, when it can be handled. When used in the HA cable gland, shown here, the compound when fully cured is suitable for use at a temperature range of -60° C to 130° C.
- NOTE: Curing time will be extended when the ambient temperature is below 20° C. This must be taken into account.

Special Conditions for Use:

1. The cable gland has an operating temperature of -60° C to 130° C.
2. A seal must be formed between the equipment and the cable gland to maintain the appropriate degree of protection against ingress of dust, solid objects and water.

Accessories:

Before carrying out the cable gland assembly or stripping of the cable gland assembly, consideration should be given to any cable gland accessories that may be required, such as:

- Locknut, to secure cable glands into position
- Sealing washer, to offer additional ingress protection of the enclosure at the cable gland entry
- Earthtag, to provide an external armor/braid bonding point
- Serrated washer, to dampen any vibrations that may loosen the locknut or cable gland assembly

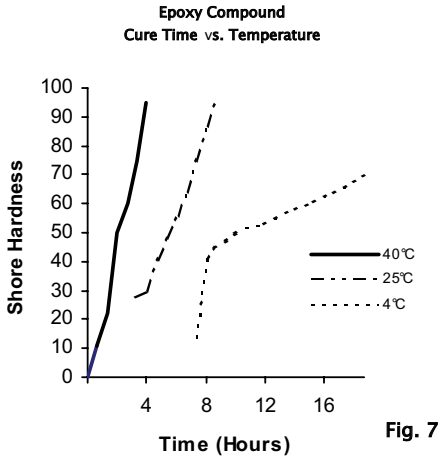


Fig. 7

FLEXIBILE CONDUIT GLAND SELECTION TABLE

SIZE REF. (CONDUIT SIZE)	KOPEX REF.	GLAND BODY ACROSS FLATS	GLAND BODY ACROSS CORNERS	GLAND NUT ACROSS FLATS	GLAND NUT ACROSS CORNERS	METRIC/NPT	MAX. DIA. OVER CORES	MAX. DIA. OVER SINGLE CORE	MAX. NO. OF CORES	OVERALL LENGTH
16/⅜"	HAM*0304G1 HAA*0304G1	28.6	31.0	32.0	34.0	M20 ½"	10.5	10.0	9	50.0
20/½"	HAM*0404G1 HAA*0404G1	28.6	31.0	32.0	34.0	M20 ½"	13.0	13.0	15	50.0
25/¾"	HAA*0505G1 HAA*0505G1	34.0	37.0	34.0 34.9 SS	37.0	M25 ¾"	17.9	17.9	28	50.0
32/1"	HAM*0606G1 HAA*0606G1	42.0	45.0	42.0 42.4 SS	45.0	M32 1"	24.0	24.0	50	50.0
40/1¼"	HAM*0707G1 HAA*0707G1	50.0	54.0	52.0	57.0	M40 1¼"	32.0	32.0	75	56.0
50/1½"	HAM*0808G1 HAA*0808G1	60.0	64.0	60.0	64.0	M50 1½"	35.0	35.0	80	58.0
63/2"	HAM*0909G1 HAA*0909G1	70.0	76.0	70.0 69.8 SS	76.0	M63 2"	45.0	45.0	100	70.0

Special Note: *For CSA Applications, conduit installations should be in accordance with C22.1.*

Fitting Instructions for Group I Universal Cable Gland

Certification Details	
Exd I and IIC/Exe I and II/Extb IIIC	SIRA 09 ATEX 1231X IECEx SIRA 09.0103X
CSA Class I Div. 1 BCD;	Operating temperature range:
Class II Div. 1 EFG	-60° C to 130° C

IMPORTANT: *Ensure cables have suitable temperature rating for the application.*

1. Universal Nut
2. Pot
3. Insert
4. Body

A. Pass nut (1) and insert (3) over the conductors. Spread conductors out so that the compound can be packed into the center (see Epoxy Compound Preparation on **page E-331**).

B. Pack the center of conductors with compound to a height of at least 15mm.

C. With all gaps and voids filled, bring the conductors back together and pack more compound around the outside of the conductors. Ensure that the face groove of the insert is fully filled with compound. Tape the conductors together to prevent disturbance of the compound seal. Pass the pot (2) over the insert (3) and push until it fully locates over the insert shoulder. Push excess compound into the insert and add additional if required. Remove all surplus compound from the top of the pot (2). Remove all compound from around the insert "O" ring.

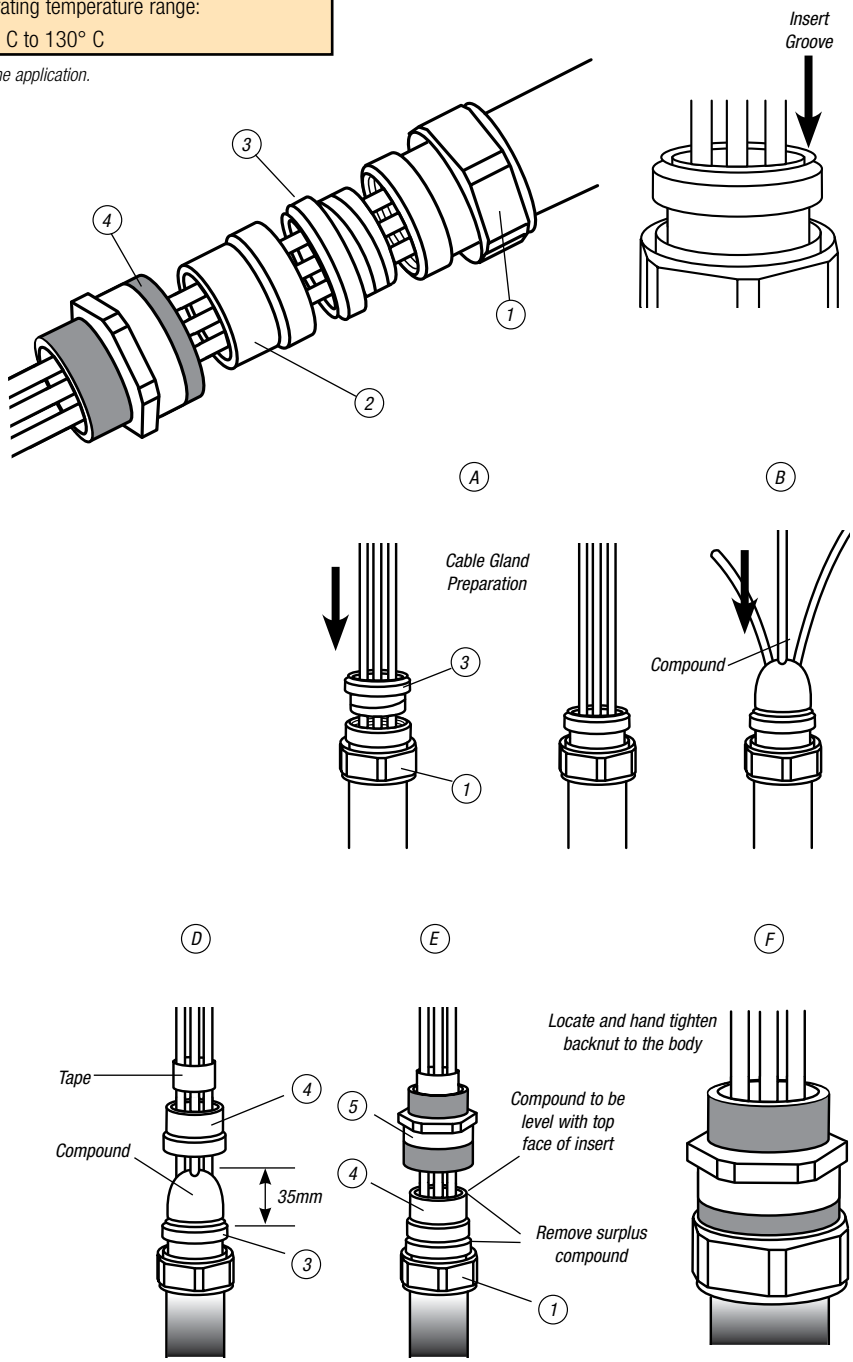
IMPORTANT: All surplus compound must be removed.

D. Pass the conductors through the body (4), which may have been previously fitted into the equipment. Ensure that compound does not cover end of pot (2).

E. Locate and hand tighten universal nut (1) to the body (4).

F. Allow the compound to cure. (See Fig. 7 on **page E-331** for curing times.) To hard mass: 3 to 4 hours @ 20° C to 30° C. For optimum properties: 12 to 24 hours @ 20° C to 30° C.

IMPORTANT: The conductors must not be moved for a minimum of four hours.



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Technical Information

Epoxy Compound Preparation

Gloves supplied must be worn when handling this material. The epoxy compound is supplied in the form of a two-part package. These should be mixed into the ratio of 1:1 until both colors have blended into one, without any streaks. Rolling and folding is the most satisfactory method of obtaining an even blend. Once mixed, the compound must be used within 30 minutes. After this time it will begin to stiffen. The compound should be kept at an ambient temperature of no less than 20° C prior to using. At lower temperatures it becomes difficult to mix. Should any compound come into contact with the skin, it should be cleaned off with a skin cleaner and not be allowed to dry on the skin. Only compound for immediate terminations should be mixed.

- The compound may be adversely affected by some solvent vapors. If such vapors are likely to be present in the vicinity of the cable gland in service, suitable precautions may be necessary.
- The compound cures at a Shore D hardness of 85, when it can be handled. When used in the HA cable gland, shown here, the compound when fully cured is suitable for use at a temperature range of -60° C to 130° C.
- NOTE: Curing time will be extended when the ambient temperature is below 20° C. This must be taken into account.

Special Conditions for Use:

1. The cable gland has an operating temperature of -60° C to 130° C.
2. A seal must be formed between the equipment and the cable gland to maintain the appropriate degree of protection against ingress of dust, solid objects and water.

Accessories:

Before carrying out the cable gland assembly or stripping of the cable gland assembly, consideration should be given to any cable gland accessories that may be required, such as:

- Locknut, to secure cable glands into position
- Sealing washer, to offer additional ingress protection of the enclosure at the cable gland entry
- Earthtag, to provide an external armor/braid bonding point
- Serrated washer, to dampen any vibrations that may loosen the locknut or cable gland assembly

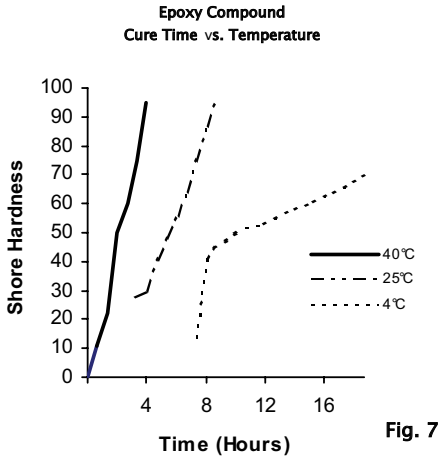


Fig. 7

C SP US ATEX IECEx

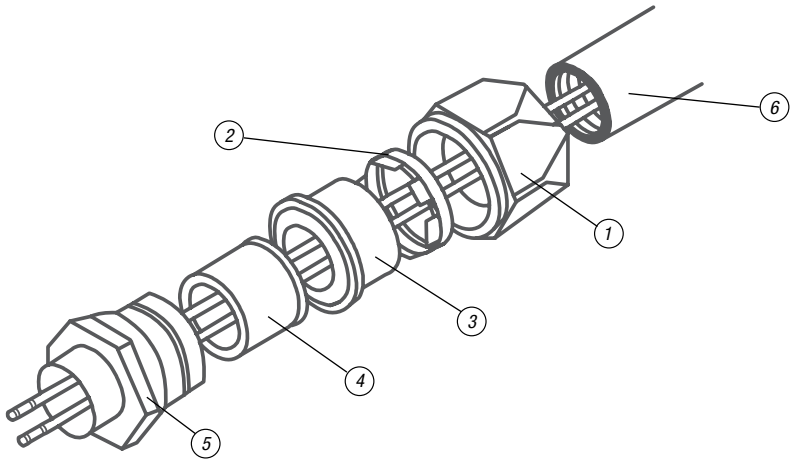
FLEXIBILE CONDUIT GLAND SELECTION TABLE

SIZE REF. (CONDUIT SIZE)	KOPEX REF.	GLAND BODY ACROSS FLATS	GLAND BODY ACROSS CORNERS	GLAND NUT ACROSS FLATS	GLAND NUT ACROSS CORNERS	METRIC/NPT	MAX. DIA. OVER CORES	MAX. DIA. OVER SINGLE CORE	MAX. NO. OF CORES	OVERALL LENGTH
16/⅜"	HAM*0304U HAA*0304U	28.6	31.0	32.0	34.0	M20 ½"	10.5	10.0	9	50.0
20/½"	HAM*0404U HAA*0404U	28.6	31.0	32.0	34.0	M20 ½"	13.0	13.0	15	50.0
25/¾"	HAA*0505U HAA*0505U	34.0	37.0	34.0 34.9 SS	37.0	M25 ¾"	17.9	17.9	28	50.0
32/1"	HAM*0606U HAA*0606U	42.0	45.0	42.0 42.4 SS	45.0	M32 1"	24.0	24.0	50	50.0
40/1¼"	HAM*0707U HAA*0707U	50.0	54.0	52.0	57.0	M40 1¼"	32.0	32.0	75	56.0
50/1½"	HAM*0808U HAA*0808U	60.0	64.0	60.0	64.0	M50 1½"	35.0	35.0	80	58.0
63/2"	HAM*0909U HAA*0909U	70.0	76.0	70.0 69.8 SS	76.0	M63 2"	45.0	45.0	100	70.0

Special Note: *For CSA Applications, conduit installations should be in accordance with C22.1.*

Fitting Instructions for Exd/Exe II Group II Cable Gland

1. Backnut
2. Gland Ring
3. Spigot/Fixed Coupler
4. Rubber Pot
5. Entry
6. Conduit (Kopex)

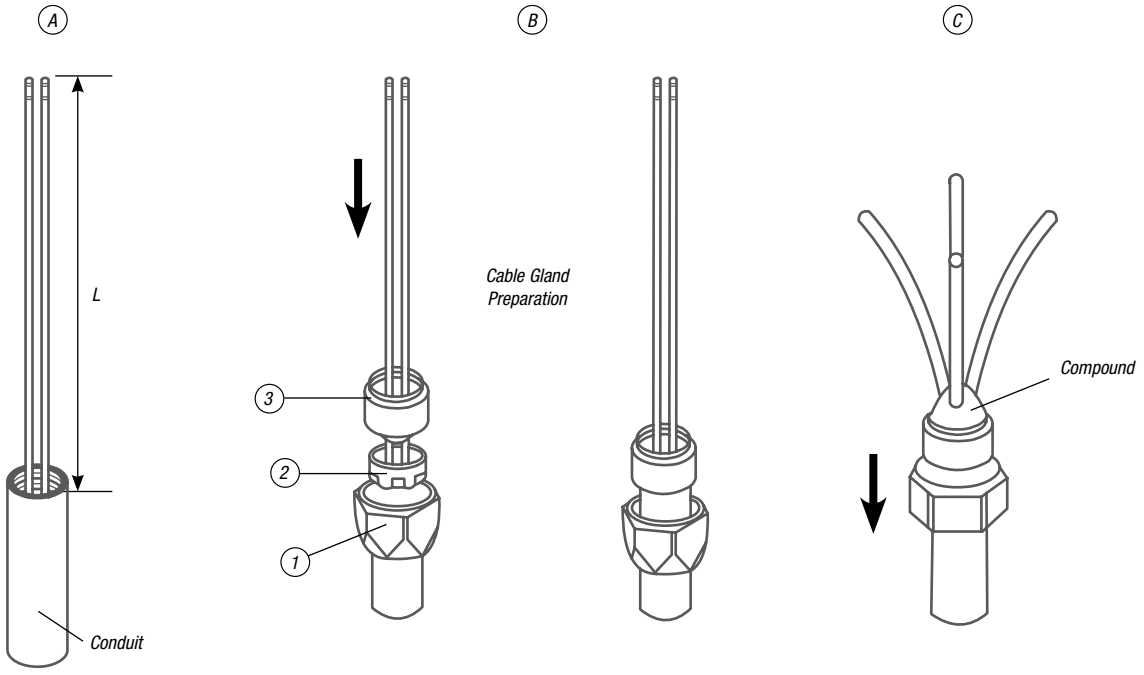


Conduit Preparation

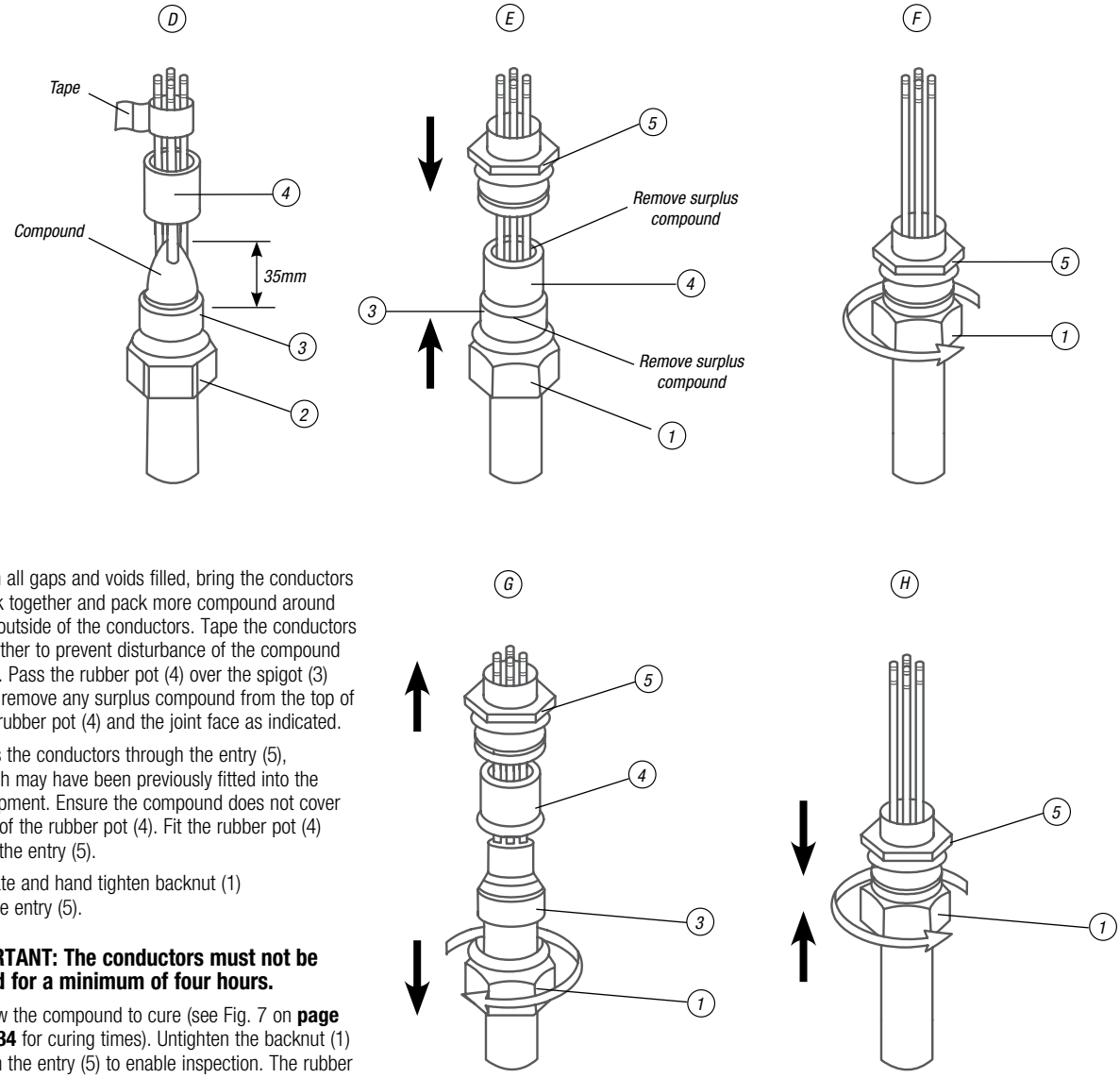
A. Cut conduit square using a hacksaw with a minimum of 30 teeth per inch. Pull sufficient length (L) of conductors to suit equipment and twist to form a helix, which provides maximum flexibility.

B. Pass backnut (1) and gland ring (2) over the conduit and conductors, ensuring that the cutouts of the gland ring face the enclosures. Pass spigot/fixed coupler (3) over the conductors and screw into the conduit (6). Remove the rubber pot (4) from the entry (5) and pass the entry (5) over the conductors. Assemble the gland and tighten backnut (1) onto entry (5) until the gland ring (2) is drawn into the spigot (3), then remove entry (5).

C. Spread the conductors out for the compound packing. Pack the compound between the conductors as shown (see Epoxy Compound Preparation on **page E-334**).



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D. With all gaps and voids filled, bring the conductors back together and pack more compound around the outside of the conductors. Tape the conductors together to prevent disturbance of the compound seal. Pass the rubber pot (4) over the spigot (3) and remove any surplus compound from the top of the rubber pot (4) and the joint face as indicated.

E. Pass the conductors through the entry (5), which may have been previously fitted into the equipment. Ensure the compound does not cover end of the rubber pot (4). Fit the rubber pot (4) into the entry (5).

F. Locate and hand tighten backnut (1) to the entry (5).

IMPORTANT: The conductors must not be moved for a minimum of four hours.

G. Allow the compound to cure (see Fig. 7 on **page E-334** for curing times). Untighten the backnut (1) from the entry (5) to enable inspection. The rubber pot (4) may be removed for inspection to ensure that the compound packing is satisfactory. Add further compound if necessary.

H. Re-assemble the rubber pot (4) and the entry (5). Hand tighten the backnut (1) onto the entry (5) and add half a turn with a spanner/wrench.

See **page E-334** for epoxy compound preparation.

Group II Gland Expoxy Compound Preparation

Epoxy Compound Preparation

Gloves supplied must be worn when handling this material. The epoxy compound is supplied in the form of a two-part package. These should be mixed into the ratio of 1:1 until both colors have blended into one, without any streaks. Rolling and folding is the most satisfactory method of obtaining an even blend. Once mixed, the compound must be used within 30 minutes. After this time it will begin to stiffen. The compound should be kept at an ambient temperature of no less than 20° C prior to using. At lower temperatures it becomes difficult to mix. Should any compound come into contact with the skin, it should be cleaned off with a skin cleaner and not be allowed to dry on the skin. Only compound for immediate terminations should be mixed. The mixing and installation of the compound at an ambient temperature below 4º C is not recommended due to extended curing periods.

- The compound may be adversely affected by some solvent vapors. If such vapors are likely to be present in the vicinity of the cable gland in service, suitable precautions may be necessary.
- The compound cures at a Shore D hardness of 85, when it can be handled. When used in the HA cable gland, shown here, the compound when fully cured is suitable for use at a temperature range of -60° C to 130° C.

Special Conditions for Use:

1. The cable gland has an operating temperature of -60° C to 130° C.
2. A seal must be formed between the equipment and the cable gland to maintain the appropriate degree of protection against ingress of dust, solid objects and water.

Accessories:

Before carrying out the cable gland assembly or stripping of the cable gland assembly, consideration should be given to any cable gland accessories that may be required, such as:

- Locknut, to secure cable glands into position
- Sealing washer, to offer additional ingress protection of the enclosure at the cable gland entry
- Earthtag, to provide an external armor/braid bonding point
- Serrated washer, to dampen any vibrations that may loosen the locknut or cable gland assembly

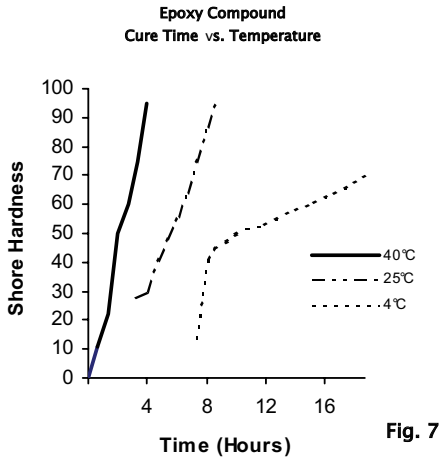


Fig. 7

FLEXIBILE CONDUIT GLAND SELECTION TABLE

SIZE REF. (CONDUIT SIZE)	KOPEX REF.	ACROSS FLATS	ACROSS CORNERS	METRIC/NPT	MAX. DIA. OVER CORES	MAX. NO. OF CORES	OVERALL LENGTH MAX.	OVERALL LENGTH MIN.
	HAM*0304			M20				
16/⅜"	HAA*0304	28.6	31.0	½"	8.9	6	56.8	49.1
	HAA*0305			¾"				
	HAM*0404			M20				
20/½"	HAA*0404	28.6	31.0	½"	11.0	10	59.9	51.6
	HAA*0405			¾"				
	HAA*0505			M25				
25/¾"	HAA*0505	34.0	37.0	¾"	16.2	21	63.4	55.3
	HAA*0506			1"				
	HAM*0606			M32				
32/1"	HAA*0606	42.0	45.0	1"	21.9	42	70.9	61.5
	HAA*0607			1¼"				
40/1¼"	HAM*0707	50.0	54.0	M40	26.3	60	75.9	67.0
	HAA*0707			1¼"				
50/1½"	HAM*0808	60.0	64.0	M50	37.1	80	83.5	75.2
	HAA*0808			1½"				
63/2"	HAM*0909	70.0	76.0	M63	47.8	100	92.0	85.5
	HAA*0909			2"				

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Technical Data for Kopex-Ex™ Adapters and Reducers

These installation instructions give guidance on selection of Kopex-Ex™ products and general instructions for safety and installation of chosen Kopex-Ex™ products. All Kopex-Ex™ products should only be used in applications and environments as detailed in these instructions and other Kopex-Ex™ literature.

Kopex will not take responsibility for any damage, injury or form of loss caused where products are not installed or used as detailed in these instructions. If in doubt, contact Thomas & Betts Technical Support for advice.

ATEX IECEx

Product Certification

PART NO.	ATEX CERT.	IECEX CERT.	APPROVALS	OPERATING TEMP.	IP RATING
EX	BASEEFA 07 ATEX 0247X	IECEx BAS07.0090X	UL® 1203	-60° C to 100° C	IP66

Note: *For ingress protection above IP54, the use of a sealing washer or thread sealant is recommended.*

Certification and Material Variations for Standard Thread Sizes

PRODUCT	DESCRIPTION	PART NO.	MATERIAL
E	Enlarger	**EX**	Brass
R	Reducer	**EXN**	Nickel-plated brass
TC	Thread converter	**EXS**	Stainless steel

STANDARD MALE AND FEMALE THREAD SIZES			
M16	038	⅜" NPT	PG9
M20	050	½" NPT	PG13.5
M25	075	¾" NPT	PG16
M32	100	1" NPT	PG21
M40	150	1½" NPT	PG29
M50	175	1¾" NPT	PG36
M64	200	2" NPT	PG42
M75	250	2½" NPT	

Male thread is shown first. Example: EXN/M20-M25/E.

Material — Nickel-plated brass, M20 male to M25 female.

Specifications

In accordance with	IEC60079-0, IEC60079-7, IEC60079-1, EN60079-0, EN 60079-7, EN60079-1. IEC61241-07:2006, IEC61241-1, EN61241-0, EN61241-1

Selection

- All Kopex-Ex™ products should be selected in accordance with all relevant standards and codes of practice.
- Ensure that the product is certified to the same method of protection as the equipment to which it is to be installed.
- Ensure that the correct threadform and size is selected for the cable and/or entry hole of the enclosure.
- Ensure that the material the product is manufactured from is suitable to the enclosure material and cable gland, and also to the surrounding environmental conditions.
- Ensure that surrounding conditions do not exceed the operating temperatures stated in the Product Certification table.
- Ensure that the product can maintain the same ingress protection levels as the equipment to which it is to be installed.
- Ensure that the impact resistance of the product is suitable to that of the equipment to which it is to be installed.

Installation Guide

- All Kopex-Ex™ products should be installed in accordance with BS EN 60079-14: 1997 for electrical installations in hazardous areas (other than mines).
- The installer should ensure that no damage occurs to any thread or form of seal during installation. Where component is plated, care should be taken to prevent damage or chipping.
- Threaded Entries — Components can be installed directly into threaded entries and the recommended torque applied.
- Clearance Holes — Clearance holes should be 0.5mm larger than the major diameter of the male thread. Components installed in clearance holes should be secured with an appropriate sized locknut to recommended torque.
- Recommended Installation Torque — In order to maintain the integrity of the enclosure, it is important that an installation torque be applied as detailed below.

Installation Torque

Kopex adapters and reducers should be installed to the recommended torque values detailed in the following table. Torque values apply to non-metric thread equivalents.

MALE THREAD SIZE	METALLIC COMPONENTS (N.M.)
M16 & M20 and Equivalents	32.5
M25 and Equivalents	47.5
M32 and Equivalents	55.0
M40 and Equivalents	65.0
M50 and Equivalents	80.0
M63 and Equivalents	95.0
M75 and Equivalents	110.0

Routine Checking and Maintenance

All Kopex-Ex™ products should be checked during routine maintenance of the enclosure.

Special Notes

- Exe equipment should not be used with Exd equipment.
- Two adapters installed in series is not permitted under certification.
- When the fitting is used for increased safety or dust protection, the entry on the enclosure and the female thread on the fittings shall be suitably sealed (in accordance with IEC60079-14) to maintain the IP of the associated enclosure.

Assembly Instructions for Stopping Plugs HSP/DSP Exe I and II

Certification Details

CMPL ⟨Ex⟩ BASEEFA 08 ATEX 0325X

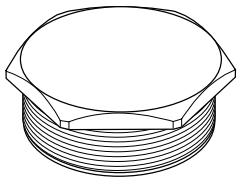
Exe I and II Ext D

IECEx BAS08.0108X

UL® 1203 (Nickel-plated brass and ST/ST only)

Class I Div. 1 ABCD

Class II Div. 1 EFG



HSP/DSP Stopping Plugs

PACK QTY.	METRIC	NPT	PG	A / F
20	M16	⅜"	13.5	20.0
20	M20	½"	16	24.0
20	M25	¾"	21	28.6
10	M32	1"	29	35.0
5	M40	1¼"	36	47.2
2	M50	1½"	42	55.0
1	M63	2"	48	70.0

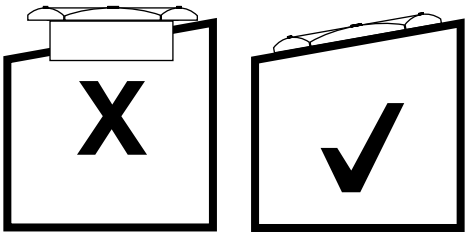
HSP/DSP - Stopping Plug is inserted from the OUTSIDE of the enclosure/equipment where ingress protection greater than IP54 is required.

Installation Instructions

Step 1 - Ensure thread type and size are compatible with enclosure thread, if applicable. Up to IP66, the stopping plugs must be fitted with an appropriate face seal.

Step 2 - Fully tighten stopping plug into the enclosure/equipment using the appropriate tools, using locknuts where necessary.

Note: *Do not use stopping plugs for closing the entry in an adapter or reducer.*



Assembly Instructions for Stopping Plugs SP/TSP Exe I and II C

Certification Details

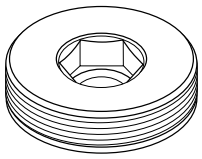
⟨Ex⟩ I M2/II 2GD BASEEFA 08 ATEX 0324

CMPL IECEx BAS08.0109 Exe I and II C

UL 1203 (Nickel-plated brass and ST/ST only)

Class I Div. 1 ABCD

Class II Div. 1 EFG



SP/TSP Stopping Plugs

PACK QTY.	METRIC	NPT	PG	A / F
20		⅜"	11	8
20	M16		13.5	10
20	M20	½"	16	10
20	M25	¾"	21	10
10	M32	1"	29	10
5	M40	1¼"	36	10
2	M50	1½"	42	10
1	M63	2"	48	10

SP - Stopping Plug inserted from the OUTSIDE of the enclosure/equipment.

TSP - Tamper-Proof Stopping Plug inserted from the INSIDE of the enclosure/equipment.

Installation Instructions

Step 1 - Ensure thread type and size are compatible with enclosure/equipment thread. Where ingress protection greater than IP54 is required, the use of a non-setting sealant is recommended.

Step 2 - Fully tighten stopping plug in the enclosure/equipment using the appropriate hexagon allen key.

For parallel threaded stopping plugs, five threads must be engaged with an axial engagement of 8mm.

Note: *Do not use stopping plugs for closing the entry in an adapter or reducer.*

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Harnessflex

Harnessflex® Specialty Conduit Systems

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Harnessflex® Specialty Conduit Systems

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Overview

About Harnessflex® — OEM Design Culture

Harnessflex is a leading designer and manufacturer of flexible conduit systems and connector interfaces, protecting critical electrical and electronic wiring assemblies in the automotive industry, principally focused on chassis and engine manufacturers within bus, truck, agricultural vehicle and heavy machinery markets. Manufacturers who have to meet stringent emission regulations and improved machine reliability requirements are replacing traditional cable protection methods with our conduit systems.

With literally thousands of combinations, the Harnessflex® system offers the complete solution for routing and protection of electrical wiring against damage by mechanical abrasion, liquid ingress and corrosive salts. The use of connector interfaces ensures that there are no vulnerable connectors exposed to the elements, impact of foreign bodies and jet washing, which could so easily cause malfunction and failure, compromising the operation of a vehicle.

Our success has come from our systematic commitment to providing an extensive range of high-grade quality components. Combining a full range of slit and un-slit conduit, fittings and connectors, we also offer the largest range of hinged system components and connector interfaces within the industry.

Global Market

Manufacturers of vehicle harnesses operate on a truly global scale. Harnessflex® products can be found on vehicles and engines throughout the world in Africa, America, Australia, Europe, the Middle East and the Far East, and we have been working with our global customers for many years.

Applications

The Harnessflex® system is suitable for use on vehicles in a wide variety of markets and geographical locations. We provide harness solutions for:

- Agricultural vehicles
- Construction vehicles
- Engine manufacturers
- Harness manufacturers
- Truck and bus manufacturers
- Tanker and trailer manufacturers
- Specialist vehicle components
- Military vehicles

Selection Table for Conduit

		CONDUITS							
		NC (POLYAMIDE 6)	CTPA (POLYAMIDE 6)	HNC (POLYAMIDE 11)	CPC (FR CO-POLYESTER)	PP (POLYPROPYLENE)	DSPP (FR POLYPROPYLENE)	PKC (POLYETHERETHERKETONE)	HTC* (POLYPHENYLENE SULPHIDE)
CATALOG PAGE(S)		E-340	E-341	E-342	E-342	E-343	E-343	E-344	E-344
STATIC TEMP. (°C)	MIN.	-40	-40	-50	-45	-20	-20	-60	-45
	MAX.	120	120	110	135	90	90	260	200
UV RESISTANCE		■■■■	■■■■	■■■■	■■■■	■■□□	■■■□	■■■■	■■■■
FLEXIBILITY		■■■□	■■■□	■■■■	■■■□	■■■■	■■■□	■■■■	■□□□*
FATIGUE LIFE		■■■□	■■■□	■■■■	■■■□	■■■■	■■■■	■■■□	■□□□*
HALOGEN FREE		✓	✓	✓	✓	✓	✓	✓	✓
SELF EXTINGUISHING		✓	✓	✓	✓	–	✓	✓	✓
EXTERNAL WEAR RESISTANCE		■■■■	■■□□	■■■□	■■■□	■□□□	■■□□	■■■■	■■■■
SLIT VERSION AVAILABLE		3	3	—	—	—	Slit only	—	—
CHEMICAL RESISTANCE	IRM 903 (ASTM OIL NO. 2)	S	S	S	S	S	S	S	S
	DIESEL OIL	S	S	S	S	S	S	S	S
	ETHYLENE GLYCOL (ANTIFREEZE)	S	S	S	S	S	S	S	S
	LUBRICATING OIL	S	S	S	S	S	S	S	S
	METHYL ALCOHOL	L	L	S	S	S	S	S	S
	PARAFIN OIL	S	S	S	S	S	S	S	S
	PETROL	S	S	S	S	S	S	S	S
	SODIUM CHLORIDE	S	S	S	S	S	S	S	S
	SODIUM HYDROXIDE (10%)	S	S	S	S	S	S	S	S
	TRANSFORMER OIL	S	S	S	S	S	S	S	S
	UREA	S	S	S	NT	NT	NT	S	S
	VEGETABLE OIL	S	S	S	S	S	S	S	S
	SEA (WATER)	S	S	S	S	S	S	S	S

Key: *S = Suitable, L = Limited Suitability, U = Unsustainable, NT = Not Tested. All chemicals tested for resistance at 33° C.*
*Maximum Performance = ■■■■ * HTC is a pliable conduit system for static applications.*

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Overview

Ingress Protection (IP) Ratings

Harnessflex® hinged systems are rated at IP40.

Harnessflex® sealed systems are rated at IP66, IP67, IP68 (2bar for 30 mins.) and IP69k only when using Harnessflex® conduit.

Product Specifications

All Harnessflex® fittings are manufactured from polyamide 66 (PA 66) and are black in color. Other colors and materials can be made available to achieve specific customer requirements.

Product data sheets and dimension charts are available for the full Harnessflex® range — contact Thomas & Betts Technical Support.

Design Data

Harnessflex® products are developed using the following CAD systems:

- PTC® Pro-ENGINEER® Wildfire® 2 and 3
- Autodesk Inventor® V10, V11 and 2008
- Autodesk AutoCAD® 2006, 2007and 2008

Drawing files are available in the following CAD formats (as well as the versatile PDF format): DWG, DXF, DWF, IGES, STEP, STL, PRT, ASM, IPT, IAM.

Pre-Production Samples

From CAD data, we are able to produce accurate representations of final manufactured products, using a 3D printing process.

Prototype fittings are typically produced in duraform PA, a material that gives similar performance in tests to PA 66.

Prototype extrusions can be manufactured in a variety of materials — contact Thomas & Betts Technical Support for details.

Our pre-production process allows a design to be validated before a product is tooled for manufacture.

PTC, Pro/ENGINEER and Wildfire are registered trademarks of Parametric Technology Corporation. Autodesk Inventor and AutoCAD are registered trademarks of Autodesk, Inc.



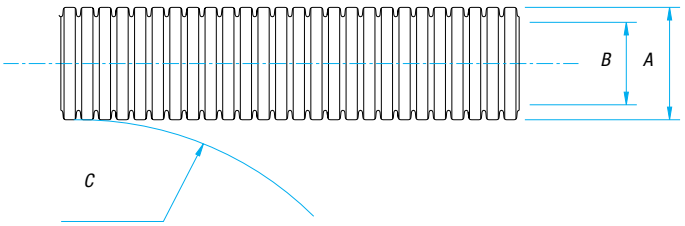




NC and NC Slit Standard Weight Polyamide 6 General-Purpose Conduit

Flexible standard weight nylon (PA6) conduit is a general-purpose conduit suitable for automotive harness applications. It can withstand extremes of temperatures and resists automotive oils and solvents. It is extremely tough and has a high-impact strength and fatigue life.

Solid NC conduits provide protection against mechanical shock and ingress of water while maintaining their form through tight bend radii.



Applications

NC standard weight is extensively used in harnesses on HGV, off-road vehicles and marine applications where a superior protection against impact and mechanical shock is preferred. The conduit is used for both chassis and engine applications and can be used in a wide range of temperatures. Polyamide 6 is highly resistant to all hydrocarbon-based oils and fluids and many types of solvents.

NC is designed for connection to all Harnessflex® sealed and hinged system fittings.

NC conduits are available in a range of popular sizes. The standard color is black with other colors, including orange for hybrid vehicles, available on request.

NC Conduit

	CONDUIT SIZE		NOMINAL O/D MM	MIN. BORE MM	MIN. STATIC BEND RAD. MM	REEL LENGTH
CAT. NO.	(NC)	(NW)	A	B	C	(M)
NC06	06	4.5	7.1	4.5	5	100
NC08	08	7.5	10.0	6.5	15	100
NC10	10	8.5	11.5	8.4	15	100
NC12	12	10	13.0	9.9	20	100
NC16	16	13	16.0	11.8	30	100
NC20	20	17	21.2	16.6	35	50
NC25	25	22	25.6	21.3	40	50
NC28	28	23	28.5	22.6	45	50
NC32	32	29	34.5	28.8	55	50
NC40	40	36	42.5	34.8	65	25
NC50	50	48	54.5	46.9	70	25

For orange conduit, add /OR. For red conduit, add /RD. Example: NC20/OR/50m.

Hints & Tips

KWIKCUT is the ideal cutting tool for all non-metallic conduits up to 32mm.

Cutting Instructions

Place the conduit between the cutting blade and lower support, squeeze the handles and rotate the conduit for a clean, easy cut.

Spare blades are available.

Catalog Numbers

KWIKCUT

KWIKCUT-Blade

NC Slit Conduit

	CONDUIT SIZE		NOMINAL O/D MM	MIN. BORE MM	MIN. STATIC BEND RAD. MM	REEL LENGTH
CAT. NO.	(NC)	(NW)	A	B	C	(M)
NC06-S	06	4.5	7.1	4.5	5	100
NC08-S	08	7.5	10.0	6.5	15	100
NC10-S	10	8.5	11.5	8.4	15	100
NC12-S	12	10	13.0	9.9	20	100
NC16-S	16	13	16.0	11.8	30	100
NC20-S	20	17	21.2	16.6	35	50
NC25-S	25	22	25.6	21.3	40	50
NC28-S	28	23	28.5	22.6	45	50
NC32-S	32	29	34.5	28.8	55	50
NC40-S	40	36	42.5	34.8	65	25
NC50-S	50	48	54.5	46.9	70	25

For orange conduit, add /OR. For red conduit, add /RD. Example: NC20-S/RD/50m.

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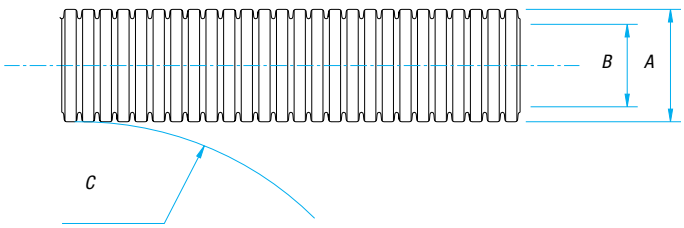
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CTPA and CTPA Slit Lightweight Polyamide 6 General-Purpose Conduit

Flexible lightweight nylon (PA6) conduit is a general-purpose conduit suitable for automotive harness applications. It can withstand extremes of temperatures and resists automotive oils and solvents. It is extremely tough and has a high-impact strength and fatigue life.

CTPA conduits provide protection against mechanical shock and ingress of water while maintaining their form through tight bend radii.



Applications

Lightweight convoluted tube used for interior harnesses, offering limited mechanical protection, abrasion resistance and enhanced aesthetics of the harness.

Extremely light and flexible.

Resistant to oils and solvents.

CTPA Conduit

CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	NOMINAL O/D MM A	MIN. BORE MM B	MIN. STATIC BEND RAD. MM C	REEL LENGTH (M)
CTPA08	08	7.5	10.0	6.5	10	100
CTPA10	10	8.5	11.5	8.7	15	100
CTPA12	12	10	13.0	10.1	20	100
CTPA16	16	13	16.0	11.8	35	100
CTPA20	20	17	21.2	16.9	45	100
CTPA25	25	22	25.6	21.3	45	100
CTPA28	28	23	28.3	23.1	45	100
CTPA32	32	29	34.5	28.8	55	100
CTPA40	40	36	42.5	35.0	65	50
CTPA50	50	48	54.3	46.5	75	50

For orange conduit, add /OR. For red conduit, add /RD. Example: CPTA10/OR/100m.

Hints & Tips

KWIKCUT is the ideal cutting tool for all non-metallic conduits up to 32mm.

Cutting Instructions

Place the conduit between the cutting blade and lower support, squeeze the handles and rotate the conduit for a clean, easy cut.

Spare blades are available.

Catalog Numbers

KWIKCUT

KWIKCUT-Blade

CTPA Slit Conduit

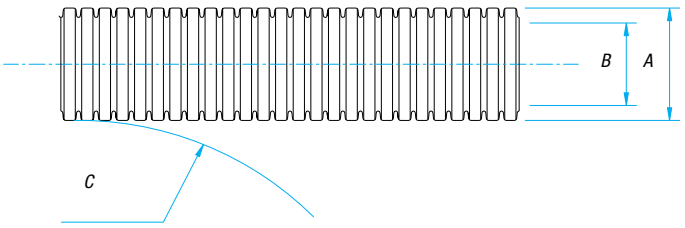
CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	NOMINAL O/D MM A	MIN. BORE MM B	MIN. STATIC BEND RAD. MM C	REEL LENGTH (M)
CTPA08-S	08	7.5	10.0	6.5	10	100
CTPA10-S	10	8.5	11.5	8.7	15	100
CTPA12-S	12	10	13.0	10.1	20	100
CTPA16-S	16	13	16.0	11.8	35	100
CTPA20-S	20	17	21.2	16.9	45	100
CTPA25-S	25	22	25.6	21.3	45	100
CTPA28-S	28	23	28.3	23.1	45	100
CTPA32-S	32	29	34.5	28.8	55	100
CTPA40-S	40	36	42.5	35.0	65	50
CTPA50-S	50	48	54.3	46.5	75	50

For orange conduit, add /OR. For red conduit, add /RD. Example: CTPA08-S/RD/100m.

HNC Standard Weight Polyamide 11, Low-Temperature Extra-Flexible Conduit

HNC standard weight conduit is made from polyamide 11 and is specially formulated to meet the environmental and mechanical requirements for the exterior of working vehicles.

HNC conduit also provides protection against mechanical shock and ingress of water while maintaining its form through tight bend radii. It is specifically designed to cope with extremes of temperature combined with repeated movement and vibration.



Applications

HNC conduit is used in applications requiring repeated flexing coupled with low-temperature impact toughness.

Robotics and rapid- or continuous-motion applications demanding high fatigue life and extra flexibility are covered by HNC, which is also used in low-temperature environments.

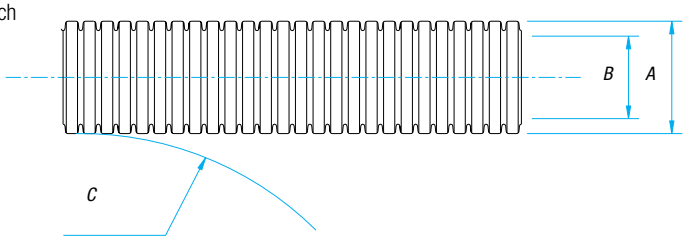
HNC standard weight conduit is designed for connection to all Harnessflex® hinged and sealed fittings.

	CONDUIT SIZE		NOMINAL O/D MM	MIN. BORE MM	MIN. STATIC BEND RAD. MM	REEL LENGTH
CAT. NO.	(NC)	(NW)	A	B	C	(M)
HNC08	08	7.5	10.0	6.2	15	100
HNC12	12	10	13.0	9.9	25	100
HNC16	16	12	15.8	11.7	30	100
HNC20	20	17	21.2	16.6	35	50
HNC25	25	22	25.3	21.0	40	50
HNC28	28	23	28.5	21.7	45	50
HNC32	32	29	34.5	27.7	55	50
HNC40	40	36	42.5	35.5	60	25
HNC50	50	48	54.5	46.6	70	25

CPC Medium Weight (FR Co-polyester) Flame-Retardant Conduit

CP standard weight conduit is made from flame-retardant co-polyester, which is a halogen free, low smoke and very low toxicity material. It has excellent high- and low-temperature properties.

CP conduits provide protection against mechanical shock and ingress of water while maintaining their form through tight bend radii. This material demonstrates excellent chemical resistance to greases, hydrocarbons, fuels and oils.



Applications

CP is used in applications requiring low fire hazard performance. It is lightweight and retains its flexibility at extremes of temperature. CP is designed for use in the interior and exterior of vehicles and marine passenger cabins.

CP is designed for connection to all Harnessflex hinged and sealed fittings.

Hints & Tips

KWIKCUT is the ideal cutting tool for all non-metallic conduits up to 32mm.

Cutting Instructions

Place the conduit between the cutting blade and lower support, squeeze the handles and rotate the conduit for a clean, easy cut.

Spare blades are available.

Catalog Numbers

KWIKCUT

KWIKCUT-Blade

	CONDUIT SIZE		NOMINAL O/D MM	MIN. BORE MM	MIN. STATIC BEND RAD. MM	REEL LENGTH
CAT. NO.	(NC)	(NW)	A	B	C	(M)
CPC08	08	7.5	9.8	6.2	20	50
CPC12	12	10	13.0	9.4	25	50
CPC16	16	13	16.0	11	30	50
CPC20	20	17	21.2	16.1	40	50
CPC25	25	22	25.3	21.0	45	50
CPC28	28	23	28.5	22.5	45	50
CPC32	32	29	34.5	27.2	50	50
CPC40	40	36	42.5	34.2	55	25
CPC50	50	48	54.1	46.0	65	25

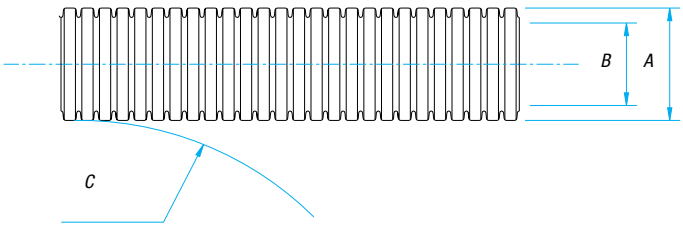
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Modified PP Medium Weight Polypropylene Conduit



PP is a flexible conduit made from polypropylene.

PP conduits provide very good acid resistance, very good flexibility and a very high fatigue life.

Applications

PP is used in lighter applications where compression strength and LFH are not so important. The main strength of this conduit is its acid resistance.

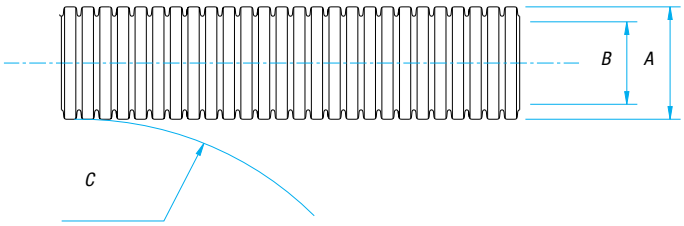
PP is halogen free and not self-extinguishing.

PP conduits are available in a range of popular sizes, in black only.

PP is designed for connection to all Harnessflex® sealed and hinged system fittings.

	CONDUIT SIZE		NOMINAL O/D MM	MIN. BORE MM	MIN. STATIC BEND RAD. MM	REEL LENGTH
CAT. NO.	(NC)	(NW)	A	B	C	(M)
PP08	08	7.5	10.0	6.4	15	100
PP12	12	10	13.0	9.6	25	50
PP16	16	13	16.2	11.2	35	50
PP20	20	17	21.2	16.9	35	50
PP25	25	22	25.6	21.5	40	50
PP28	28	23	28.5	23.2	45	50
PP32	32	29	34.5	29.1	50	50

Deep Section Modified Slit PP Medium Weight Polypropylene Conduit



DSPP conduit is made from a halogen-free, flame-retardant material.

DSPP slit conduits provide protection against mechanical shock while maintaining their form through tight bend radii.

Applications

DSPP has a deep section to maintain the conduit shape during bending. Conduits are supplied in slit form to facilitate rapid cable installation and are designed for connection to all Harnessflex® hinged fittings.

	CONDUIT SIZE		NOMINAL O/D MM	MIN. BORE MM	MIN. STATIC BEND RAD. MM	REEL LENGTH
CAT. NO.	(NC)	(NW)	A	B	C	(M)
DSPP08	08	7.5	10.0	6.6	10	100
DSPP12	12	10	13.0	8.5	18	100
DSPP16	16	13	16.2	11.1	32	100
DSPP20	20	17	21.2	15.0	40	100
DSPP28	28	23	28.5	21.7	50	100
DSPP32	32	29	34.5	27.7	58	50
DSPP40	40	36	42.5	34.6	80	25
DSPP50	50	48	54.5	46.5	100	25

PKC Standard Weight Polyketone Super-Low Fire Hazard Conduit

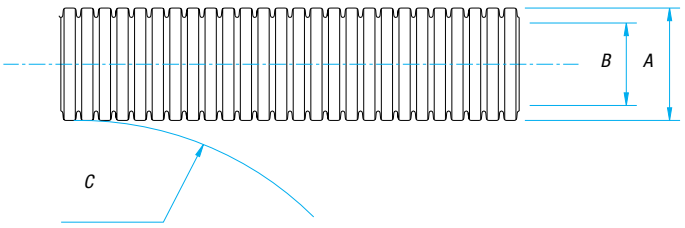
Super-Low Fire Hazard PK is a standard weight conduit, which offers superior mechanical strength as well as high radiation and chemical protection in extreme temperatures. It is a unique product manufactured from a special polymer, for use in the most demanding applications.

Peek is a truly high performance conduit.

Applications

This flexible conduit, with its high specification performance, is used in some of the most demanding applications.

It is often found in aerospace, off-shore, military, heat treatment, nuclear, petrochemical and marine applications.



CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	NOMINAL O/D MM A	MIN. BORE MM B	MIN. STATIC BEND RAD. MM C	REEL LENGTH (M)
PKC12	12	10	13.0	10.0	35	25
PKC16	16	13	15.8	11.9	45	25
PKC20	20	17	21.2	16.6	60	25
PKC28	28	23	28.5	21.7	65	25
PKC32	32	29	34.5	27.7	80	25

HTC High-Temperature Conduit

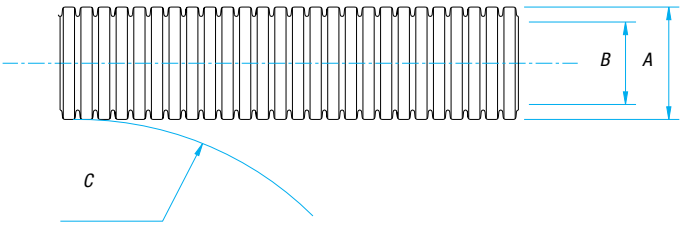
A pliable conduit suitable for static applications where elevated temperatures are present. It features high compression strength and excellent chemical resistance and is made from specially modified PPS.

Applications

This conduit has been developed for use in engine areas where elevated temperatures occur. Suitable for long-term exposure to 200° C.

NEW

Contact Thomas & Betts Technical Support for full details and availability.



CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	NOMINAL O/D MM A	MIN. BORE MM B	MIN. STATIC BEND RAD. MM C	REEL LENGTH (M)
HTC12	12	10	13.0	10.0	40	25
HTC16	16	13	15.8	11.9	45	25
HTC20	20	17	21.2	16.5	65	25
HTC25	25	22	25.6	21.3	75	25
HTC28	28	23	28.5	22.7	85	25
HTC32	32	29	34.5	28.8	100	25
HTC40	40	30	42.5	35.2	120	25
HTC50	50	48	54.5	46.5	140	25

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Hinged Interfaces

Hinged fittings allow for protection of cables at breakouts, harness servicability and for the conduit system to self level. They are designed to protect against high-pressure washing, excessive cable strain and mechanical abrasion. Variety, flexibility and assembly speed are inherent in all Harnessflex® fittings.



Quality and Standards

Manufacturing is controlled in accordance with BS EN ISO 9001, while ongoing testing and approval to international standards (UL®, TUV, LCIE) provides additional confidence required to specify appropriate Harnessflex® products across the widest variety of automotive applications — including hazardous or aggressive environments.

Conduit has the following approvals:

- FMVSS 302 Ford flammability specification for conduit
- NFR13-903 French automotive conduit specification
- UL Recognized American electrical conduit specification



All components comply with End of Life Vehicle (ELV) directive EU2000/53/EC. Harnessflex® hinged fittings also comply with ISO14001 Environmental Standards.

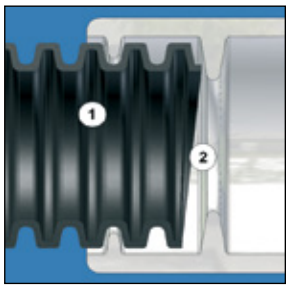
Capabilities

Our internal design team is able to offer unique solutions specific to our customers' applications. Using the latest 3D CAD modeling software, we are able to communicate new product designs quickly and efficiently. Prototype parts can be quickly made to order to enable product evaluation early on in the design cycle.

If you have a need for a dedicated hinged fitting, contact Thomas & Betts Technical Support to discuss your requirement.



Design Features



1. Radiused internal form of conduit protects cables from abrasion.
2. Internal backstop (found on all hinged fittings) alleviates any potential problems caused by unevenly cut conduit.



Hints and Tips

1. Multiple breakouts can be achieved from any NC20, NC25 or NC28 exit using our ST splitter range. See **page E-365** for details.
2. JPS and EPS fittings can be used as conduit enlargers or reducers.
3. Combining multiple XPS fittings (**page E-349**) creates a self-leveling manifold, ideal for engine bay or transmission applications.

Hinged Connectors

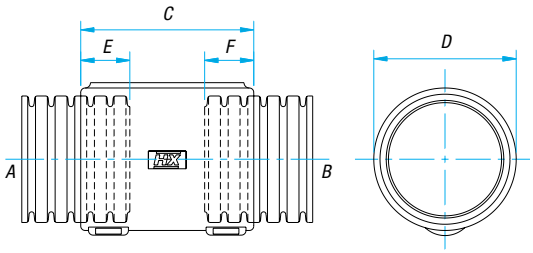
External Hinged Joiners

One-piece joiner and elbow hinged fittings allow a variety of conduit size variations.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

Can be used as a reducer as well as an enlarger.





	CONDUIT SIZES				DIMENSIONS (MM)			
	(NC)		(NW)					
CAT. NO.	A	B	A	B	C	D	E	F
JPS1212	12	12	10	10	36	16	10	10
JPS1612	16	12	13	10	36	21	10	10
JPS1616	16	16	13	13	36	21	10	10
JPS2008	20	08	17	7.5	38	26	12	10
JPS2012	20	12	17	10	38	26	12	10
JPS2016	20	16	17	13	38	26	12	10
JPS2020	20	20	17	17	38	26	12	12
JPS2520	25	20	22	17	39	33	12	12
JPS2525	25	25	22	22	39	33	13	13
JPS2820	28	20	23	17	39	33	13	13
JPS2825	28	25	23	22	39	33	13	13
JPS2828	28	28	23	23	39	33	13	13

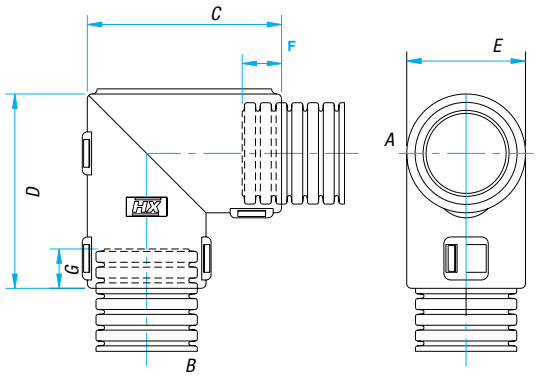
External Hinged Elbows

One-piece joiner and elbow hinged fittings allow a variety of conduit size variations.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

Can be used as a reducer as well as an enlarger.





	CONDUIT SIZES				DIMENSIONS (MM)				
	(NC)		(NW)						
CAT. NO.	A	B	A	B	C	D	E	F	G
EPS08S08	08	08	7.5	7.5	38	29	20	10	10
EPS12S12	12	12	10	10	38	29	20	10	10
EPS0820	08	20	7.5	17	41	41	25	10	12
EPS1608	16	08	10	7.5	34	34	21	10	10
EPS1612	16	12	13	10	34	34	21	10	10
EPS1616	16	16	13	13	34	34	21	10	10
EPS2012	20	12	17	10	41	41	26	10	10
EPS2016	20	16	17	13	41	41	26	12	10
EPS2020	20	20	17	17	41	41	26	12	12
EPS2520	25	20	22	17	48	48	33	13	12
EPS2525	25	25	22	22	48	48	33	13	13
EPS2812	28	12	23	10	48	48	33	13	10
EPS2816	28	16	23	13	48	48	33	13	10
EPS2820	28	20	23	17	48	48	33	13	12
EPS2825	28	25	23	22	48	48	33	13	13
EPS2828	28	28	23	23	48	48	33	13	13
EPS28-70-25	N/A	N/A	N/A	N/A	51	37	16	N/A	N/A

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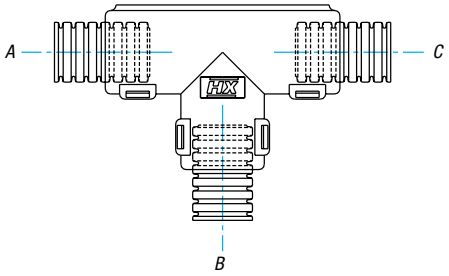
Hinged Connectors

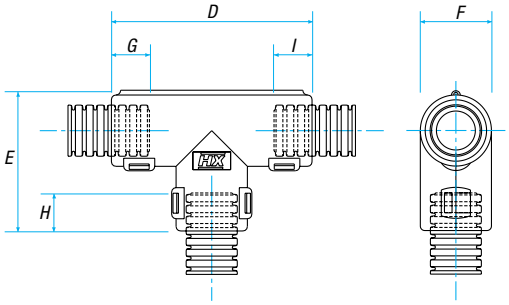
External Hinged T-Pieces



One-piece symmetrical three-junction fittings allow a variety of conduit size variations.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.





	CONDUIT SIZES						NOMINAL DIMENSIONS (MM)					
	(NC)			(NW)								
CAT. NO.	A	B	C	A	B	C	D	E	F	G	H	I
TPS080808	08	08	08	7.5	7.5	7.5	45.2	31.1	17	10	10	10
TPS081208	08	12	08	7.5	10	7.5	45.2	31.1	17	10	10	10
TPS081612	08	16	12	7.5	13	10	45.2	31.1	17	10	10	10
TPS100808	10	08	08	8.5	7.5	7.5	45.2	31.1	17	10	10	10
TPS101010	10	10	10	8.5	8.5	8.5	45.2	31.1	17	10	10	10
TPS101012	10	10	12	8.5	8.5	13	45.2	31.1	17	10	10	10
TPS120808	12	08	08	10	7.5	7.5	45.2	31.1	17	10	10	10
TPS120812	12	08	12	10	7.5	10	45.2	31.1	17	10	10	10
TPS121010	12	10	10	10	8.5	8.5	45.2	31.1	17	10	10	10
TPS121012	12	10	12	10	8.5	10	45.2	31.1	17	10	10	10
TPS121208	12	12	08	10	10	7.5	45.2	31.1	17	10	10	10
TPS121210	12	12	10	10	10	7.5	45.2	31.1	17	10	10	10
TPS121212	12	12	12	10	10	10	45.2	31.1	17	10	10	10
TPS121612	12	16	12	10	13	10	45,2	31.1	21	10	10	10
TPS160808	16	08	08	13	7.5	7.5	49.1	34.8	21	10	10	10
TPS160812	16	08	12	13	7.5	10	49.1	34.8	21	10	10	10
TPS160816	16	08	16	13	7.5	13	49.1	34.8	21	10	10	10
TPS161012	16	10	12	13	8.5	10	49.1	34.8	21	10	10	10
TPS161016	16	10	16	13	8.5	13	49.1	34.8	21	10	10	10
TPS161212	16	12	12	13	10	10	49.1	34.8	21	10	10	10
TPS161216	16	12	16	13	10	13	49.1	34.8	21	10	10	10
TPS161608	16	16	08	13	13	7.5	49.1	34.8	21	10	10	10
TPS161612	16	16	12	13	13	10	49.1	34.8	21	10	10	10
TPS161616	16	16	16	13	13	13	49.1	34.8	21	10	10	10
TPS162012	16	20	12	13	17	10	49.1	34.8	21	10	10	10
TPS162016	16	20	16	13	17	13	49.1	34.8	21	10	10	10
TPS200816	20	08	16	17	7.5	13	56.5	41.0	26	12	10	10
TPS200820	20	08	20	17	7.5	17	56.5	41.0	26	12	10	12
TPS201016	20	10	16	17	8.5	13	56.5	41.0	26	12	10	10
TPS201020	20	10	20	17	8.5	17	56.5	41.0	26	12	10	12
TPS201216	20	12	16	17	10	13	56.5	41.0	26	12	10	10
TPS201220	20	12	20	17	10	17	56.5	41.0	26	12	10	12
TPS201612	20	16	12	17	13	10	56.5	41.0	26	12	10	10
TPS201616	20	16	16	17	13	13	56.5	41.0	26	12	10	10
TPS201620	20	16	20	17	13	17	56.5	41.0	26	12	10	12
TPS202012	20	20	12	17	17	10	56.5	41.0	26	12	12	10
TPS202016	20	20	16	17	17	13	56.5	41.0	26	12	12	10
TPS202020	20	20	20	17	17	17	56.5	41.0	26	12	12	12

	CONDUIT SIZES						NOMINAL DIMENSIONS (MM)					
	(NC)			(NW)								
CAT. NO.	A	B	C	A	B	C	D	E	F	G	H	I
TPS202516	20	25	16	17	22	13	64.5	48.5	33	12	13	10
TPS250820	25	08	20	22	7.5	17	64.5	48.5	33	13	10	12
TPS250825	25	08	25	22	7.5	22	64.5	48.5	33	13	10	13
TPS251025	25	10	25	22	8.5	22	64.5	48.5	33	13	10	13
TPS251220	25	12	20	22	10	17	64.5	48.5	33	13	10	12
TPS251225	25	12	25	22	10	22	64.5	48.5	33	13	10	13
TPS251620	25	16	20	22	13	17	64.5	48.5	33	13	10	12
TPS251625	25	16	25	22	13	22	64.5	48.5	33	13	10	13
TPS252020	25	20	20	22	17	17	64.5	48.5	33	13	12	12
TPS252025	25	20	25	22	17	22	64.5	48.5	33	13	12	13
TPS252520	25	25	20	22	22	17	64.5	48.5	33	13	13	12
TPS252525	25	25	25	22	22	22	64.5	48.5	33	13	13	13
TPS280820	28	08	20	23	7.5	17	64.5	48.5	33	13	10	12
TPS280828	28	08	28	23	7.5	23	64.5	48.5	33	13	10	13
TPS281020	28	10	20	23	8.5	17	64.5	48.5	33	13	10	12
TPS281028	28	10	28	23	8.5	23	64.5	48.5	33	13	10	13
TPS281220	28	12	20	23	10	17	64.5	48.5	33	13	10	12
TPS281225	28	12	25	23	10	22	64.5	48.5	33	13	10	13
TPS281228	28	12	28	23	10	23	64.5	48.5	33	13	10	13
TPS281620	28	16	20	23	13	17	64.5	48.5	33	13	10	12
TPS281625	28	16	25	23	13	22	64.5	48.5	33	13	10	13
TPS281628	28	16	28	23	13	23	64.5	48.5	33	13	10	13
TPS282020	28	20	20	23	17	17	64.5	48.5	33	13	12	12
TPS282025	28	20	25	23	17	22	64.5	48.5	33	13	12	13
TPS282028	28	20	28	23	17	23	64.5	48.5	33	13	12	13
TPS282525	28	25	25	23	22	22	64.5	48.5	33	13	13	13
TPS282528	28	25	28	23	22	23	64.5	48.5	33	13	13	13
TPS282828	28	28	28	23	23	23	64.5	48.5	33	13	13	13
TPS321625	32	16	25	29	13	22	72.0	55.3	39	13	10	13
TPS321632	32	16	32	29	13	29	72.0	55.3	39	13	10	13
TPS322532	32	25	32	29	22	29	72.0	55.3	39	13	10	13
TPS322025	32	20	25	29	17	22	72.0	55.3	39	13	12	13
TPS322028	32	20	28	29	17	23	72.0	55.3	39	13	12	13
TPS322032	32	20	32	29	17	29	72.0	55.3	39	13	12	13
TPS322525	32	25	25	29	22	22	72.0	55.3	39	13	13	13
TPS322532	32	25	32	29	22	29	72.0	55.3	39	13	13	13
TPS323225	32	32	25	29	29	22	72.0	55.3	39	13	13	13
TPS323232	32	32	32	29	29	29	72.0	55.3	39	13	13	13

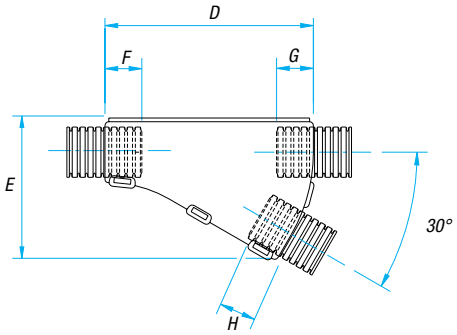
Hinged Connectors

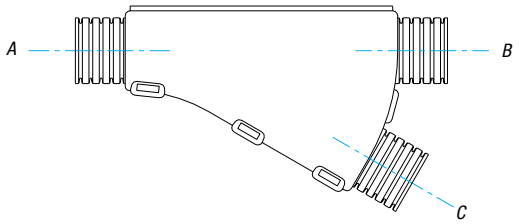
External Hinged Y-Pieces

One-piece asymmetrical three-junction fittings allow a variety of conduit variations.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.







CAT. NO.	CONDUIT SIZES (NC) A	B	C	(NW) A	B	C	NOMINAL DIMENSIONS (MM) D	E	F	G	H
YPS080808	08	08	08	7.5	7.5	7.5	55	37	10	10	10
YPS080812	08	08	12	7.5	7.5	10	55	37	10	10	10
YPS081208	08	12	08	7.5	10	7.5	55	37	10	10	10
YPS101010	10	10	10	8.5	8.5	8.5	55	37	10	10	10
YPS120808	12	08	08	10	7.5	7.5	55	37	10	10	10
YPS120810	12	08	10	10	7.5	8.5	55	37	10	10	10
YPS121010	12	10	10	10	8.5	8.5	55	37	10	10	10
YPS121208	12	12	08	10	10	7.5	55	37	10	10	10
YPS121210	12	12	10	10	10	8.5	55	37	10	10	10
YPS121212	12	12	12	10	10	10	55	37	10	10	10
YPS160812	16	08	12	13	7.5	10	55	40	10	10	10
YPS161010	16	10	10	13	8.5	8.5	55	40	10	10	10
YPS161208	16	12	08	13	10	7.5	55	40	10	10	10
YPS161210	16	12	10	13	10	8.5	55	40	10	10	10
YPS161212	16	12	12	13	10	10	55	40	10	10	10
YPS161608	16	16	08	13	13	7.5	55	40	10	10	10
YPS161610	16	16	10	13	13	8.5	55	40	10	10	10
YPS161612	16	16	12	13	13	10	55	40	10	10	10
YPS200808	20	08	08	17	7.5	7.5	43	37	12	10	10
YPS201208	20	12	08	17	10	7.5	43	37	12	10	10
YPS201210	20	12	10	17	10	8.5	43	37	12	10	10
YPS201212	20	12	12	17	10	10	43	37	12	10	10
YPS201608	20	16	08	17	13	7.5	48	40	12	10	10
YPS201612	20	16	12	17	13	10	48	40	12	10	10
YPS201616	20	16	16	17	13	13	64	48	12	10	10
YPS202008	20	20	08	17	17	7.5	56	45	12	10	10
YPS202010	20	20	10	17	17	8.5	58	45	12	12	10
YPS202012	20	20	12	17	17	10	58	45	12	12	10
YPS202016	20	20	16	17	17	13	64	48	12	12	10
YPS252012	25	20	12	22	17	10	54	49	13	12	10

CAT. NO.	CONDUIT SIZES (NC) A	B	C	(NW) A	B	C	NOMINAL DIMENSIONS (MM) D	E	F	G	H
YPS252016	25	20	16	22	17	13	54	49	13	12	10
YPS252020	25	20	20	22	17	17	54	49	13	12	12
YPS252508	25	25	08	22	22	7.5	67	56	13	12	10
YPS252510	25	25	10	22	22	8.5	67	56	13	13	10
YPS252512	25	25	12	22	22	10	67	56	13	13	10
YPS252516	25	25	16	22	22	13	67	56	13	13	10
YPS252520	25	25	20	22	22	17	77	60	13	13	12
YPS252525	25	25	25	22	22	22	91	67	13	13	13
YPS282012	28	20	12	23	17	10	54	49	13	12	10
YPS282016	28	20	16	23	17	13	54	49	13	12	10
YPS282020	28	20	20	23	17	17	54	49	13	12	12
YPS282512	28	25	12	23	22	10	67	56	13	13	10
YPS282516	28	25	16	23	22	13	67	56	13	13	10
YPS282520	28	25	20	23	22	17	77	60	13	13	12
YPS282525	28	25	25	23	22	22	91	67	13	13	13
YPS282808	28	28	08	23	23	7.5	67	56	13	13	10
YPS282812	28	28	12	23	23	10	67	56	13	13	10
YPS282816	28	28	16	23	23	13	67	56	13	13	10
YPS282820	28	28	20	23	23	17	77	60	13	13	12
YPS282825	28	28	25	23	23	22	91	67	13	13	13
YPS282828	28	28	28	23	23	23	91	67	13	13	13
YPS322032	32	20	32	29	17	29	100	77	13	12	13
YPS322516	32	25	16	29	22	13	100	75	13	13	10
YPS322520	32	25	20	29	22	17	100	76	13	13	12
YPS322525	32	25	25	29	22	22	100	79	13	13	13
YPS322532	32	25	32	29	22	29	100	82	13	13	13
YPS323216	32	32	16	29	29	13	100	75	13	13	10
YPS323220	32	32	20	29	29	17	100	76	13	13	12
YPS323225	32	32	25	29	29	22	100	79	13	13	13
YPS323232	32	32	32	29	29	29	100	82	13	13	13

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Hinged Connectors

External Hinged Protective Shrouds

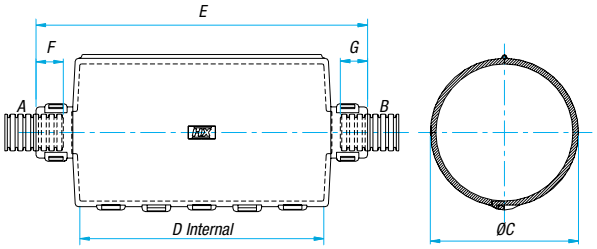
One-piece cover providing protection for in-line connectors, fuse links, circuit breakers and splicing areas.

The CPS shrouds can be used as a harness datum, due to the integrated cable tie/fir tree facility.

The strong construction allows for the protection of delicate connections, or as an alternative when an interface/backshell isn't available.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.





CAT. NO.	INTERNAL DIAMETER (MM)	CONDUIT SIZES (NC) A	(NC) B	(NW) A	(NW) B	DIMENSIONS (MM) C	D	E	F	G
CPS341212	35	12	12	10	10	38	73	100	10	10
CPS421212	43	12	12	10	10	47	77	104	10	10
CPS421616	43	16	16	13	13	47	77	104	10	10
CPS421620	43	16	20	13	17	47	77	104	10	12
CPS422020	43	20	20	17	17	47	77	104	12	12

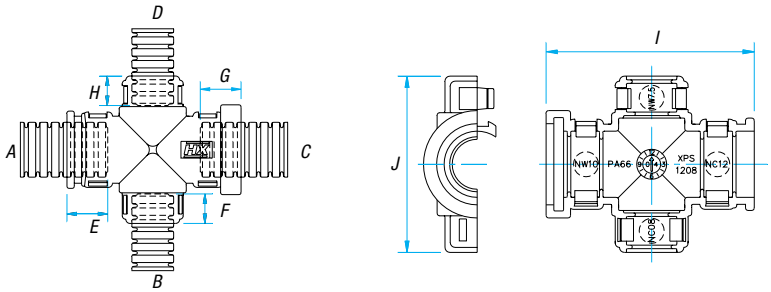
X-Pieces

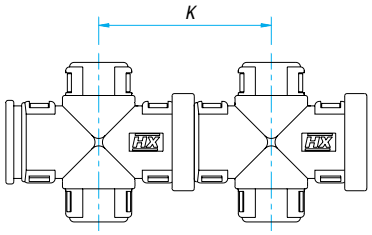
Two-piece symmetrical four-junction fittings enable a variety of conduit size combinations.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

In addition, several fittings can be snapped together to provide multiple outlets without the need of short conduit joints.







CAT. NO.	CONDUIT SIZES (NC) A	B	C	D	(NW) A	B	C	D	CONDUIT ENGAGEMENT (MM) E	F	G	H	OVERALL DIMENSIONS I	J	K
XPS1208	12	08	12	08	10	7.5	10	7.5	9.5	7.0	9.5	7.0	42	35.5	38.0

Hinged Connectors

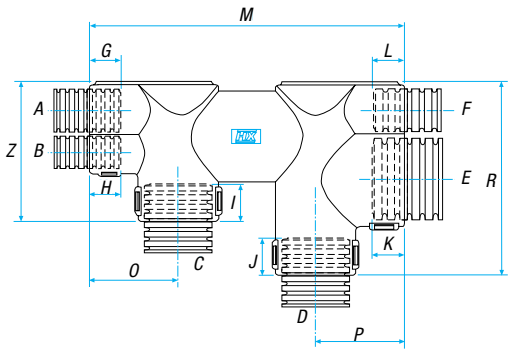
Custom Hinged Manifolds

One-piece hinged fittings designed to suit specific project or application requirements.

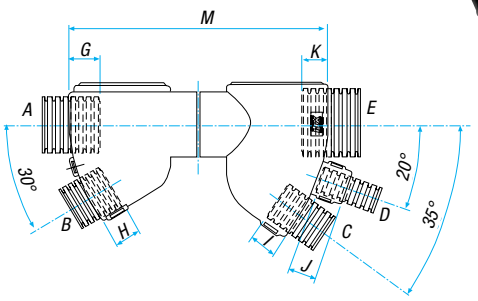
For Blanking Caps, see **page E-365**.



Type 1



Type 2



CAT. NO.	TYPE	CONDUIT SIZE (NC) A	B	C	D	E	F	CONDUIT ENGAGEMENT (MM) G	H	I	J	K	L	OVERALL DIMENSIONS (MM) M	N	O	P	R	WEIGHT (G)
MPS100	1	12	08	20	20	25	12	10	10	12	12	13	12	98	43	28	28	59	22
MPS101	2	20	16	16	08	25	—	12	10	10	10	13	—	97	—	—	—	—	23
MPS102	2	16	08	16	08	25	—	10	10	10	10	13	—	97	—	—	—	—	23
MPS103	2	16	16	16	08	25	—	10	10	10	10	13	—	97	—	—	—	—	23

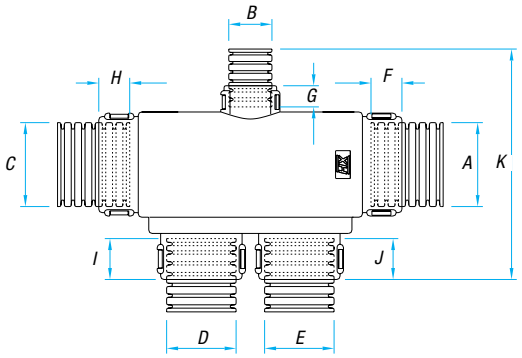
Split Manifolds

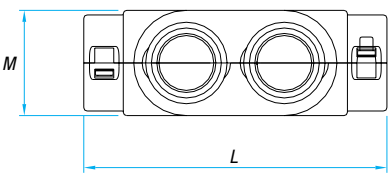
Two identical half shells snap together to create a five-way conduit manifold.

This fitting works with different types of slit and unslit conduit, including NC, CPTA, modified PP and deep section PP.

Additional configurations are possible (dependent on volume). Contact Thomas & Betts Technical Support for details.







CAT. NO.	CONDUIT SIZE (NC) A	B	C	D	E	OVERALL DIMENSIONS (MM) F	G	H	I	J	K	L	M
MPS121212-2020	12	12	12	20	20	10	7	10	10	10	59	92	32
MPS122812-2020	12	28	12	20	20	10	12	10	10	10	67	92	32
MPS201220-2020	20	12	20	20	20	12	7	12	10	10	59	92	32
MPS202820-2020	20	28	20	20	20	12	12	12	10	10	67	92	32
MPS251225-2020	25	12	25	20	20	11	7	11	10	10	59	92	32
MPS252825-2020	25	28	25	20	20	11	12	11	10	10	67	92	32

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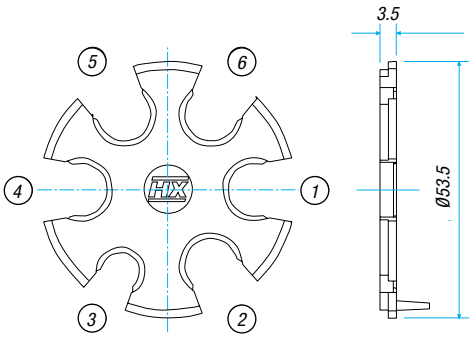
Hinged Connectors

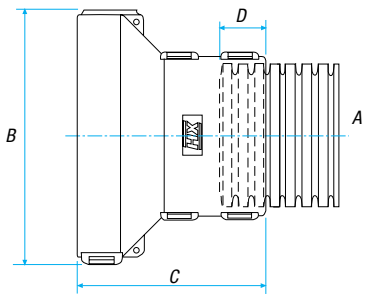
In-Line Hinged Circular Manifolds

One-piece straight fittings providing in-line "customized" combinations of multiple conduit breakouts.

ST breakout disk configurations can be made to order. For more details, contact Thomas & Betts Technical Support.

For CPC Interface, see **page E-366**.









In-Line Hinged Circular Manifolds — Standard

CAT. NO.	CONDUIT A		NOMINAL DIMENSIONS (MM) B	C	D
CI20-A31	NC20	NW17	62	45	12
CI25-A31	NC25	NW22	62	45	13
CI32-A31	NC32	NW29	62	45	13

In-Line Hinged Circular Manifolds — Breakout Type

CAT. NO.	1	2	3	4	5	6
ST31-100	NC08	NC08	NC08	BLANK	NC08	NC08
ST31-101	NC12	NC12	NC08	BLANK	BLANK	NC12
ST31-102	NC08	NC08	NC08	NC08	NC08	NC08

Interfaces

Vehicle electrical system faults are often traced to problems at the cable entry points of electrical connectors. Harnessflex® connector interfaces are designed to protect against high-pressure washdown, excessive cable strain and mechanical abrasion. Variety, flexibility and assembly speed are inherent in all Harnessflex® fittings.



Quality and Standards

Manufacturing is controlled in accordance with BS EN ISO 9001, while ongoing testing and approval to international standards (UL® Recognition, TUV, LCIE) provides additional confidence required to specify appropriate Harnessflex® products across the widest variety of automotive applications — including hazardous or aggressive environments.



Conduit has the following approvals:

• FMVSS 302	Ford flammability specification for conduit
• NFR13-903	French automotive conduit specification
• UL® Recognized	American electrical conduit specification

All components comply with End of Life Vehicle (ELV) directive EU2000/53/EC. Harnessflex® interfaces also comply with ISO14001 Environmental Standard.



Capabilities

Harnessflex works closely with many blue chip companies to develop protection for electrical connectors (a critical area of an engine harness).

Our experienced internal design team uses 3D CAD modeling software to produce various concepts for customer approval.

Once a design is selected, a prototype of the interface can be quickly supplied to enable a pre-production harness assembly.

These prototype parts can be used for validation purposes, due to the close approximation of properties of the material used in the prototyping process and polyamide 66 used in our injection-molded components (see **page E-382** for material specification).

With Harnessflex's history of connector interface design and our understanding of customers requirements, we are well placed to produce custom solutions that integrate any electrical connector into a harness design.



Hints and Tips

1. Interfaces can be used in areas where electrical connectors are vulnerable to high-pressure washing.
2. Our interfaces offer strain relief to crimped contacts.
3. When our 90° swivel elbows are used with interfaces, they allow the harness to self level.
4. Using our part number CI-MF-90 with a standard 90° swivel fitting, a 180° swivel bend is possible.

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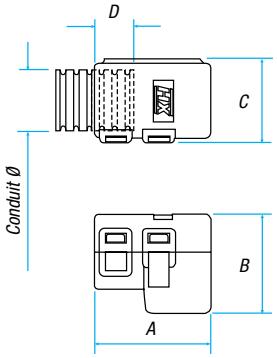
External Hinged Connector Interfaces — AMP Superseal®

These single-junction straight and 90° elbow fittings provide high-integrity connections between AMP Superseal® connectors and Harnessflex® conduit systems.

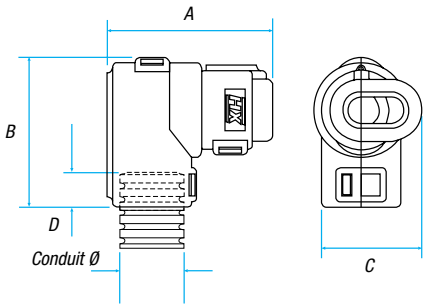
The fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.





External Straight Connector Interface



External 90° Elbow Connector Interface

Configurations

CAT. NO. STRAIGHT INTERFACE	CAT. NO. 90° ELBOW SWIVEL INTERFACE	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	CONNECTOR TYPE
CI08-AS1	**CI08-90-AS1**	08	7.5	AMP Superseal 1-Way
CI08-AS2	**CI08-90-AS2**	08	7.5	AMP Superseal 2-Way
CI08-AS3	**CI08-90-AS3**	08	7.5	AMP Superseal 3-Way
CI08-AS4	**CI08-90-AS4**	08	7.5	AMP Superseal 4-Way
CI10-AS2	**CI10-90-AS2**	10	8.5	AMP Superseal 2-Way
CI10-AS3	**CI10-90-AS3**	10	8.5	AMP Superseal 3-Way
CI10-AS4	**CI10-90-AS4**	10	8.5	AMP Superseal 4-Way
CI12-AS1	**CI12-90-AS1**	12	10	AMP Superseal 1-Way
CI12-AS2	**CI12-90-AS2**	12	10	AMP Superseal 2-Way
CI12-AS3	**CI12-90-AS3**	12	10	AMP Superseal 3-Way
CI12-AS4	**CI12-90-AS4**	12	10	AMP Superseal 4-Way

Nominal Dimensions

CAT. NO. STRAIGHT INTERFACE	A	B	C	D	CAT. NO. 90° ELBOW SWIVEL INTERFACE	A	B	C	D
CI08-AS1	23.6	16.1	18	10	**CI08-90-AS1**	37.5	30.3	18	10
CI08-AS2	22.4	20.5	18	10	**CI08-90-AS2**	33.3	30.3	18	10
CI08-AS3	22.4	26.5	18	10	**CI08-90-AS3**	33.3	30.3	18	10
CI08-AS4	34	33	18	10	**CI08-90-AS4**	37	30.3	18	10
CI10-AS2	34	21	20	10	**CI10-90-AS2**	35	38	19	10
CI10-AS3	34	27	20	10	**CI10-90-AS3**	35	38	19	10
CI10-AS4	34	33	20	10	**CI10-90-AS4**	41.2	38	19	10
CI12-AS1	23.6	16.1	18	10	**CI12-90-AS1**	33.3	30.3	18	10
CI12-AS2	22.4	20.5	18	10	**CI12-90-AS2**	33.3	30.3	20.5	10
CI12-AS3	22.4	26.5	18	10	**CI12-90-AS3**	33.3	30.3	26.7	10
CI12-AS4	34	33	19	10	**CI12-90-AS4**	37	30.3	33	10

AMP Superseal is a registered trademark of the Whitaker Corporation.

Interfaces

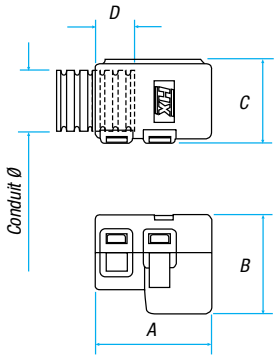
External Hinged Connector Interfaces — AMP Junior and Mini Timer



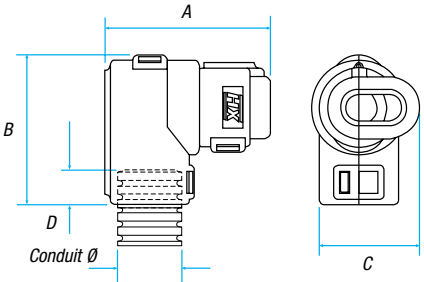
These single-junction straight and 90° elbow fittings provide high-integrity connections between AMP Junior Timer or Mini Timer and Harnessflex® conduit systems.

The fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.



External Straight Connector Interface



External 90° Elbow Connector Interface

Configurations

CAT. NO. STRAIGHT INTERFACE	CAT. NO. 90° ELBOW SWIVEL INTERFACE	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	CONNECTOR TYPE
AMP Junior Timer Interfaces				
CI08-AM2	**CI08-90-AM2**	08	7.5	AMP Junior Timer 2-Way
CI08-AM3	**CI08-90-AM3**	08	7.5	AMP Junior Timer 3-Way
CI08-AM4	**CI08-90-AM4**	08	7.5	AMP Junior Timer 4-Way
CI10-AM2	**CI10-90-AM2**	10	8.5	AMP Junior Timer 2-Way
CI10-AM3	**CI10-90-AM3**	10	8.5	AMP Junior Timer 3-Way
CI10-AM4	**CI10-90-AM4**	10	8.5	AMP Junior Timer 4-Way
CI12-AM2	**CI12-90-AM2**	12	10	AMP Junior Timer 2-Way
CI12-AM3	**CI12-90-AM3**	12	10	AMP Junior Timer 3-Way
CI12-AM4	**CI12-90-AM4**	12	10	AMP Junior Timer 4-Way
AMP Mini Timer Interfaces				
CI12-X01	**CI12-90-X01**	12	10	AMP Mini Timer 1-Way

Nominal Dimensions

CAT. NO. STRAIGHT INTERFACE	DIMENSIONS (MM) A	B	C	D	CAT. NO. 90° ELBOW SWIVEL INTERFACE	DIMENSIONS (MM) A	B	C	D
AMP Junior Timer Interfaces									
CI08-AM2	24.9	21.3	18	10	**CI08-90-AM2**	35.7	30.3	21.3	7
CI08-AM3	24.9	27.2	18	10	**CI08-90-AM3**	35.7	30.3	27.2	7
CI08-AM4	37	32	19	10	**CI08-90-AM4**	39.5	30.3	32	7
CI10-AM2	37	21	19	10	**CI10-90-AM2**	37.5	38	21.3	10
CI10-AM3	37	27	19	10	**CI10-90-AM3**	37.5	38	27.2	10
CI10-AM4	37	32	19	10	**CI10-90-AM4**	41.2	38	32	10
CI12-AM2	24.9	21.3	18	10	**CI12-90-AM2**	35.7	30.3	21.3	7
CI12-AM3	24.9	27.2	18	10	**CI12-90-AM3**	35.7	30.3	27.2	7
CI12-AM4	37	32	19	10	**CI12-90-AM4**	39.5	30.3	32	7
AMP Mini Timer Interfaces									
CI12-X01	34	16.2	19.6	10	**CI12-90-X01**	37	30.3	19	10

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External Hinged Connector Interfaces — AMPSEAL 16®



This range of straight and 90° elbow fittings offers a compact and high-integrity connection between AMPSEAL® automotive connectors and Harnessflex® conduit systems.

These interfaces provide complete cable protection right up to the connector. They also provide strain relief and protection from high-pressure washing, helping to maintain the sealing integrity of the connector.

The 90° elbow allows the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.

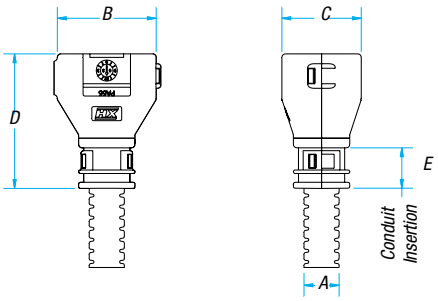
These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

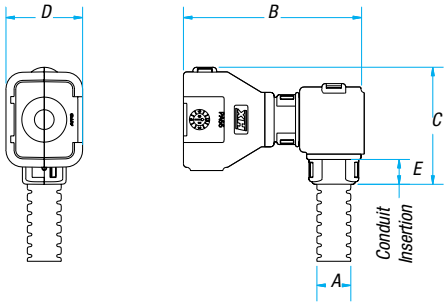
For connector catalog number reference table, see **page E-384**.

NEW

Swivel elbows for NC16 (NW13) are now available for all connector interfaces. Contact Thomas & Betts Technical Support for full details.







CAT. NO.	CONNECTOR	CONDUIT SIZE A	DIMENSIONS (MM) B	C	D	E
AMPSEAL 16® Straight Interfaces						
CI08-AT2PL	2-Way	NC08	23	18	34	12
CI08-AT3PL	3-Way	NC08	28	18	33	11
CI08-AT4PL	4-Way	NC08	29	23	39	13
CI12-AT4PL	4-Way	NC12	29	23	37	11
CI12-AT6PL	6-Way	NC12	29	23	37	11
CI12-AT8PL	8-Way	NC12	32	23	37	11
CI12-AT12PL	12-Way	NC12	41	23	37	11
CI16-AT8PL	8-Way	NC16	32	23	37	11
CI16-AT12PL	12-Way	NC16	41	23	37	11
CI20-AT20PL	20-Way	NC20	41	23	48	12
AMPSEAL 16® 90° Elbow Interfaces						
CI08-90-AT2PL	2-Way	NC08	49	32	20	7.1
CI08-90-AT3PL	3-Way	NC08	49	34	20	7.1
CI08-90-AT4PL	4-Way	NC08	53	34	23	7.1
CI12-90-AT2PL	2-Way	NC12	49	32	20	7.1
CI12-90-AT3PL	3-Way	NC12	49	34	20	7.1
CI12-90-AT4PL	4-Way	NC12	53	35	23	7.1

Ampseal 16 is a registered trademark of the Whitaker Corporation.

CAT. NO.	CONDUIT SIZE (NC)	(NW)	DIMENSIONS (MM) B	C	D	E
CI08-90-AT2LP	08	7.5	37.3	25	17	7.1
CI08-90-AT2LR	08	7.5	37.3	25	20	7.1
CI08-90-AT3LP	08	7.5	39.8	29	17.1	7.1
CI08-90-AT3LR	08	7.5	39.8	29	17.1	7.1
CI08-90-AT4LP	08	7.5	40.8	29.4	20.6	7.1
CI08-90-AT4LR	08	7.5	40.8	29.4	20.6	7.1
CI08-90-AT6LP	08	7.5	42.8	29.4	22.5	7.1
CI08-90-AT6LR	08	7.5	42.8	29.4	22.5	7.1
CI12-90-AT2LP	12	10	38	23	20	7.1
CI12-90-AT2LR	12	10	38	23	20	7.1
CI12-90-AT3LP	12	10	40.2	27.1	17.1	7.1
CI12-90-AT3LR	12	10	40.2	27.1	17.1	7.1
CI12-90-AT4LP	12	10	41.1	27.5	20.6	7.1
CI12-90-AT4LR	12	10	41.1	27.5	20.6	7.1
CI12-90-AT6LP	12	10	43.1	27.5	22.5	7.1
CI12-90-AT6LR	12	10	43.1	27.5	22.5	7.1
LP = Plug	*LR = Receptacle*					
CI08-TY002	08	7.5	26	22.3	22.5	6
CI08-90TY002	08	7.5	36	32	22.5	7.1

Interfaces

External Hinged Connector Interfaces — Deutsch® DT Series



Our single-junction straight and 90° elbow fittings provide high-integrity connections between Deutsch® DT connectors and Harnessflex® conduit systems.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.

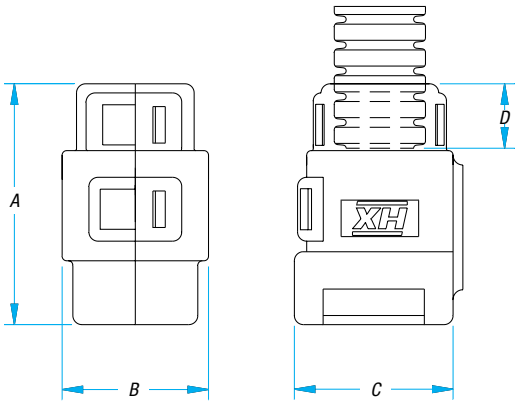
The functionality of a connector when attached to a Harnessflex® product depends on the application, installation and operational criteria determined by the user.

For connector part number reference table, see **page E-384**.

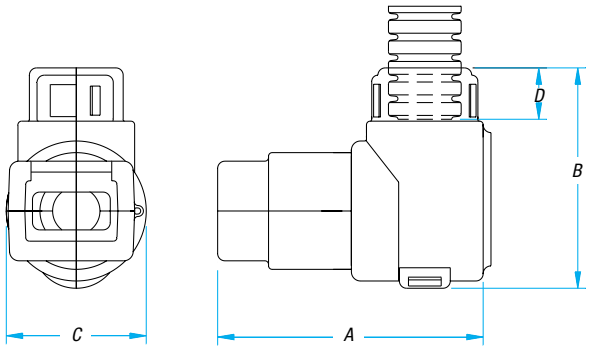
NEW

Swivel elbows for NC16 (NW13) are now available for all connector interfaces. Contact Thomas & Betts Technical Support for full details.





Straight Connector



90° Connector

Configurations

CAT. NO. STRAIGHT INTERFACE	CAT. NO. 90° ELBOW SWIVEL INTERFACE	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	CONNECTOR TYPE
CI08-DT2	CI08-90-DT2	08	7.5	2-Way
CI08-DT3	CI08-90-DT3	08	7.5	3-Way
CI08-DT4	CI08-90-DT4	08	7.5	4-Way
CI08-DT6	CI08-90-DT6	08	7.5	6-Way
CI12-DT2	CI12-90-DT2	12	10	2-Way
CI12-DT3	CI12-90-DT3	12	10	3-Way
CI12-DT4	CI12-90-DT4	12	10	4-Way
CI12-DT6	CI12-90-DT6	12	10	6-Way
CI12-DT8	CI12-90-DT8	12	10	8-Way
—	CI12-90-DT12	12	10	12-Way
—	CI16-90-DT8	16	13	8-Way
CI16-DT12	CI16-90-DT12	16	13	12-Way

Nominal Dimensions

CAT. NO. STRAIGHT INTERFACE	DIMENSIONS (MM) A	B	C	D	CAT. NO. 90° ELBOW SWIVEL INTERFACE	DIMENSIONS (MM) A	B	C	D
CI08-DT2	26	16	18	7	CI08-90-DT2	36	30	19	7
CI08-DT3	30	22	24	12	CI08-90-DT3	44	30	23	7
CI08-DT4	42	18	27	12	CI08-90-DT4	48	30	25	7
CI08-DT6	42	22	27	12	CI08-90-DT6	48	34	25	7
CI12-DT2	26	16	18	7	CI12-90-DT2	36	30	19	7
CI12-DT3	29	22	24	7	CI12-90-DT3	44	30	23	7
CI12-DT4	40	18	27	7	CI12-90-DT4	48	30	25	7
CI12-DT6	40	22	27	10	CI12-90-DT6	48	34	25	7
CI12-DT8	40	25	30	10	CI12-90-DT8	63	37	30	10
	—	—	—	—	CI12-90-DT12	68	36	38	10
	—	—	—	—	CI16-90-DT8	63	37	30	10
CI16-DT12	44	24	40	10	CI16-90-DT12	68	36	38	10

Deutsch is a registered trademark of Deutsch Group.

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External Hinged Connector Interfaces — Deutsch® DTP04 Series

Our compact 90° elbow fittings provide a dual orientation high-integrity connection between the Deutsch® DTP04 and Harnessflex® conduit systems.

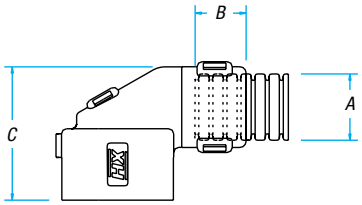
These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

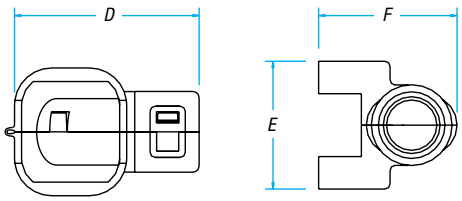
The 16-90-DTP04 adapter will snap into the outlet of a 16mm hinged fitting, including types "Y" (YPS), "T" (TPS), elbows (EPS) and joiners (JPS).

For connector catalog number reference table, see **page E-384**.









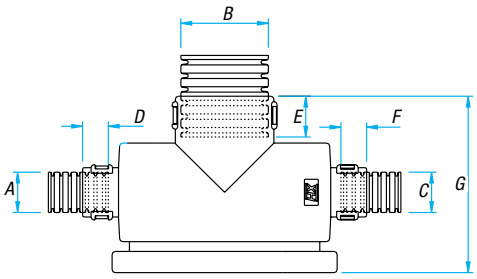
CAT. NO.	CONDUIT SIZE A (NC)	CONDUIT SIZE A (NW)	NOMINAL DIMENSIONS (MM) B	C	D	E	F
CI12-90-DTP04	12	7.5	10	27	37	25	28
16-90-DTP04	—	—	—	27	35	25	27

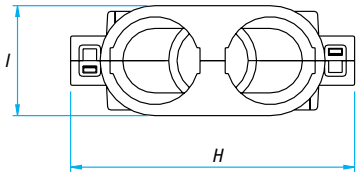
External Hinged Connector Interfaces — Deutsch® DRC50 Series

Two identical half shells snap together onto the twin outlets of the Deutsch® DRC50 interface, creating a three-way conduit fitting.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.







CAT. NO.	CONDUIT SIZES (NC) A	B	C	(NW) A	B	C	NOMINAL DIMENSIONS (MM) D	E	F	G	H	I
CI121212-DRC50	12	12	12	10	10	10	8	8	8	50	92	36
CI122812-DRC50	12	28	12	10	23	10	8	10	8	58	92	36
CI201220-DRC50	20	12	20	17	10	17	10	8	10	50	92	36
CI202820-DRC50	20	28	20	17	23	17	10	10	10	58	92	36
CI251225-DRC50	25	12	25	22	10	22	10	8	10	50	92	36
CI252825-DRC50	25	28	25	22	23	22	10	10	10	58	92	36

Deutsch is a registered trademark of Deutsch Group.

Interfaces

FCI Automotive Apex® Hinged Interfaces

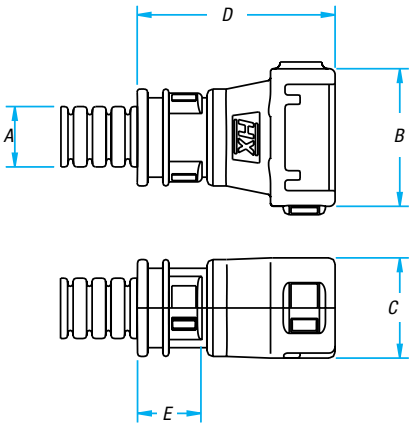


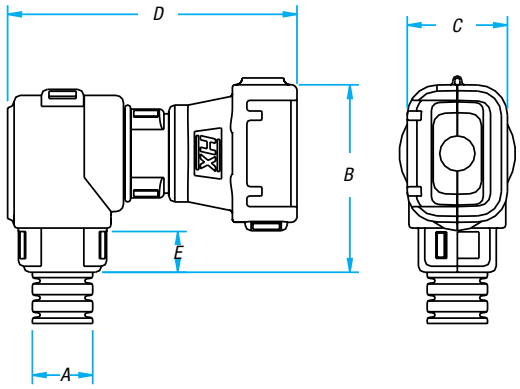
Single-junction, straight and 90° elbow fittings provide high-integrity connections between FCI Apex® connectors or Junior Timer connectors and Harnessflex® conduit systems.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.

For connector part number reference table, see **page E-384**.





FCI Automotive Apex® Straight Interfaces

CAT. NO.	CONNECTOR	CONDUIT SIZE A (NC)	CONDUIT SIZE A (NW)	NOMINAL DIMENSIONS (MM) B	C	D	E
CI08-FCI02	2-Way	08	7.5	25	17	33	12
CI08-FCI03	3-Way	08	7.5	34	17	34	12
CI08-FCI04	4-Way	08	7.5	39	17	34	12
CI12-FCI02	2-Way	12	10	25	17	27	7
CI12-FCI03	3-Way	12	10	35	17	29	7
CI12-FCI04	4-Way	12	10	38	17	29	7
CI12-FCI14	14-Way	12	10	53	26	34	10
CI16-FCI14	14-Way	16	13	53	26	59	10
16-FCI14	14-Way	n/a	n/a	53	26	33	n/a
CI17-FCI10	10-Way	17	n/a	39.2	25.5	44	10.6
CI25-FCI50	50-Way	25	22	56	37	50.7	13

FCI Automotive Apex® 90° Elbow Swivel Interfaces

CAT. NO.	CONNECTOR	CONDUIT SIZE A (NC)	CONDUIT SIZE A (NW)	NOMINAL DIMENSIONS (MM) B	C	D	E
CI08-90-FCI02	2-Way	08	7.5	31	19	48	10
CI08-90-FCI03	3-Way	08	7.5	35	19	49	10
CI08-90-FCI04	4-Way	08	7.5	38	19	49	10
CI12-90-FCI02	2-Way	12	10	32	19	48	10
CI12-90-FCI03	3-Way	12	10	37	19	49	10
CI12-90-FCI04	4-Way	12	10	38	19	49	10
CI08-90-FCI14	14-Way	08	7.5	38	24	57	10
CI12-90-FCI14	14-Way	12	10	38	24	57	10
CI16-90-FCI14	14-Way	16	13	38	24	57	10
CI08-90-FCS02	2-Way SICMA	08	7.5	30	19	33	10

Apex is a registered trademark of FCI.

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Interfaces

External Hinged Connector Interfaces — Bosch® Compact



Single-junction, straight and 90° elbow fittings provide high-integrity connections between various Bosch compact connectors and Harnessflex conduit systems.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

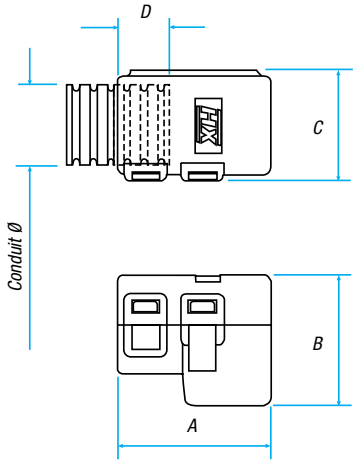
In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.

For connector part number reference table, see **page E-384**.

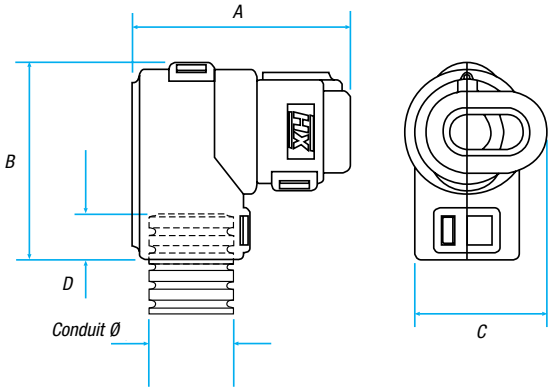
NEW

Swivel elbows for NC16 (NW13) are now available for all connector interfaces. Contact Thomas & Betts Technical Support for full details.





External Straight Connector Interface



External 90° Elbow Connector Interface

Configurations

CAT. NO. STRAIGHT INTERFACE	CAT. NO. 90° ELBOW SWIVEL INTERFACE	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	CONNECTOR TYPE
CI08-BC2	**CI08-90-BC2**	08	7.5	2-Way
CI08-BC3	**CI08-90-BC3**	08	7.5	3-Way
CI08-BC4	**CI08-90-BC4**	08	7.5	4-Way
CI12-BC2	**CI12-90-BC2**	12	10	2-Way
CI12-BC3	**CI12-90-BC3**	12	10	3-Way
CI12-BC4	**CI12-90-BC4**	12	10	4-Way
CI28-BC40	**—**	28	23	40-Way

Bosch is a registered trademark of Robert Bosch GmbH.

Nominal Dimensions

CAT. NO. STRAIGHT INTERFACE	DIMENSIONS (MM) A	B	C	D	CAT. NO. 90° ELBOW SWIVEL INTERFACE	DIMENSIONS (MM) A	B	C	D
CI08-BC2	25	21.3	18	10	**CI08-90-BC2**	33.3	30.3	20.5	10
CI08-BC3	25	26.7	18	10	**CI08-90-BC3**	33.3	30.3	26.7	10
CI08-BC4	25	29	18	10	**CI08-90-BC4**	37	30.3	33	10
CI12-BC2	25	21.3	18	10	**CI12-90-BC2**	33.3	30.3	20.5	10
CI12-BC3	25	26.7	18	10	**CI12-90-BC3**	33.3	30.3	26.7	10
CI12-BC4	25	29	18	10	**CI12-90-BC4**	37	30.3	33	10
CI28-BC40	44.4	40	—	—	**—**	—	—	—	—

Interfaces

External Hinged Connector Interfaces — Delphi Series



Single-junction, straight and 90° elbow fittings provide high-integrity connections between various Delphi series connectors and Harnessflex® conduit systems.

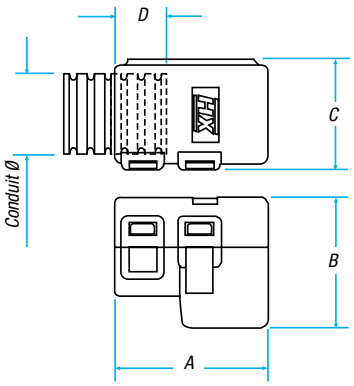
These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.
For connector part number reference table, see **page E-384**.

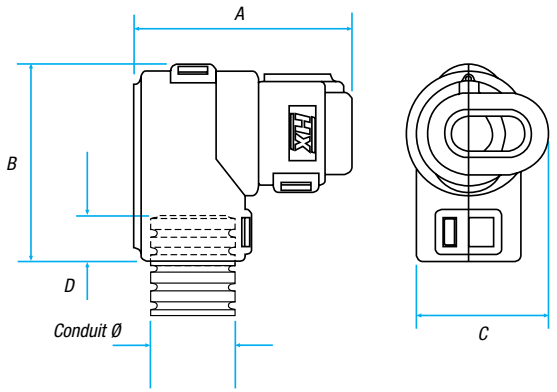
NEW

Swivel elbows for NC16 (NW13) are now available for all connector interfaces.Contact Thomas & Betts Technical Support for full details.

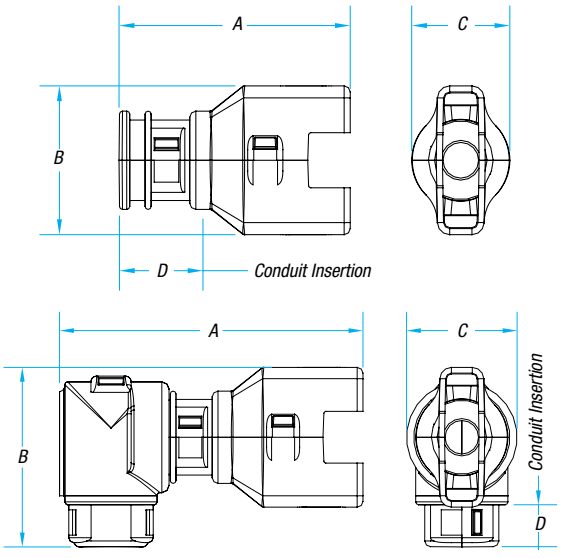




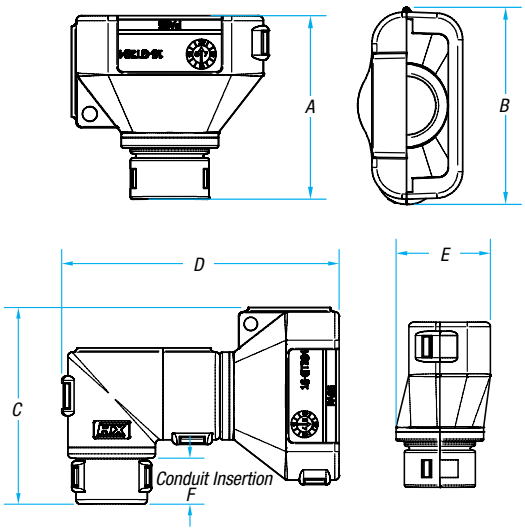
External Straight Connector Interface



External 90° Elbow Connector Interface



GT153 Connector Interface



GT284 Connector Interface

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Interfaces

External Hinged Connector Interfaces — Delphi Series (continued)



Configurations

CAT. NO. STRAIGHT INTERFACE	CAT. NO. 90° ELBOW SWIVEL INTERFACE	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	CONNECTOR TYPE
CI08-DE001	CI08-90-DE001	08	7.5	2-Way
CI08-MP2	CI08-90-MP2	08	7.5	2-Way
CI08-MP3	CI08-90-MP3	08	7.5	3-Way
C108-MMP2	C108-90-MMP2	08	7.5	2-Way
—	CI12-90-MP2	12	10	2-Way
—	CI12-90-MP3	12	10	3-Way
—	CI12-90-MMP3	12	10	2-Way
CI08-WP2	CI08-90-WP2	08	7.5	2-Way
—	CI12-90-WP2	12	10	2-Way
CI08-PTD2	CI08-90-PTD2	08	7.5	2-Way
—	CI12-90-PTD2	12	10	2-Way
CI08-GT153	CI08-90-GT153	08	7.5	—
—	CI12-90-GT153	12	10	—
12-GT284	CI12-90-GT284	12	10	—
16-GT284	CI16-90-GT284	16	13	—

Nominal Dimensions

CAT. NO. STRAIGHT INTERFACE	DIMENSIONS (MM) A	B	C	D	CAT. NO. 90° ELBOW SWIVEL INTERFACE	DIMENSIONS (MM) A	B	C	D
CI08-DE001	18	17	17	6	CI08-90-DE001	32	30	17.5	7.3
CI08-MP2	20	16	28.9	12.3	CI08-90-MP2	35	42	29.5	7.3
CI08-MP3	43	20	28	10	CI08-90-MP3	56.9	30	20	10
CI08-MMP2	30	17	18	10	CI08-90-MMP2	45	30	19	7.3
—	—	—	—	—	CI12-90-MP2	20	42	30.5	7.3
—	—	—	—	—	CI12-90-MP3	56.9	31	20	10
—	—	—	—	—	CI12-90-MMP2	—	—	—	—
CI08-WP2	31.3	16.1	28.3	10	CI08-90-WP2	45.2	33.3	19.5	10
—	—	—	—	—	CI12-90-WP2	45.2	34.3	19.5	10
CI08-GT153	38	24	16	10	CI08-90-GT153	53	31	19	7
—	—	—	—	—	CI12-90-GT153	53	32	19	10
CI08-PTD2	20.2	20.5	18	14.7	CI08-90-PTD2	33.8	30	22	10
—	—	—	—	—	CI12-90-PTD2	33.8	21	22	10
12-GT284	37.3	21.3	40	29.5	CI12-90-GT284	62.6	44.4	—	10
16-GT284	37.3	21.3	40	29.5	CI16-90-GT284	62.6	44.4	—	—

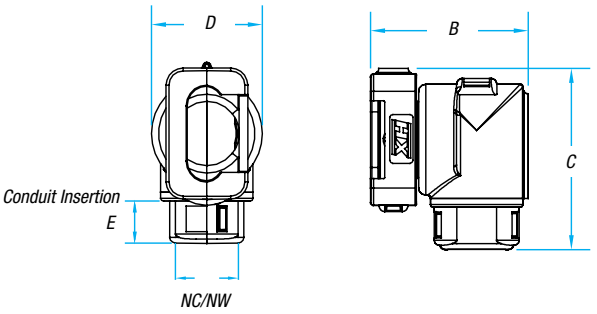
Catalog Numbering System Reference

REF.	CONNECTOR SYSTEM
MP *To suit Metripack*	Delphi Metri-Pack
MMP *To suit Metripack*	Delphi Metri-Pack
WP *To suit Weatherpack*	Delphi Weatherpack
PTD	Power Timer
GT	Delphi Metri-Pack Series 150 and 180

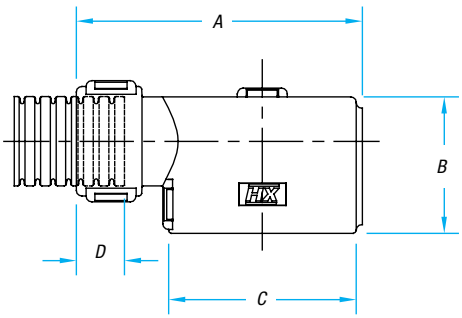
Kostal® Hinged Interfaces

Clip-on elbow interface for Kostal® in-line connector.





CI08-90-K2C



CI16-LK20

Kostal® 90° Elbow Swivel Interfaces

CAT. NO. 90° ELBOW SWIVEL INTERFACE	CONDUIT SIZE (A)		DIMENSIONS (MM)			
	(NC)	(NW)	B	C	D	E
CI08-90-K2C	08	7.5	27.4	30	19.5	10
CI08-90-K3C	08	7.5	27.4	31.4	19.5	10
CI12-90-K2C	12	10	27.4	31	19.5	10
CI12-90-K3C	12	10	27.4	32.4	19.5	10

Kostal® is a registered trademark of Leopold Kostal GmbH & Co. KG.

Kostal® Straight Interface

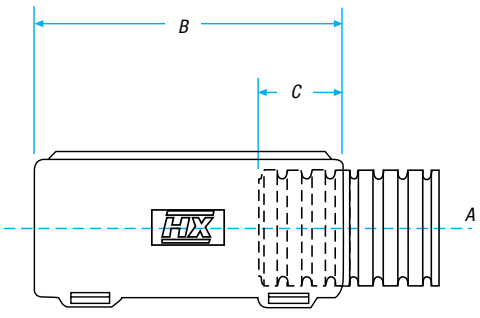
CAT. NO. STRAIGHT INTERFACE	CONDUIT SIZE (A)		DIMENSIONS (MM)			
	(NC)	(NW)	B	C	D	E
CI16-LK20	16	13	51	28	34	10

PG Thread LK20

CAT. NO.	THREAD TYPE	THREAD LENGTH MM	A/F MM	I.D. MM
PG21-LK20	PG21	12.2	37.8	22.6

Millflex Hinged ABS Interfaces

Clip-on straight interface for Millflex ABS connectors.





CAT. NO.	CONDUIT SIZE (A)		DIMENSIONS (MM)	
	(NC)	(NW)	B	C
CI08-MF2	8	7.5	35.6	10
CI10-MF2	10	8.5	35.6	10
CI12-MF2	12	10	35.6	10

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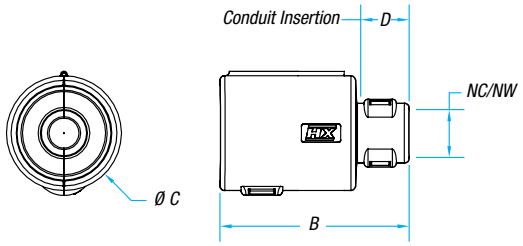
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Interfaces

DIN 72585 Hinged Interface

Circular interface to fit DIN 72585 style connectors.
Connector is free to swivel after interface is installed.

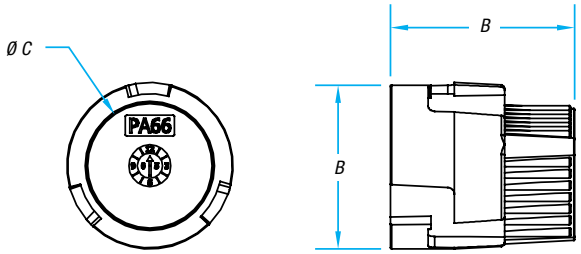




CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	DIMENSIONS (MM) B	C	D
CI08-72585	08	7.5	40.9	24.9	10
CI12-72585	12	10	40.9	24.9	10

IP67 Blanking Plug

Plastic IP67 blanking plug to seal female DIN 72585 circular connectors.
Prevents the ingress of water/dust during transport or harness storage.

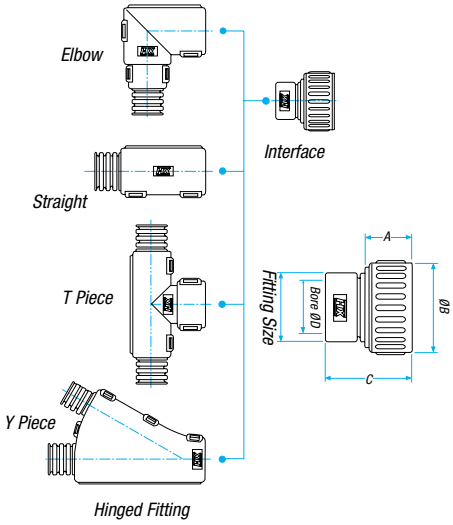




CAT. NO.	DIMENSIONS (MM) A	B	C
BP72585	26.3	23.8	17.8

Interfaces for Circular Connectors

Fitting provides connection between electrical circular connectors and hinged conduit system. Due to the innovative design, the interface can freely rotate without any harness movement. These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.







Configurations

INTERFACE BODY	SHELL SIZE	FITTING SIZE (NC)	FITTING SIZE (NW)	THREAD SIZE
NEPA14-16	14	16	13	13/16"-20 UNEF
NEPA16-20	16	20	17	15/16"-20 UNEF
NEPA24-28	24	28	23	1 1/16"-18 UNEF
CI20-CCU100	18/16	20	17	1"-20 UNEF
CI20-CCU119	18/16	20	17	1 3/16"-18 UNEF
CI28-CCU131	24	28	23	1 5/16"-18 UNEF
CI28-CCU138	24	28	23	1 3/8"-18 UNEF

Nominal Dimensions

INTERFACE BODY	SHELL SIZE	FITTING SIZE (NC)	FITTING SIZE (NW)	DIMENSIONS (MM) A	B	C	D
NEPA14-16	14	16	13	14.4	25.3	25.0	12.5
NEPA16-20	16	20	17	14.4	30.0	26.3	16.4
NEPA24-28	24	28	23	17.0	42.0	29.8	22.8
CI20-CCU100	18/16	20	17	11	30.0	26.0	16.4
CI20-CCU119	18/16	20	17	11	33.0	26.0	16.5
CI28-CCU131	24	28	23	13	41.5	30.0	22.8
CI28-CCU138	24	28	23	13	41.5	30.0	22.8

Interfaces

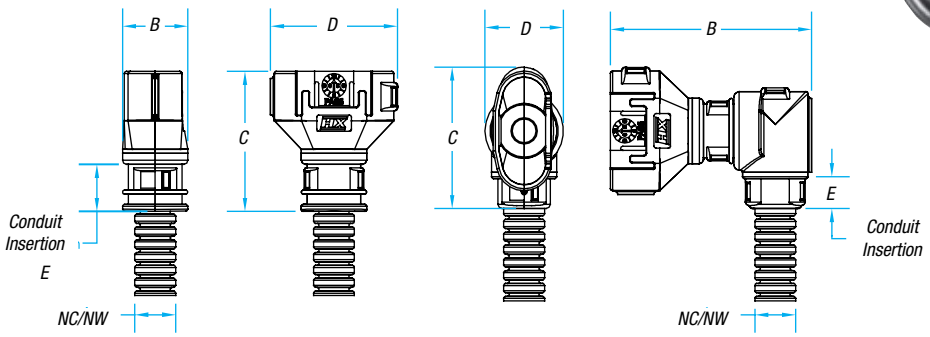
Sumitomo® 4-Way Interface

Single-junction, straight and 90° elbow fittings provide high-integrity connections between Sumitomo® connectors and Harnessflex® conduit systems.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.

In addition, 90° elbow versions allow the conduit to swivel 360° around the connector housing, sufficient to avoid the problems associated with one-piece interfaces of overflexing due to movement or vibration.





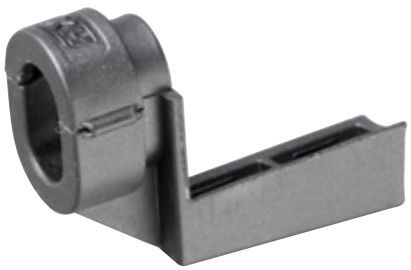
Sumitomo® is a registered trademark of Sumitomo Electric Industries, Ltd.

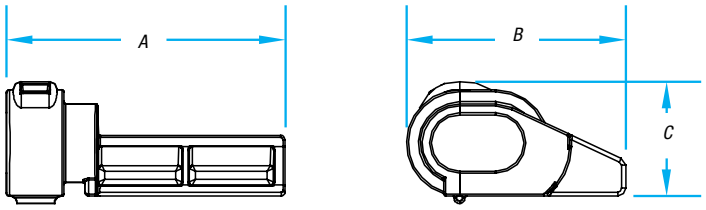
CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	DIMENSIONS (MM) B	C	D	E
CI08-SU4	08	7.5	16.2	29.4	35.0	12.3
CI08-90-SU4	08	7.5	48.2	19.6	34.4	7.3

***Note**: 180° versions are available.*

Kostal® Inhibitor

Clip-on inhibitor for 2-way Kostal® interface, to provide easy and correct harness installation.





Kostal® is a registered trademark of Leopold Kostal GmbH & Co. KG.

CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	DIMENSIONS (MM) A	B	C
K2I-LH	N/A	N/A	35.3	27.7	15.4

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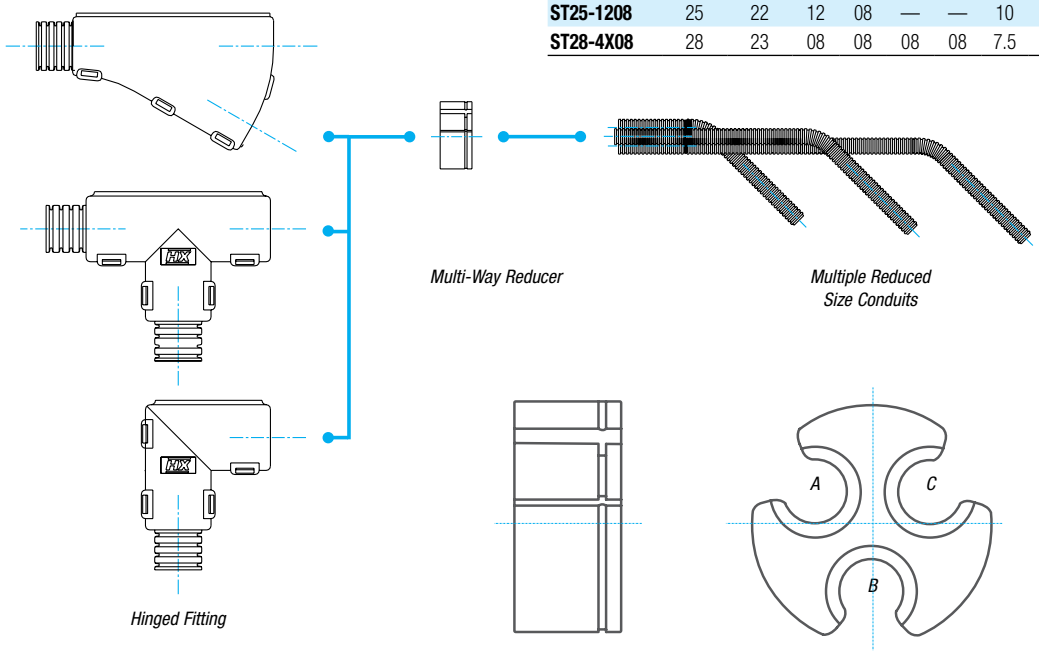
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Multi-Way Reducers

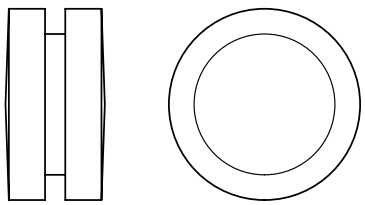
One-piece, multi-way breakout inserts provide reducing options to a variety of conduit sizes from a single hinged fitting junction.

These reducers can accommodate all types of slit and unslit conduit and may be used with all Harnessflex® hinged fittings.

CAT. NO.	FROM CONDUIT SIZE (NC)	FROM CONDUIT SIZE (NW)	TO CONDUIT SIZES (NC) A	B	C	D	TO CONDUIT SIZES (NW) A	B	C	D
ST20-2X08	20	17	08	08	—	—	7.5	7.5	—	—
ST20-12	20	17	12	—	—	—	10	—	—	—
STN25-3X08	25	22	08	08	08	—	7.5	7.5	7.5	—
ST25-12	25	22	12	08	—	—	10	—	—	—
ST25-1208	25	22	12	08	—	—	10	7.5	—	—
ST28-4X08	28	23	08	08	08	08	7.5	7.5	7.5	7.5



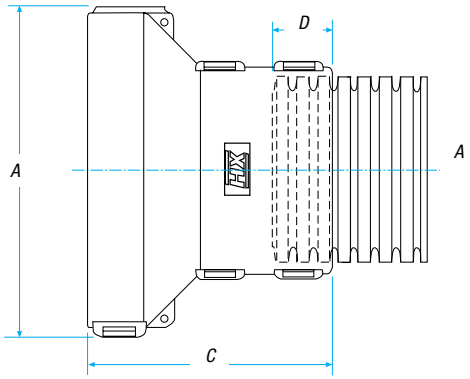
Blanking Caps



CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)
BPST08	08	7.5

AMP CPC Hinged Interfaces

Clip-on straight interfaces for AMP CPC 31 pole circular connectors.

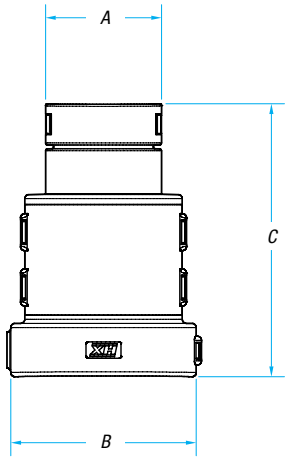


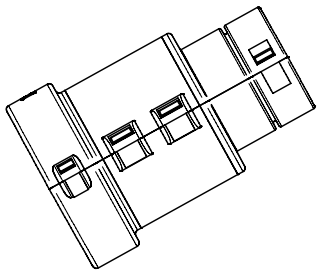


CAT. NO.	CONDUIT SIZE (A) (NC)	CONDUIT SIZE (A) (NW)	DIMENSIONS (MM) B	DIMENSIONS (MM) C	DIMENSIONS (MM) D
CI16-A31	16	13	62	45	10
CI20-A31	20	17	62	45	12
CI25-A31	25	22	62	45	13
CI32-A31	32	29	62	45	13

AMP TYCO Hinged Interfaces

Clip-on straight interfaces for AMP TYCO 62 connectors.





CAT. NO.	CONDUIT SIZE (A) (NC)	CONDUIT SIZE (A) (NW)	DIMENSIONS (MM) B	DIMENSIONS (MM) C
28-TY62	28	23	45.1	66.4

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Sealed Fittings

A wide range of sealed fittings rated at IP66, IP67, IP68 (2bar 30 mins.) and 69k are available and complete the product offering for vehicle wiring applications.



Quality and Standards

Manufacturing is controlled in accordance with BS EN ISO 9001, while ongoing testing and approval to international standards (UL® Recognition, TUV, LCIE) provides additional confidence required to specify appropriate Harnessflex products across the widest variety of automotive applications — including hazardous or aggressive environments.

Conduit has the following approvals:

- FMVSS 302 — Flammability specification for conduit
- NFR13-903 — French automotive conduit specification
- UL® Recognized American electrical conduit specification



Sealed fittings have the following approvals when used with NC solid conduit:

- NFR13-903
- UL® Recognized

All components comply with End of Life Vehicle (ELV) directive EU2000/53/EC. Harnessflex® Sealed Fittings also comply with ISO14001 Environmental Standard.



Capabilities

Our internal design team offers unique solutions specific to our customers' applications. Using the latest 3D CAD modeling software, we are able to communicate new product designs quickly and efficiently.

Prototype parts can be quickly made to order to enable product evaluation early on in the design cycle.

If you have a need for a dedicated sealed fitting, contact Thomas & Betts Technical Support to discuss your requirements.

Hints and Tips

1. The anti-vibration spring clips can be released easily if access is needed — no tool required.
2. In order to maintain the IP rating of the sealed fittings, face sealing washers must be used with all threaded fittings.
3. By using an SC swivel clamping ring (**page E-378**), an IP40 rotating joint can be achieved.
4. Our sealed T and X pieces and our sealed manifolds have inspection covers, which can be removed during installation to aid cable routing.



Sealed Fittings

Straight Fittings

Our straight compression-type fittings incorporate fixed or swivel male threads to provide connection to knockouts and threaded entries.

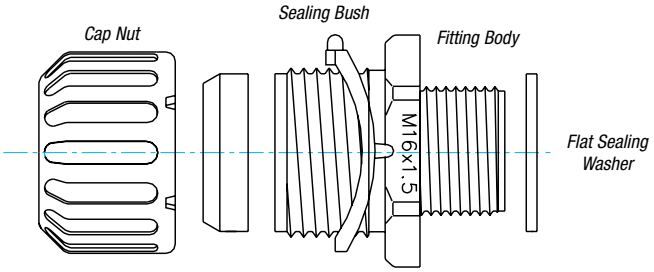
These fittings are designed for use with all types of slit and unslit conduit, thus maintaining maximum conduit bore.

See **page E-376** for details on reducing options that enable each straight fitting to accommodate a variety of conduit sizes.

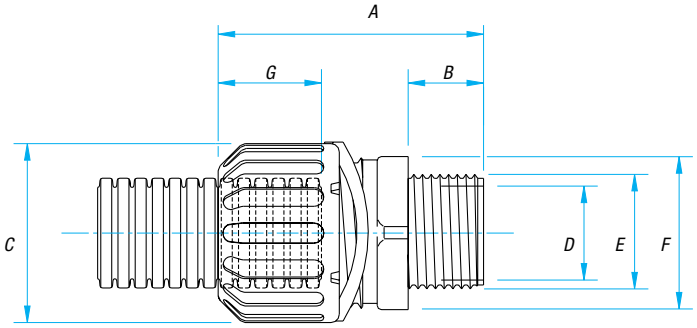
Order fitting bodies, cap nuts and sealing bushing separately.



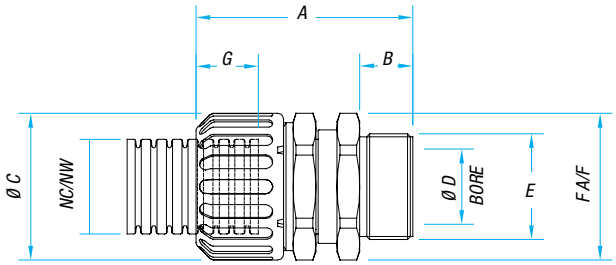
Straight Fitting Configurations



Straight Fitting



Straight Swivel Fitting



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Sealed Fittings

Straight Fittings

CAT. NO. FITTING BODY	CAP NUT	SEALING BUSHING	CONDUIT SIZES (NW)	CONDUIT SIZES (NC)	THREAD SIZE	DIMENSIONS (MM) A	B	C	MIN. BORE D	THREAD E	A/F SIZE F	G
Metric Versions												
AB12-M16	CN07	SRN07	10	8.5	M16x1.5	34	12	23	11	M16x1.5	22	17
AB12-M20	CN07	SRN07	10	8.5	M20x1.5	37	14	23	15	M20x1.5	27	17
AB12-M16	CN09	SRN09	12	10	M16x1.5	34	12	26	11	M16x1.5	22	17
AB12-M20	CN09	SRN09	12	10	M20x1.5	37	14	26	15	M20x1.5	27	17
AB16-M16	CN11	SRN11	16	13	M16x1.5	35	12	26	11	M16x1.5	27	17
AB16-M20	CN11	SRN11	16	13	M20x1.5	37	14	26	15	M20x1.5	27	11
AB20-M20	CN16	SRN16	20	17	M20x1.5	39	14	31	15	M20x1.5	30	20
AB25-M25	CN21	SRN21	25	22	M25x1.5	43	15	39	19	M25x1.5	38	21
AB25-M25	CN28	SRN28	28	23	M25x1.5	43	15	39	19	M25x1.5	38	21
AB32-M32	CN32	SRN29	32	29	M32x1.5	49	16	46	26	M32x1.5	46	27
AB40-M40	CN36	SRN36	40	36	M40x1.5	59	16	58	31	M40x1.5	59	35
AB50-M50	CN48	SRN48	50	48	M50x1.5	59	16	72	41	M50x1.5	73	35
***Note**: Order fitting bodies, cap nuts and sealing bushings separately.*						***Note**: Dimensions are in mm and refer to an overall assembly.*						
PG Versions												
AB12-PG09	CN07	SRN07	10	8.5	PG09	32	10	23	10	PG09	22	17
AB12-PG11	CN07	SRN07	10	8.5	PG11	32	10	23	14	PG11	22	17
AB12-PG13	CN07	SRN07	10	8.5	PG13.5	32	10	23	16	PG13.5	22	17
AB12-PG09	CN09	SRN09	12	10	PG09	32	10	23	10	PG09	22	17
AB12-PG11	CN09	SRN09	12	10	PG11	32	10	23	14	PG11	22	17
AB12-PG13	CN09	SRN09	12	10	PG13.5	32	10	26	16	PG13.5	27	17
AB16-PG09	CN11	SRN11	16	13	PG09	32	10	26	10	PG09	27	17
AB16-PG11	CN11	SRN11	16	13	PG11	32	10	26	14	PG11	27	17
AB16-PG13	CN11	SRN11	16	13	PG13.5	32	10	26	16	PG13.5	27	17
AB20-PG16	CN16	SRN16	20	17	PG16	35	11	31	18	PG16	30	20
AB25-PG21	CN21	SRN21	25	22	PG21	40	12	39	23	PG21	38	21
AB25-PG21	CN28	SRN28	28	23	PG21	40	12	39	23	PG21	38	21
AB32-PG29	CN32	SRN32	32	29	PG29	45	12	46	31	PG29	46	27
AB40-PG36	CN36	SRN36	40	36	PG36	55	12	58	38	PG36	59	35
AB50-PG48	CN48	SRN48	50	48	PG48	55	12	72	50	PG48	73	35
***Note**: Order fitting bodies, cap nuts and sealing bushings separately.*						***Note**: Dimensions are in mm and refer to an overall assembly.*						
Part numbers for NPT and PF threads available on request.												
Swivel Metric Versions												
ABS12-M16	CN07	SRN07	10	8.5	M16x1.5	44.5	11	23	12	M16x1.5	24	17
ABS12-M20	CN07	SRN07	10	8.5	M20x1.5	44.5	11	23	12	M20x1.5	24	17
ABS12-M16	CN09	SRN09	12	10	M16x1.5	44.5	11	23	12	M16x1.5	24	17
ABS12-M20	CN09	SRN09	12	10	M20x1.5	44.5	11	23	12	M20x1.5	24	17
ABS16-M16	CN11	SRN11	16	13	M16x1.5	46.5	12	26	12	M16x1.5	30	20
ABS16-M20	CN11	SRN11	16	13	M20x1.5	44.5	11	26	12	M20x1.5	30	20
ABS20-M20	CN16	SRN16	20	17	M20x1.5	47	11	31	16	M20x1.5	33	22.5
ABS25-M25	CN21	SRN21	25	22	M25x1.5	52	12	39	19	M25x1.5	42.5	22.5
ABS25-M25	CN28	SRN28	28	23	M25x1.5	52	12	39	19	M25x1.5	42.5	22.5
ABS32-M32	CN32	SRN29	32	29	M32x1.5	58.5	17	46.5	26.5	M32x1.5	51	26
***Note**: Order fitting bodies, cap nuts and sealing bushings separately.*						***Note**: Dimensions are in mm and refer to an overall assembly.*						

Other thread options available, including PF, PG, NPT and UNEF — contact Thomas & Betts Technical Support for further information.

Sealed Fittings

90° Elbows



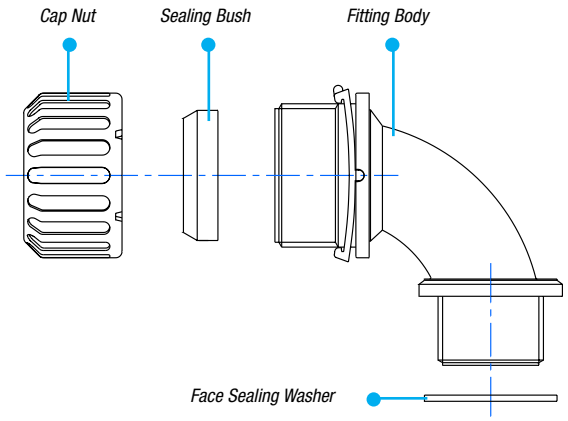
Our 90° compression-type fittings incorporate fixed or swivel male threads to provide connection to knockouts and threaded entries.

These fittings are designed for use with all types of slit and unslit conduit, thus maintaining maximum conduit bore.

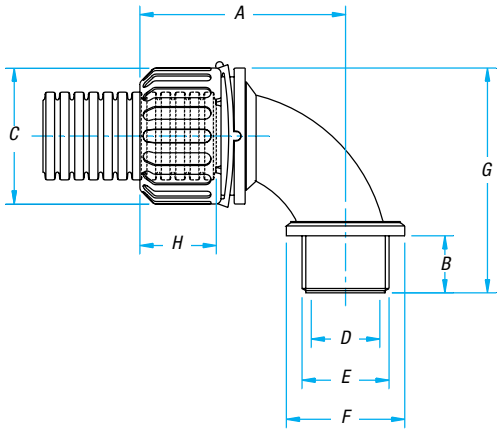
See **page E-376** for details on reducing options that enable each straight fitting to accommodate a variety of conduit sizes.

Order elbow bodies, cap nuts and sealing bushes separately.

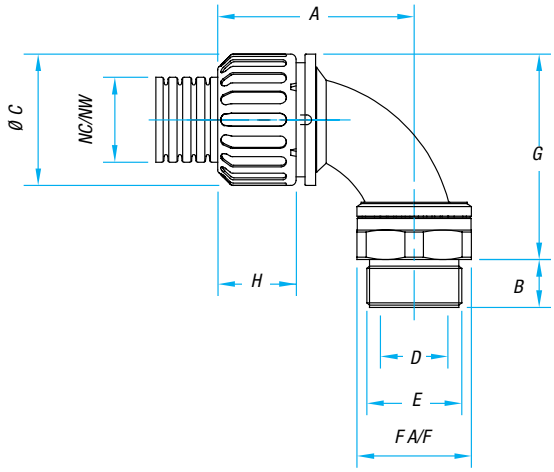
90° Elbow Configurations



90° Fitting Dimensions



90° Swivel Fitting Dimensions



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Sealed Fittings

90° Elbows

CAT. NO. ELBOW BODY	CAP NUT	SEALING BUSHING	FACE SEALING WASHER	CONDUIT SIZES (NW)	CONDUIT SIZES (NC)	THREAD SIZE	DIMENSIONS (MM) A	B	C	MIN. BORE D	THREAD E	F	G	H
Metric Versions														
AB12-M16-90	CN07	SRN07	SWM16	10	8.5	M16x1.5	46	12	23	11	M16x1.5	19	46	17
AB12-M16-90	CN09	SRN09	SWM16	12	10	M16x1.5	46	12	23	11	M16x1.5	19	46	17
AB12-M20-90	CN09	SRN09	SWM20	12	10	M20x1.5	46	12	23	11	M20x1.5	19	46	17
AB16-M16-90	CN11	SRN11	SWM16	16	13	M16x1.5	46	12	26	15	M16x1.5	22	48	17
AB16-M20-90	CN11	SRN11	SWM20	16	13	M20x1.5	46	13	26	15	M20x1.5	27	49	17
AB20-M20-90	CN16	SRN16	SWM20	20	17	M20x1.5	47	13	31	15	M20x1.5	27	51	20
AB25-M25-90	CN21	SRN21	SWM25	25	22	M25x1.5	56	15	39	20	M25x1.5	33	62	21
AB25-M25-90	CN28	SRN28	SWM25	25	23	M25x1.5	56	15	39	20	M25x1.5	33	62	21
AB32-M32-90	CN32	SRN29	SWM32	32	29	M32x1.5	66	16	46	26	M32x1.5	40	76	27
AB40-M40-90	CN36	SRN36	SWM40	40	37	M40x1.5	77	16	59	34	M40x1.5	48	93	35
AB50-M50-90	CN48	SRN48	SWM50	50	50	M50x1.5	94	16	72	40	M50x1.5	59	114	35
***Note**: Order fitting bodies, cap nuts and sealing bushings separately.*							***Note**: Dimensions are in mm and refer to an overall assembly.*							
PG Versions														
AB12-PG09-90	CN07	SRN07	SWPG09	10	8.5	PG09	46	10	23	11	PG09	22	44	17
AB12-PG09-90	CN09	SRN09	SWPG09	12	10	PG09	46	10	23	11	PG09	22	44	17
AB16-PG11-90	CN11	SRN11	SWPG11	16	13	PG11	46	10	26	14	PG11	25	46	17
AB16-PG13-90	CN11	SRN13	SWPG13	16	13	PG13.5	46	10	26	14	PG13.5	25	46	17
AB20-PG16-90	CN16	SRN16	SWPG16	20	17	PG16	46	12	31	15	PG16	28	50	20
AB25-PG21-90	CN21	SRN21	SWPG21	25	22	PG21	56	12	39	22	PG21	36	59	21
AB25-PG21-90	CN28	SRN21	SWPG21	28	23	PG21	56	12	39	22	PG21	36	59	21
AB32-PG29-90	CN32	SRN29	SWPG29	32	29	PG29	66	12	46	29	PG29	44	72	27
AB40-PG36-90	CN36	SRN36	SWPG36	40	37	PG36	79	12	58	39	PG36	54	89	35
AB50-PG48-90	CN48	SRN48	SWPG48	50	50	PG48	94	12	72	51	PG48	68	110	35
***Note**: Order fitting bodies, cap nuts and sealing bushings separately.*							***Note**: Dimensions are in mm and refer to an overall assembly.*							
Swivel Metric Versions														
ABS12-M16-90	CN07	SRN07	SWM16	10	8.5	M16x1.5	45	12	23	12	M16x1.5	24	45	17
ABS16-M16-90	CN11	SRN11	SWM16	16	13	M16x1.5	46	12	26	12	M16x1.5	24	46	17
ABS20-M20-90	CN16	SRN16	SWM20	20	17	M20x1.5	48	11	31	16	M20x1.5	27	48	20
ABS25-M25-90	CN21	SRN21	SWM25	25	22	M25x1.5	56	12	39	19	M25x1.5	34	59	21
ABS32-M32-90	CN32	SRN29	SWM32	32	29	M32x1.5	66	17	46	26	M32x1.5	42	71	27
ABS40-M40-90	CN36	SRN36	SWM40	40	37	M40x1.5	76	18	59	35	M40x1.5	54	90	35
ABS50-M50-90	CN48	SRN48	SWM50	50	50	M50x1.5	92	16	72	45	M50x1.5	70	112	35
***Note**: Order fitting bodies, cap nuts and sealing bushings separately.*							***Note**: Dimensions are in mm and refer to an overall assembly.*							

Other thread options available, including PF, PG, NPT and UNEF — contact Thomas & Betts Technical Support for further information.

Sealed Fittings

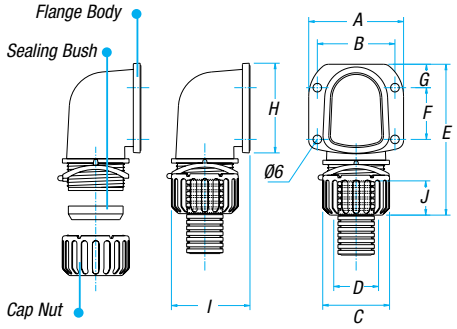
90° Flanges

90° elbow compression type-fittings provide a four-hole panel mounting facility.

These fittings are designed for use with all types of slit and unslit conduit, thus maintaining maximum conduit bore.

See **page E-376** for details on reducing options that enable each straight fitting to accommodate a variety of conduit sizes.

***Note**: For extending the capability of sealed fittings, contact Technical Support regarding clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers and thread reducers/enlargers.*





CAT. NO. FLANGE BODY	CAP NUT	SEAL BUSHING	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)
AB32-F90	CN32	SRN29	32	29
AB40-F90	CN36	SRN36	40	37
AB50-F90	CN48	SRN48	50	50

Nominal Dimensions (mm)

CAT. NO. FLANGE BODY	A	B	C	MIN. BORE D	E	F	G	H	I	J
AB32-F90	66	54	46	36	95	36	17	63	53	27
AB40-F90	86	73	63	46	115	30	27	77	64	35
AB50-F90	86	73	73	59	125	30	30	86	77	35

***Note**: Dimensions refer to an overall assembly.*

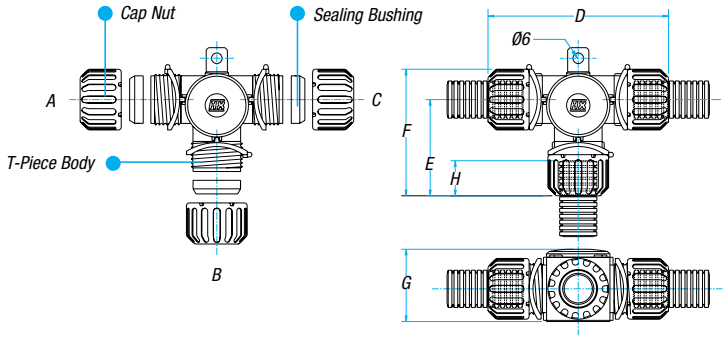
T-Pieces

Symmetrical, three-junction compression-type fittings provide a variety of conduit size configurations.

These fittings are designed for use with all types of slit and unslit conduit, thus maintaining maximum conduit bore. See **page E-376** for details on reducing options that enable each straight fitting to accommodate a variety of conduit sizes.

Accessories

For extending the capability of sealed fittings, contact Technical Support regarding clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers and thread reducers/enlargers. Order T-piece bodies, cap nuts and sealing bushings separately.





CAT. NO. T-PIECE (WITH BRACKET)	CAT. NO. T-PIECE (NO BRACKET)	CAP NUT	SEAL BUSHING	CONDUIT SIZE (NC) A	(NC) B	(NC) C	(NW) A	(NW) B
—	**TP12**	CN07	SRN07	10	10	10	8.5	8.5
—	**TP12**	CN09	SRN09	12	12	12	10	10
—	**TP16**	CN11	SRN11	16	16	16	13	13
TPB20	**TP20**	CN16	SRN16	20	20	20	17	17
TPB28	**TP28**	CN21	SRN21	25	25	25	22	22
TPB28	**TP28**	CN28	SRN28	228	28	28	23	23
TPB32	**TP32**	CN32	SRN29	32	32	32	29	29

***Note**: Order T-piece bodies, cap nuts and sealing bushes separately.*

Nominal Dimensions (mm)

CAT. NO. T-PIECE (WITH BRACKET)	CAT. NO. T-PIECE (NO BRACKET)	MIN. BORE D	E	F	G
—	**TP12**	68	50	39	27
—	**TP16**	69	51	38	31
TPB20	**TP20**	80	58	43	35
TPB28	**TP28**	95	71	52	43
TPB32	**TP32**	109	84	61	51

***Note**: Dimensions refer to an overall assembly.*

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Sealed Fittings

X-Piece

Symmetrical four-junction compression-type fitting provide a variety of conduit size configurations.

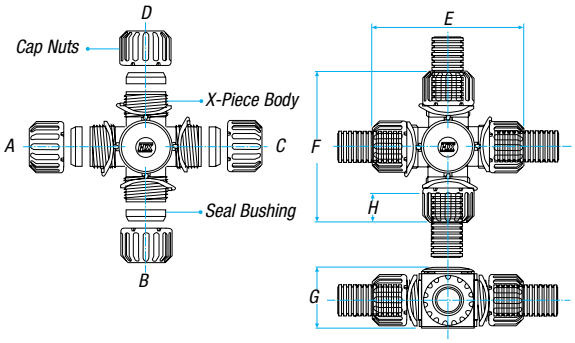
These fittings are designed for use with all types of unslit conduit, thus maintaining maximum conduit bore.

See **page E-376** for details on reducing options that enable each straight fitting to accommodate a variety of conduit sizes.

Accessories

For extending the capability of sealed fittings, contact Technical Support regarding clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers and thread reducers/enlargers.

Order X-piece bodies, cap nuts and sealing bushings separately.





CAT. NO. X-PIECE	CAP NUT	SEAL BUSHING	CONDUIT SIZE (NC) A	B	C	D	(NW) A	B	C	D
XP20	CN16	SRN16	20	20	20	20	17	17	17	17

***Note**: Order T-piece bodies, cap nuts and sealing bushes separately.*

Nominal Dimensions (mm)

CAT. NO. X-PIECE	E	D	G	H
XP20	80	80	35	20

***Note**: Dimensions refer to an overall assembly.*

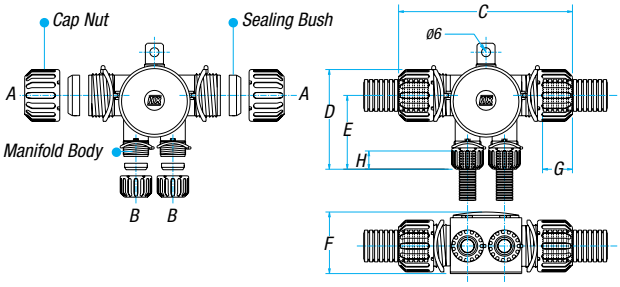
Manifolds

Asymmetrical four-junction compression fittings designed for use with all types of unslit conduit, thus maintaining maximum conduit bore.

Accessories

For extending the capability of sealed fittings, contact Technical Support regarding clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers and thread reducers/enlargers.

Order manifold bodies, cap nuts and sealing bushings separately.





CAT. NO. MANIFOLD BODY	CAP NUT A	A	SEAL BUSHING A	B	CONDUIT SIZE (NC) A	B	(NW) A	B
TPM2512	CN21	CN07	SRN21	SRN07	25	10	22	8.5
TPM2512	CN21	CN21	SRN21	SRN09	25	12	22	10
TPM2512	CN28	CN28	SRN28	SRN07	28	10	23	8.5
TPM2512	CN28	CN28	SRN28	SRN09	28	12	23	10

***Note**: Order T-piece bodies, cap nuts and sealing bushes separately.*

Nominal Dimensions (mm)

CAT. NO. MANIFOLD BODY	C	D	E	F	G	H
TPM2512	105	74	55	40	21	17

***Note**: Dimensions refer to an overall assembly.*

Sealed Fittings

Circular UNEF Connector Interfaces



Straight compression-type fittings provide connection between military style circular connections and conduit systems.

These fittings are designed for use with all types of unslit conduit, thus maintaining maximum conduit bore.

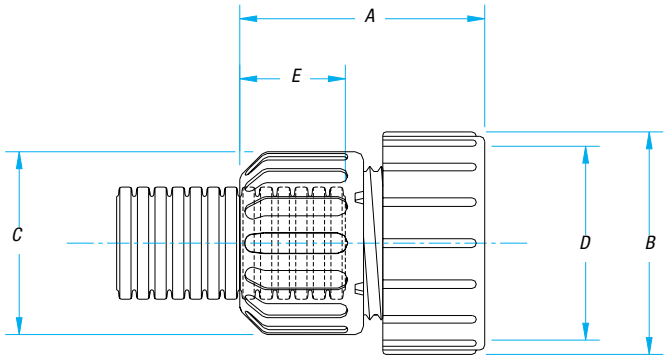
See **page E-376** for details on reducing options that enable each straight fitting to accommodate a variety of conduit sizes.

Accessories

For extending the capability of sealed fittings, contact Technical Support regarding clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers and thread reducers/enlargers.

Order interface bodies, cap nuts and sealing bushes separately.

Specials available upon request. Please contact Thomas & Betts Technical Support for further details.



CAT. NO. INTERFACE BODY	CAP NUT	SEAL BUSHING	FACE SEALING WASHER	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	THREAD SIZE
MPA01	CN07	SRN07	SWPG07	10	8.5	⅝"-24 UNEF
MPA01	CN09	SRN09	SWPG07	12	10	⅝"-24 UNEF
MPA02	CN09	SRN09	SWM16	12	10	⅞"-24 UNEF
MPA03	CN16	SRN16	SWM20	20	17	1"-20 UNEF
MPA04	CN16	SRN16	SWPG16	20	17	1⅜"-18 UNEF
MPA05	CN21	SRN21	SWM25	25	22	1⅞"-18 UNEF
MPA05	CN28	SRN28	SWM25	28	23	1⅞"-18 UNEF
MPA06	CN07	SRN07	SWM20	10	8.5	1"-20 UNEF
MPA07	CN09	SRN09	SWPG16	12	10	1⅜"-18 UNEF
MPA08	CN07	SRN07	SWPG09	10	8.5	¾"-20 UNEF
MPA08	CN09	SRN09	SWPG09	12	10	¾"-20 UNEF

***Note**: Order T-piece bodies, cap nuts and sealing bushes separately.*

Nominal Dimensions (mm)

CAT. NO. INTERFACE BODY	A	B	C	THREAD SIZE D	E
MPA01	30	24	23	⅝"-24 UNEF	17
MPA03	33	36	31	1"-20 UNEF	20
MPA04	32	37	31	1⅜"-18 UNEF	20
MPA05	37	44	39	1⅞"-18 UNEF	21
MPA08	30	32	23	¾"-20 UNEF	17
MPA10	34	32	23	1⅛"-24 UNEF	17
MPA11	32	35	31	1⅝"-20 UNEF	20

***Note**: Dimensions refer to an overall assembly.*

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Sealed Fittings

Solenoid Connector Interfaces

Use screw-thread straight and elbow connectable interfaces for circular solenoids, sensors and switches.

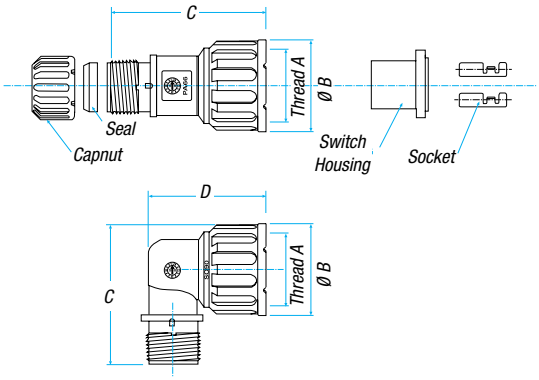
These fittings are designed for use with all types of unslit conduit, thus maintaining maximum conduit bore.

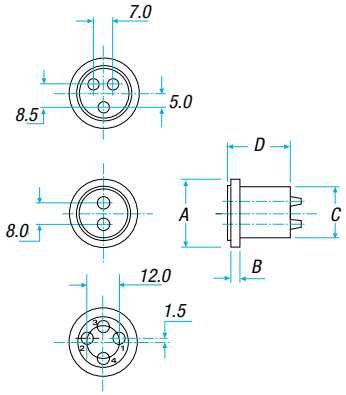
See **page E-376** for details on reducing options that enable each straight fitting to accommodate a variety of conduit sizes.

Accessories

For extending the capability of sealed fittings, contact Technical Support regarding clamping rings, end sleeves/end caps, grommet seals, locknuts, face sealing washers and thread reducers/enlargers.



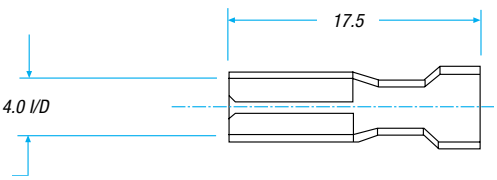




CAT. NO. ELBOW FITTING	THREAD A	NOMINAL DIMENSIONS (MM) B	C	D	NUT COLOR
SC-M24-90	M24x1.0	31	38.5	40.5	Black
SC-M27-90	M27x1.0	34	40	40.5	Gray

CAT. NO. STRAIGHT FITTING	THREAD A	NOMINAL DIMENSIONS (MM) B	C	D	NUT COLOR
SC-M24-S	M24x1.0	31	53	—	Black
SC-M27-S	M27x1.0	34	54	—	Gray

CAT. NO.	SUITABLE FOR CONNECTOR TYPE	NUMBER OF PINS	DIMENSIONS (MM) A	B	C	D
RSG02	M27	2	25.0	3.5	18.7	23.0
RSG03	M27	3	25.3	3.5	18.0	21.0
RSG04	M27	4	25.3	3.5	18.7	23.0
RSG05	M24	2	22.5	3.5	18.0	23.0
RSG06	M24	3	22.3	3.5	18.0	21.0

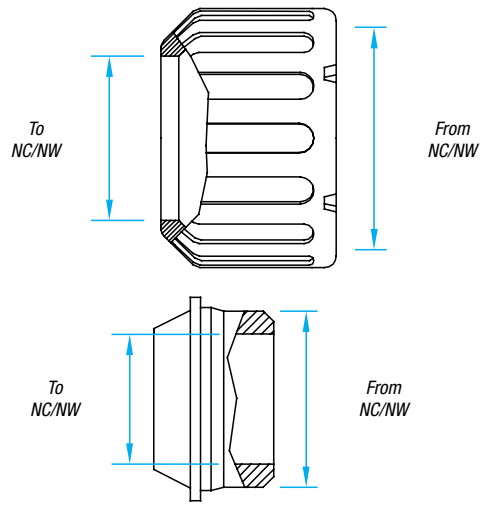


RSGP01 Socket

CAT. NO.	DESCRIPTION
RSGP01	Single
RSGP01-C	Chain Form

Sealed Fittings

Cap Nuts and Reducing Bushings





CAT. NO. CAP NUT	CAT. NO. REDUCING SEALING BUSHING	FROM CONDUIT SIZE (NC)	FROM CONDUIT SIZE (NW)	TO CONDUIT SIZE (NC)	TO CONDUIT SIZE (NW)
CN09-08	**RSB12-08**	12	10	08	7.5
CN11-08	**RSB16-08**	16	13	08	7.5
CN11-12	**RSB16-12**	16	13	12	10
CN16-08	**RSB20-08**	20	17	08	7.5
CN16-12	**RSB20-12**	20	17	12	10
CN16-16	**RSB20-16**	20	17	16	13
CN21-12	**RSB25-12**	25	22	12	10
CN21-16	**RSB25-16**	25	22	16	13
CN21-20	**RSB25-20**	25	22	20	17
CN21-12	**RSB28-12**	28	23	12	10
CN21-16	**RSB28-16**	28	23	16	13
CN21-20	**RSB28-20**	28	23	20	17
CN32-20	**RSB32-20**	32	29	20	17
CN32-25	**RSB32-25**	32	29	25	22
CN32-28	**RSB32-28**	32	29	28	23

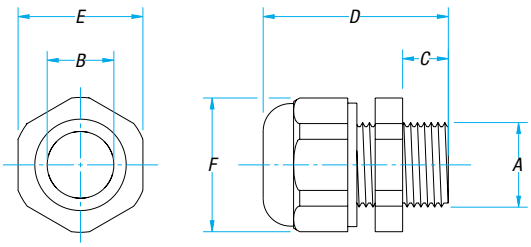
Cable Glands

Straight compression-type IP68 5bar cable glands incorporate fixed male threads to provide secure cable connections through knockouts and threaded entries.

Accessories

For extending the capability of Harnessflex® cable glands, see **page E-377** for locknuts, face sealing washers and blanking plugs for unused entries.





Metric Versions

CAT. NO.	THREAD A	CABLE OD RANGE B	A/F SIZE C	D	E	F
CGS-M16	M16x1.5	4.0–10.0	9	34.5	21	23.5
CGS-M20	M20x1.5	6.0–12.0	10	37	24	27
CGS-M25	M25x1.5	13.0–18.0	11	40	30	33
CGS-M32	M32x1.5	17.0–25.0	12	49	41	45.5
CGS-M40	M40x1.5	24.0–32.0	13	55	50	55.5
CGS-M50	M50x1.5	24.0–38.5	12	65	60	68
CGS-M63	M63x1.5	35.0–44.0	12	67	70	79

PG Versions

CAT. NO.	THREAD A	CABLE OD RANGE B	A/F SIZE C	D	E	F
CGS-PG07	PG7	2.0–6.5	8	31	17	19
CGS-PG09	PG9	4.0–10.0	8	33.5	21	23.5
CGS-PG11	PG11	6.0–12.0	8	35	24	27
CGS-PG13	PG13.5	6.0–12.0	9	36	24	27
CGS-PG16	PG16	10.0–14.0	10	38.5	27	30
CGS-PG21	PG21	13.0–18.0	11	40	30	33
CGS-PG29	PG29	17.0–25.0	11	48	41	45.5
CGS-PG36	PG36	24.0–32.0	13	55	50	55.5

***Notes**: Dimensions are in mm. OD = outside diameter.*

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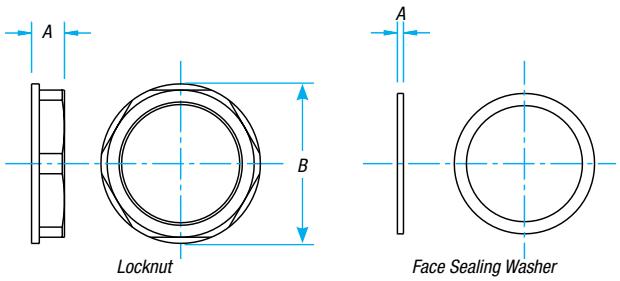
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Locknuts and Face Sealing Washers

Non-metallic locknuts, face sealing washers and blanking plugs designed for use with Harnessflex® cable glands, enclosures and sealed fittings to connect to knockouts and threaded entries.

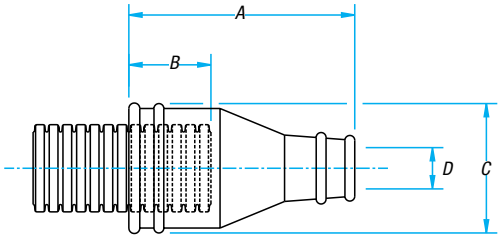




CAT. NO.	THREAD SIZE	A	B (A/F)
Locknuts			
LNP-M16	M16x1.5	7	19
LNP-M20	M20x1.5	8	23
LNP-M25	M25x1.5	9	28
LNP-M32	M32x1.5	9	36
LNP-M40	M40x1.5	10	46
LNP-M50	M50x1.5	10	60
LNP-PG07	PG07	5	19
LNP-PG09	PG09	5	22
LNP-PG11	PG11	5	24
LNP-PG13	PG13.5	6	27
LNP-PG16	PG16	6	30
LNP-PG21	PG21	7	36
LNP-PG29	PG29	7	46
LNP-PG36	PG36	9	56
LNP-PG48	PG48	9	59
Face Sealing Washers			
SWM16	M16	1.5	—
SWM20	M20	1.5	—
SWM25	M25	1.5	—
SWM32	M32	1.5	—
SWM40	M40	1.5	—
SWM50	M50	1.5	—
SWPG07	PG07	1.2	—
SWPG09	PG09	1.2	—
SWPG11	PG11	1.2	—
SWPG13	PG13.5	1.2	—
SWPG16	PG16	1.2	—
SWPG21	PG21	1.2	—
SWPG29	PG29	1.2	—
SWPG36	PG36	1.2	—
SWPG48	PG48	1.2	—

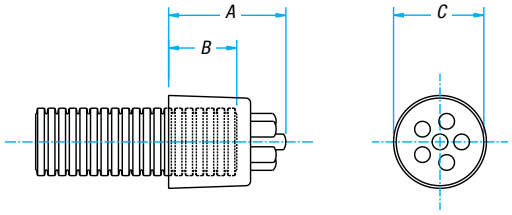
Sealed Fittings

End Sleeves



CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	OUTLET DIA. RANGE	NOMINAL DIMENSIONS (MM) A	B	C
ESN12	12	10	4–8	28	17	19
ESN16	16	13	5–9	35	17	23
ESN20	20	17	7–14	42	20	28
ESN25	25	22	9–17	50	21	31
ESN28	28	23	14–22	50	21	34
ESN32	32	29	16–32	53	27	40
ESN40	40	36	16–30	56	35	50

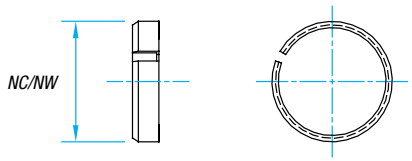
End Caps



CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	OUTLET DIA. RANGE	NOMINAL DIMENSIONS (MM) A	B	C
EK03-08	10	8.5	3	19	13	14
EK05	12	10	5	22	14	17

Swivel C Rings

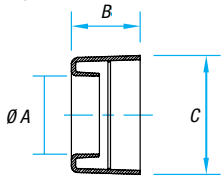
Replaces SRN seal to provide a rotating joint.



CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	OUTLET DIA. RANGE	NOMINAL DIMENSIONS (MM) A	B	C
SC16	16	13	—	—	—	—
SC20	20	17	—	—	—	—
SC28	28	23	—	—	—	—
SC32	32	29	—	—	—	—
SC40	40	36	—	—	—	—
SC50	50	48	—	—	—	—

End Caps

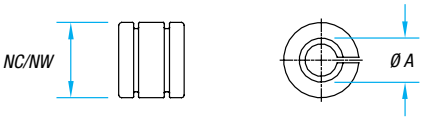
Push-in one-piece fitting leaves a smooth exit from conduit when fittings not used.



CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	OUTLET DIA. RANGE	NOMINAL DIMENSIONS (MM) A	B	C
CES12	12	10	—	8	15	16
CES16	16	13	—	9.5	15	18
CES20	20	17	—	13.5	18	25
CES28	28	23	—	20.5	20	32
CES32	32	29	—	25.7	20	38
CES40	40	36	—	32.3	25	46
CES50	50	48		43.7	25	58

Smooth Entry Grommet

One-piece slit insert provides abrasion protection for cables passing through a hinged fitting junction where conduit is not used.



CAT. NO.	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	OUTLET DIA. RANGE	NOMINAL DIMENSIONS (MM) A	B	C
SEG12	12	10	—	8	—	—
SEG20	20	17	—	16	—	—

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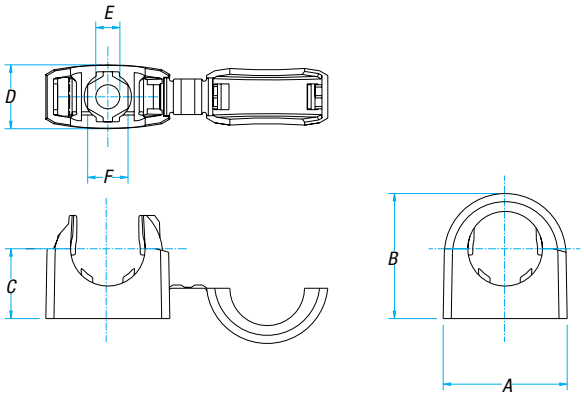
Sealed Fittings

Conduit Clips

One-piece non-metallic conduit clips provide secure mounting points for conduit systems within a Harnessflex® system.

These fittings are designed to snap together over all types of slit and unslit conduit, thus maintaining maximum conduit bore.





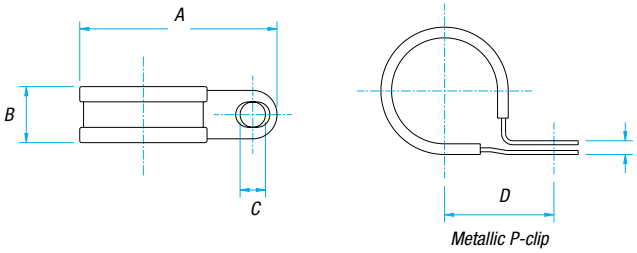
CAT. NO/ CLIP	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	A	B	C	D	FIXING HOLE SIZE E	A/F COUNTER-BORE SIZE F
HCB08	08	7.5	23	23	13	12	4	8
HCB12	12	10	23	23	13	12	4	8
HCB16	16	13	27	27	15	14	5	9
HCB20	20	17	34	35	20	18	6	10
HCB28	28	23	44	44	23	21	6	10
HCB32	32	29	53	52	27	23	6	10
HCB40	40	36	65	63	32	27	6	10
HCB50	50	48	81	77	39	32	6	10

P-Clips

One-piece, metallic P-clips provide secure mounting points for conduit systems within a harness installation.

These clips are designed to accommodate all Harnessflex® slit and unslit conduits.





Metallic P-clip

CAT. NO. P-CLIP	CONDUIT SIZE (NC)	CONDUIT SIZE (NW)	FIXING HOLE SIZE A	B	C	D	E
PCS10	10	8.5	31	13	5	16	1.5
PCS12	12	10	33	13	5	17	1.5
PCS16	16	13	36	13	5	19	1.5
PCS20	20	17	41	13	5	21	1.5
PCS25	25	22	45	13	5	23	1.5
PCS32	32	29	53	13	5	27	1.5
PCS40	40	36	76	25	14	38	2.4
PCS50	50	48	86	25	14	43	2.4

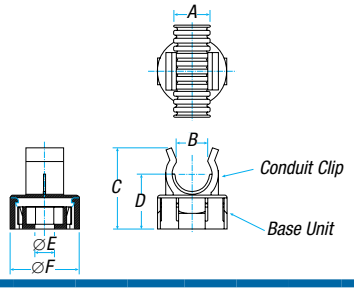
Modular Conduit Clips

One-piece, non-metallic conduit clips provide secure mounting points for conduit systems within a harness installation.

The base unit provides a strong and secure location, while rotating conduit clip prevents detatchment through vibration.

These clips are designed to snap together and securely locate Harnessflex® slit and unslit conduits.

Order base unit and conduit clip separately.



CAT. NO. CONDUIT CLIP	BASE UNIT	A		DIMENSIONS (MM) B	C	D	E	F	COLOR
MCS22-08	**MCB22**	NC08	NW7.5	7	22	16	6.2	22	Black
MCS22-12	**MCB22**	NC12	NW10	10	25	17.5	6.2	22	Gray

Storage Recommendation for Polyamide Products

Polyamide is widely and successfully used for products in the electrical and electronics industries. Thanks to its excellent mechanical and physical properties over a wide range of application temperatures and its very good weather resistance, polyamide can be used to make products for interior and external use that meet the most stringent of demands.

As a hygroscopic material, polyamide has the ability to absorb moisture in molecular form into the plastic matrix. As the moisture content goes up, product properties may change slightly. Absorbed water acts as a plasticizer, reducing strengths and moduli and increasing the toughness of the polyamide.

Although at room temperature the stiffness and strength of PA6 is more reduced by the moisture uptake than those of PA66, this difference can be considered to be non-significant. PA6 absorbs more water than PA66, especially under high humidity conditions. But the resulting dimensional change is still of a similar order.

The following chart shows how the moisture content of polyamides comes into balance with the ambient air in a normal climate of 50% relative humidity and 23° C:

Material	In air (23° C/50% rh)
Polyamide 6	3.0–3.5% by weight
Polyamide 66	2.5–3.0% by weight

To maintain balanced moisture content, Harnessflex recommends storing products under the following conditions:

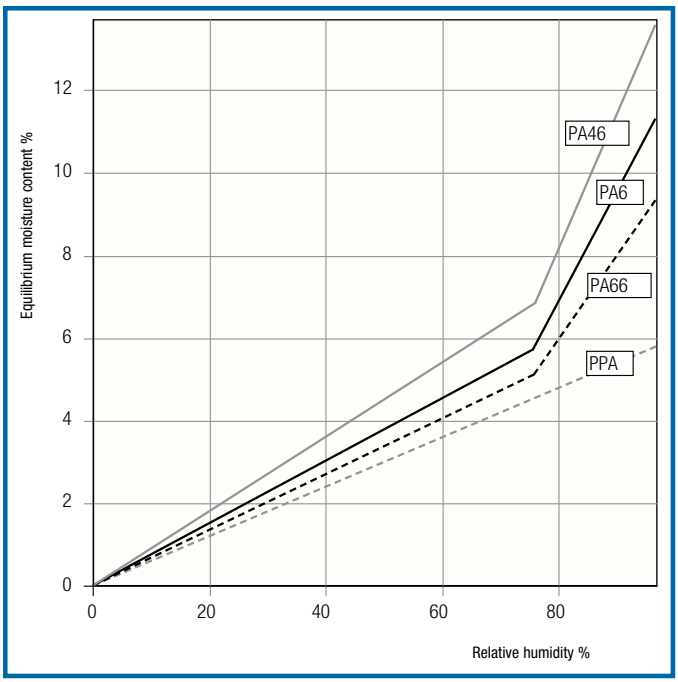
Storage temp.	Processing temp.	Rel. humidity
18° C to 30° C	>18° C	>30%

At lower processing temperatures and in particular when subjected to unnatural drying, corrugated pipes display increased flexural rigidity.

In the very dry winter months, the moisture balance may go down slightly as the material releases moisture to the environment (owing to lower relative humidity). Compared to temperate outdoor conditions at around 0° C (40–80% rh), the humidity in heated rooms may drop by half to below 20% rh if no humidification is present. Even extremely dry regions such as the Sahara Desert record average humidity of 20% to 60% rh.

If products from an outside environment are brought into a heated processing area, the change in climate may suddenly cause temporary de-moisturization around the edges. After one or two days in the processing area, a natural balance will be restored.

Observing this storage recommendation ensures optimum processability and material properties.



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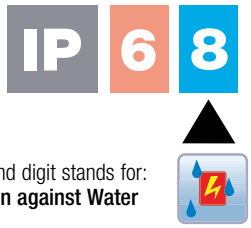
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Ingress Protection (IP) Rating according to EN 60529/DIN 40050

IP suitability ratings are a system for classifying the degree of protection provided by enclosures of electrical equipment. The higher the number, the greater the degree of protection; they apply ONLY to properly installed equipment. The numerals stand for the following:



The first digit stands for:
Protection against Dust



The second digit stands for:
Protection against Water

Protection against Solid Bodies

Degree of protection for persons against access to hazardous parts inside the enclosure and/or against the ingress of solid foreign objects.

0	No protection
1	Objects greater than 50mm, accidental touch by hands
2	Objects greater than 12mm, accidental touch by fingers
3	Objects greater than 2.5mm, e.g. tools/wires
4	Objects greater than 1mm, e.g. tools/wires/ small wires
5	Protected against dust; limited ingress (no harmful deposits)
6	Totally protected against dust (dust-tight)

Protection against Water

Degree of protection of equipment inside enclosures against damage from the ingress of water.

0	No protection
1	Protected against vertically falling drops of water
2	Protected against direct sprays of water up to 15° from vertical
3	Protected against sprays of water to 60° from vertical
4	Protected against water sprayed from all directions; limited ingress permitted
5	Protected against low-pressure jets of water from all directions; limited ingress permitted
6	Protected against strong-pressure jets of water, heavy seas; limited ingress permitted
7	Protection against the effects of immersion between 15cm–1m
8	Protection against long periods of immersion under a quoted pressure (e.g. 2bar at 24 hours)
9k	IP69k automotive standard DIN40050 and signifies resistance to high-pressure jets of water (up to 80bar) from any angle

Technical Information

Nylon (PA6)

Used on all Harnessflex® NC and CTPA nylon conduits

Properties	Test Method	Value	Unit
General			
Density	ISO 1183	1.13	g/cm3
Melting Point	ISO 11357-1/-3	220	°C
Mechanical			
Tensile Strength	ISO 527	55 (Con)	MPa
Elongation at Break	ISO 527	>50 (Con)	%
Youngs Modulus	ISO 527	3100 (Dry)	MPa
Charpy Impact Strength	ISO 179	DNB (Dry)	kJ/m2
Charpy Notched Impact Strength		11 (Dry)	kJ/m2
IZOD Impact Strength	ISO 180C	DNB (Dry)	kJ/m2
IZOD Notched Impact Strength	ISO 180A	4 (Dry)	kJ/m2
Thermal			
Heat Distortion Temperature-A	ISO 75	100	°C
Heat Distortion Temperature-B	ISO 75	>200	°C
Flammability			
Flammability	UL® 94	HB	N/A
Electrical			
Dielectric Strength	IEC 243	14 (Dry)	MV/m
Surface Resistivity	IEC 93	15 (Dry)	log10Ω
Volume Resistivity	IEC 93	15 (Dry)	log10Ω
Comparative Tracking Index	IEC 112	>600	V

Notes: DNB = Did not break, Dry = Dry as molded, Con = Conditioned 168 hours @ 23° C, 50% rh All tests undertaken at 23° C where applicable.

Chemical Resistance: Nylon 6 Harnessflex conduits are resistant to all underbonnet oils, greases, fuels, cleaning fluids and synthetic fluids.

Like all Nylons, they are resistant to weak acids but not resistant to strong or oxidizing acids.

Approvals: NC conduits are approved to different standards, including NFR 13-903. Others are manufacturer specific or are new developments and may not be approved to certain standards. Please contact Technical Support for specific inquiries.

PEEK™ (PolyEtheretherKetone)

Used on PKC conduit

Properties	Test Method	Value	Unit
General			
Density	ISO 1183	1.32	g/cm3
Melting Point	DEC	343	° C
Mechanical			
Tensile Strength	ISO 527	97	MPa
Elongation at Break	ISO 527	<60	%
Youngs Modulus	ISO 527	3600	MPa
Charpy Impact Strength, 2mm Notch	ISO 179	35	kJ/m2
Charpy Impact 0.25mm Notch	ISO 179	8.2	kJ/m2
IZOD Impact Strength	ISO 180	DNB	kJ/m2
IZOD Impact Strength 0.25mm Notch	ISO 180	6.4	kJ/m2
Thermal			
Heat Distortion Temperature-A	ISO 75	152	° C
Heat Distortion Temperature-B	ISO 75		° C
Flammability	UL® 94	V-0	N/A
Electrical			
Dielectric Strength	IEC 243	190	kV/m-1
Surface Resistivity	IEC 93		
Volume Resistivity	IEC 93	4.9	1016Ω cm
Comparative Tracking Index	IEC 112	150	V

***Notes**: DNB = Did not break, All tests undertaken at 23° C where applicable.*

This linear aromatic polymer is semi-crystalline and is widely regarded as the highest performance thermoplastic material currently available. A summary of key physical properties is as follows:

High Temperature Performance: PEEK™ polymer and compounds typically have a glass transition temperature of 143° C and a melting temperature of 343° C and a continuous use temperature of 260° C (UL 746B).

Wear Resistance: PEEK™ polymer has excellent friction and wear properties exhibiting outstanding wear resistance over wide ranges of pressure, velocity, temperature and counterfacial roughness.

Chemical Resistance: PEEK™ polymer has excellent resistance to a wide range of chemical environments, even at elevated temperatures. The only common environment which dissolves PEEK™ polymer is concentrated sulphuric acid.

Fire, Smoke and Toxicity: PEEK™ polymer is highly stable and requires no flame-retardant additives to achieve a V-0 rating at 1.4mm thickness. The composition and inherent purity of the material results in extremely low smoke and toxic gas emission in fire situations.

Hydrolysis Resistance: PEEK™ polymer and compounds are not chemically attacked by water or pressurized steam. Components which are constructed from these materials retain a high level of mechanical properties when continuously conditioned in water at elevated temperatures and pressures.

Electrical Properties: The electrical properties of PEEK™ polymer are maintained over a wide frequency and temperature.

Nylon (PA66) – Heat Stabilized

Used on all Harnessflex un-reinforced nylon fittings

Properties	Test Method	Value	Unit
General			
Density	ISO 1183	1.14	g/cm3
Melting Point	ISO 1218	263	°C
Mechanical			
Tensile Strength	ISO 527	95 (Dry)	MPa
Elongation at Break	ISO 527	23 (Dry)	%
Youngs Modulus	ISO 527	3400 (Dry)	MPa
Flexural Modulus	ISO 178	2850 (Dry)	MPa
Charpy Impact Strength	ISO 179	DNB (Dry)	kJ/m2
Charpy Notched Impact Strength		6 (Dry)	kJ/m2
IZOD Impact Strength	ISO 180C	DNB (Dry)	kJ/m2
IZOD Notched Impact Strength	ISO 180A	5 (Dry)	kJ/m2
Thermal			
Heat Distortion Temperature @1.8Mpa	ISO 75-2	85	°C
Heat Distortion Temperature @ 0.45MPa	ISO 75-2	230	°C
Flammability	UL® 94	V-0	N/A
Flammability	UL® 94	V2	N/A
Glow Wire Flammability @ 1.5mm	IEC 695-2-1/2	850 (Con)	°C
Electrical			
Dielectric Strength	IEC 243	60 (Dry)	MV/m
Surface Resistivity	IEC 60093	1E+15	Ω
Volume Resistivity	IEC 60093	1E+15	Ω.cm
Comparative Tracking Index	IEC 60112	600	V

***Notes**: DNB = Did not break, Dry = Dry as molded, Con = Conditioned 168 hours @ 23° C, 50% RH All tests undertaken at 23° C where applicable.*

Chemical Resistance: Nylon (PA66) Harnessflex fittings are resistant to all underbonnet oils, greases, fuels, cleaning and synthetic fluids.

Like all Nylons, they are resistant to weak acids but not resistant to strong or oxidizing acids.

Approvals:

Individual parts are approved to different standards, including NFR 13-903. Others are manufacturer specific or are new developments and may not be approved to certain standards. Please contact Technical Support for specific inquiries.

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Technical Information

Nylon (PA66) - 30% Glass Fiber Filled

Used on SC-M27 and SC-M24 swivel nuts

Properties		Test Method	Value	Unit
General				
Density		ISO 1183	1.36	g/cm3
Moisture Absorption (1) Ð		Sim. to ISO 62	1.6	%
Mechanical (2)				
Tensile Stress at Yield/Break **(3)**		ISO 527	195	N/mm2
Elongation at Break		ISO 527	3	%
Modulus of Elasticity **(4)**		ISO 527	10000	N/mm2
IZOD Notched Impact Strength	@ +23°C	ISO 180/1A	13	kJ/m2
	@ -30° C		10	
Thermal				
Heat Deflection Temperature (HDT)		ISO 75/A	250	°C
Ball Pressure Test		IEC 60695-10-2	>200	°C
Flammability				
Flammability (1.6mm thickness)		UL® 94	HB	
Oxygen Index		ISO 4589	24	%
Glow Wire Test Extinguishing Time (5)		IEC 60695-2-1/1	<15	s
Hot Wire Ignition (HWI) (1.5mm thickness)		IEC 60695-2-20	>15	s
High-Current Arc Ignition (HAI) (0.7mm thickness)		IEC 60947	>120	No. of arcs
Electrical (2)				
Dielectric Strength		IEC 60243-1	>30	kV/mm
Specific Surface Resistivity		IEC 60093	1015	Ω
Specific Volume Resistivity		IEC 60093	1015	Ω.cm
Dielectric Constant	@ 100 Hz	IEC 60250	3.8	
	@ 1 MHz		3.5	
Dissipation Factor	@ 100 Hz	IEC 60250	90	$x10^4$
	@ 1 MHz		160	$x10^4$
Comparative Tracking Index		IEC 60112	600	V
Electrolytic Corrosion		IEC 60426	A1.2	—

Key:

1 Moisture absorption, saturation at +23° C and 50% rh (ref. DIN 53495).
2 Dry as molded.
3 Test speed 5mm/min.
4 Test speed 1mm/min.
5 Glow wire applied during 30 secs, temperature 750° C, thickness 1.6mm.

Thermoplastic Elastomer TPV

Used on sealing products

A polypropylene-based elastomer designed primarily for demanding automotive applications. This material exhibits excellent compression set, flex fatigue and high- and low-temperature performance.



SRN SWN SEG ESN EK

Properties	Test Method	Value	Unit
General			
Density	ISO 1183	0.96	g/cm3
Hardness Shore A (5 sec.)	ISO 868	56	—
Brittleness Temperature	ISO 812	-62	°C
Flammability	UL® 94	HB	—
Stress/Strain Properties	ISO 37 (II)		
Flow Direction			
Tensile Strength		3.8	MPa
Modulus 100%		2.7	MPa
Elongation at Break		280	%
Cross Direction			
Tensile Strength		5.1	MPa
Modulus 100%		1.9	MPa
Elongation at Break		470	%
Tear Strength (Cross Direction)			
Trouser	ISO 34 A	7	kN/m
Un-nicked Angle	ISO 34 B (a)	22	kN/m
Compression Set	ISO 815		
72h/23° C		22	%
72h/70° C		26	%
72h/100° C		34	%
Hot Air Aging	ISO 188		
1000h/125° C			
Change in Hardness		2	pts
Retention Tensile Strength		90	%
Retention — Elongation at Break		96	%
336h/150° C			
Change in Hardness		0	pts
Retention Tensile Strength		90	%
Retention Elongation at Break		87	%
Volume Swell	ISO 1817		
72h/100° C Water		+3	%
168h/100° C ASTM Oil 1		+43	%
168h/100° C Ref. Fuel B		+91	%

***Notes**: Tests are conducted on injection-molded plaques. All tests undertaken at 23° C where applicable.*

Chemical Resistance: TPV fittings are resistant to water, acids, ethanol, glycerol, methanol and propanol, hydraulic brake fluid and antifreeze. Large volume swell (>60%) is experienced with certain oils and fuels.

Approvals: Individual parts are approved to different standards, including NFR 13-903. Others are manufacturer specific or are new developments and may not be approved to certain standards. Please contact Technical Support for specific inquiries.

Connector Catalog Number Reference

CAT. NO.	REF. NO.	NOTES	CAT. NO.	REF. NO.	NOTES	CAT. NO.	REF. NO.	NOTES	CAT. NO.	REF. NO.	NOTES
CI08-180-K2C			CI08-AS1	282079-2	•	CI12-90-AM3	1-827578-1	•	CI12-AT6PL	776433-1	•
CI08-72585			CI08-AS2	282080-1	•	CI12-90-AM4	281804-1	•	CI12-AT8PL	776494-1	•
CI08-90-AM2	347887-3	•	CI08-AS3	282087-1	•	CI12-90-AS1	282079-2	•	CI12-BC2	1 928 403 137	♦
CI08-90-AM3	1-827578-1	•	CI08-AS4	282088-1	•	CI12-90-AS2	282080-1	•	CI12-BC3	1 928 403 110	♦
CI08-90-AM4	281804-1	•	CI08-AT2PL	776427-1	•	CI12-90-AS3	282087-1	•	CI12-BC4	1 928 403 112	♦
CI08-90-AS1	282079-2	•	CI08-AT3PL	776427-1	•	CI12-90-AS4	282088-1	•	CI12-DT2	DT06-2S	▼
CI08-90-AS2	282080-1	•	CI08-AT4PL	776487-1	•	CI12-90-AT2LP	776427-1	•	CI12-DT3	DT06-3S	▼
CI08-90-AS3	282087-1	•	CI08-AT6PL	776433-1	•	CI12-90-AT2LR			CI12-DT4	DT06-4S	▼
CI08-90-AS4	282088-1	•	CI08-BC2	1 928 403 137	♦	CI12-90-AT2PL	776427-1	•	CI12-DT6	DT06-6S	▼
CI08-90-AT2LP	776427-1	•	CI08-BC3	1 928 403 110	♦	CI12-90-AT3LP	776427-1	•	CI12-DT8	DT06-8SA	▼
CI08-90-AT2LR			CI08-BC4	1 928 403 112	♦	CI12-90-AT3LR			CI12-FCI02		
CI08-90-AT2PL	776427-1	•	CI08-DE001	12078090		CI12-90-AT3PL	776427-1	•	CI12-FCI03		
CI08-90-AT3LP	776427-1	•	CI08-DT2	DT06-2S	▼	CI12-90-AT4LP	776487-1	•	CI12-FCI04		
CI08-90-AT3LR			CI08-DT3	DT06-3S	▼	CI12-90-AT4LR			CI12-FCI14		
CI08-90-AT3PL	776427-1	•	CI08-DT6	DT06-6S	▼	CI12-90-AT4PL	776487-1	•	CI12-MF2		
CI08-90-AT4LP	776487-1	•	CI08-F2W			CI12-90-AT6LP	776433-1	•	CI12-WP2		
CI08-90-AT4LR			CI08-FCI02			CI12-90-AT6LR			CI12-X01		
CI08-90-AT4PL	776487-1	•	CI08-FCI03			CI12-90-BC2	1 928 403 137	✔	CI16-90-AT8PL	776494-1	•
CI08-90-AT6LP	776433-1	•	CI08-FCI04			CI12-90-BC3	1 928 403 110	✔	CI16-90-DT12	DT06-12SA	▼
CI08-90-AT6LR			CI08-GT153			CI12-90-BC4	1 928 403 112	✔	CI16-90-DT8	DT06-8SA	▼
CI08-90-BC2	1 928 403 137	♦	CI08-GT153-Z			CI12-90-DT12	DT06-12SA	▼	CI16-90-FCI14		
CI08-90-BC3	1 928 403 110	♦	CI08-MF2			CI12-90-DT2	DT06-2S	▼	CI16-AT12PL	776494-1	•
CI08-90-BC4	1 928 403 112	♦	CI08-MMP2			CI12-90-DT3	DT06-3S	▼	CI16-AT8PL	776494-1	•
CI08-90-DE001			CI08-MP2			CI12-90-DT4	DT06-4S	▼	CI16-DT12	DT06-12SA	▼
CI08-90-DT2	DT06-2S	▼	CI08-MP3			CI12-90-DT6	DT06-6S	▼	CI16-DT8	DT06-8SA	▼
CI08-90-DT2C			CI08-NV001			CI12-90-DT8	DT06-8SA	▼	CI16-FCI14		
CI08-90-DT3	DT06-3S	▼	CI08-PTD2			CI12-90-DTP04			CI16-LK20		
CI08-90-DT4	DT06-4S	▼	CI08-SU4			CI12-90-FCI02			CI17-FCI10		
CI08-90-DT6	DT06-6S	▼	CI08-TY002	184002-1	✔	CI12-90-FCI03			CI201220-DRC50		
CI08-90-FCI02			CI08-WP2			CI12-90-FCI04			CI202820-DRC50		
CI08-90-FCI03			CI08-WS2			CI12-90-FCI14			CI20-A31		
CI08-90-FCI04			CI10-90			CI12-90-GT153			CI20-AT12PL	776494-1	•
CI08-90-FCI14			CI10-90-AM2	347887-3	•	CI12-90-K2C			CI251225-DRC50		
CI08-90-FCS02			CI10-90-AM3	1-827578-1	•	CI12-90-K3C			CI252825-DRC50		
CI08-90-GT153			CI10-90-AM4	281804-1	•	CI12-90-MMP2			CI25-A31		
CI08-90-K2C			CI10-90-AS2	282080-1	•	CI12-90-MP2			CI25-FCI50		
CI08-90-K3C			CI10-90-AS3	282087-1	•	CI12-90-MP3			CI28-90-25		
CI08-90-MMP2			CI10-90-AS4	282088-1	•	CI12-90-WP2			CI28-BC40		
CI08-90-MP2			CI10-AM2	347887-3	•	CI12-90-X01			CI28-CCU138		
CI08-90-MP3			CI10-AM3	1-827578-1	•	CI12-AM2	347887-3	•	CI32-A31		
CI08-90-NV001			CI10-AM4	281804-1	•	CI12-AM3	1-827578-1	•	CI-DT2C		
CI08-90-PTD2			CI10-AS2	282080-1	•	CI12-AM4	281804-1	•	CI-FCS02		
CI08-90-S			CI10-AS3	282087-1	•	CI12-AS1	282079-2	•	CI-K2C		
CI08-90-SU4			CI10-AS4	282088-1	•	CI12-AS2	282080-1	•	CI-K3C		
CI08-90-WP2			CI10-MF2			CI12-AS3	282087-1	•	CI-MF-90		
CI08-AM2	347887-3	•	CI121212-DRC50			CI12-AS4	282088-1	•	CIS-90		
CI08-AM3	1-827578-1	•	CI122812-DRC50			CI12-AT12PL	776494-1	•			
CI08-AM4	281804-1	•	CI12-90-AM2	347887-3	•	CI12-AT4PL	776487-1	•			

• *All Color and Wire Variants* ♦ *All Bosch Kompact Variants* ▼ *All Color Variants* ✔ *All Color and Key Variants*

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Ocal®

Ocal® Corrosion-Resistant Conduit Systems



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Ocal® Corrosion-Resistant Conduit Systems

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PVC-Coated Conduit Bodies and Fittings E-400–E-417
PVC-Coated Boxes and Covers E-418–E-419
PVC-Coated Hazardous Location Fittings E-420–E-427
PVC-Coated Strut and Accessories E-428–E-431
Ocal® Installation Products E-432–E-440
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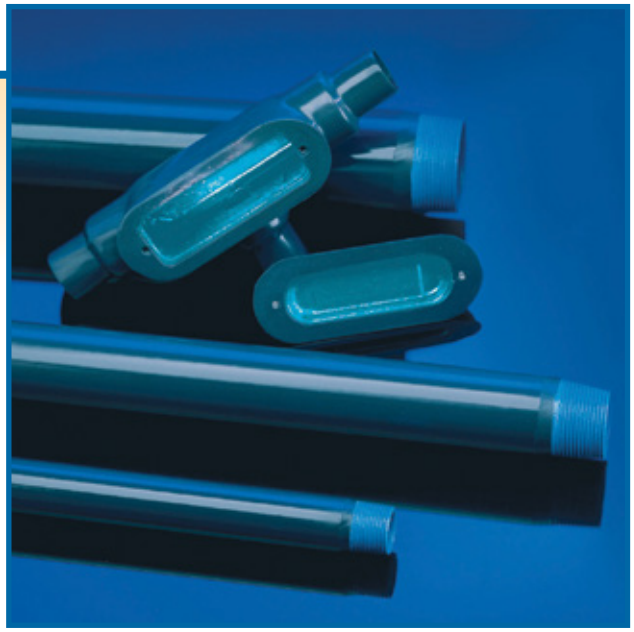
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Overview

Better by Design

Ocal-Blue® PVC-coated conduit and fittings represent a complete corrosion-protection package for your entire conduit system. This extensive product line includes the largest number of items in stock along with corrosion-resistant supports and patching compounds. With Ocal® PVC-coated conduit and fittings, you get corrosion protection that will extend the life of your electrical raceway system for years and years.



A Complete Corrosion Protection Solution

- UL® Listed with both the zinc coating and the PVC coating investigated and listed per UL6.
- Industry leading thread protection through a hot-dipped galvanizing process, and industry leading UL® Listed Type 4X PVC-coated conduit bodies.
- A full undisturbed zinc coating under the PVC coating, fulfilling the requirement of NEMA RN-1 regarding the restriction of harmed or eroded zinc coating over the conduit.
- Meets the requirements of NEMA RN-1 without exception.
- UL® Listed including UV resistance testing.
- "Double-Coat" coated fittings, enhancing corrosion protection by applying coating to the interior and exterior of the fittings before PVC coating.
- Custom colors.
- On-site installation training and certification, and extended warranty on installations conducted by certified installers.





Standards Met

- ANSI C80.1
- Federal Specification WW-C-581
- NEMA RN-1
- UL6

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Overview

What is corrosion?

Corrosive elements cause millions of dollars in damage through lost time, materials and labor.



Examples of Corrosion







Corrosion Protection of Electrical Conduit Systems

Corrosion Protection Options

CHEMICAL CATEGORY	CHEMICAL EXAMPLES	PVC	URETHANE	304 STAINLESS STEEL	316 STAINLESS STEEL	POLY CARBONATE	CAST IRON	BRASS	ALUMINUM
		COMPATIBILITY RATING							
Solvents (excluding alcohols and aliphatic)	Acetone, toluene, ketones, etc.	NR	NR	L	L	NR	L	L	L
Fuels	Jet fuel (alcohol based and aliphatic solvent based)	L	L	L	L	L	L	L	L
Plating Solutions	Chrome, nickel, copper, brass, gold, zinc, etc.	L	F	F	F	F	NR	NR	NR
Salts and Alkaline Materials	Caustic soda, caustic potash, alkaline cleaners, etc.	L	F	L	L	F	NR	NR	NR
Mild Acids	Low-concentration hydrochloric, sulfuric, fruit acids, glycolic, citric, etc.	L	S	L	L	S	NR	NR	NR
Strong or High-Purity Acids	Nitric, hydrofluoric, etc.	S	S	F	F	S	NR	NR	NR
Oxidizing Agents	Bleach, chlorine, hydrogen peroxide, etc.	L	S	L	L	S	NR	NR	NR

Chemical Compatibility Legend

SUITABILITY DESCRIPTION	COMPATIBILITY RATING
Rated for all **Fumes, Splash & Liquid**	L
Rated only for **Fumes & Splash**	S
Rated for **Fumes** only	F
Not Recommended	NR

The chart **above** provides a general guide for the end user to choose the most suitable material for corrosion protection. Compatibility with chemical environment should be thoroughly evaluated for each installation.

As you can see, PVC-coated conduit and fittings are suitable for almost all applications. When it comes to PVC-coated conduit systems, there is no higher quality than Ocal®.

Overview

Ocal manufacturing process

Introduction

Ocal® PVC-coated conduit system fully complies with all standards for proper use and protection in corrosive environments mandated by UL6, NEMA RN-1 and ANSI C80.1. It is manufactured right here in the United States by Thomas & Betts in our Jonesboro, AR manufacturing facility.

The Process of Manufacturing PVC-Coated Conduit

1. The process begins with 20-foot sticks of raw steel shell.
2. The steel shell is cut, threaded and prepared for the hot-dip galvanizing process.
3. The threaded shell is immersed in a molten zinc bath. This hot-dip galvanizing process enables the zinc to penetrate the steel, providing the best possible protection. After the conduit is extracted from the zinc bath, super-heated steam is blown through the interior and over the outside of the conduit to remove any slag. The ends of the conduit are heated enough to blow excess zinc out of the thread cavities. Thomas & Betts manufactures steel conduit that hot-dip galvanizes the threads as well as the conduit itself. Other methods such as “hot galvanizing” provide only a sprayed-on zinc coating.
4. Prior to the exterior PVC coating, 2 mils (nominal) of blue urethane is applied to the inside diameter as well as the threads of each conduit. After priming, the conduit is heated and then rolled through liquid plastisol, achieving complete coverage of 40 mils in thickness.
5. Standard colors include gray, white and blue. Custom colors also available.



Ocal offers

- Plant walk-throughs
- Installation training and certification
- Installation tools
- The expertise to ensure that you get the maximum benefit of the Ocal-Blue® total protection system
- Manufacturing capabilities that ensure unmatched delivery time on custom orders, special colors or large quantities
- Protection of each shipment with special packaging for damage-free delivery

Superior Service

Our reputation for dependability and customer service has made Ocal the most trusted name in corrosion protection for the electrical industry.



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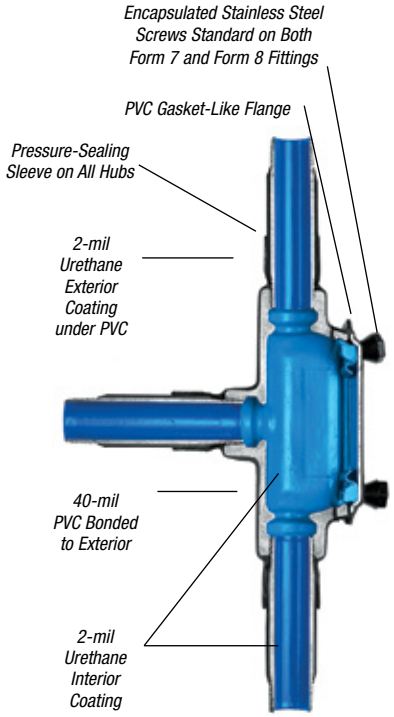
Overview

Complete corrosion protection

Ocal® has developed a process for coating the interior and exterior of all fittings with a nominal .002" (2 mils) of blue urethane, which is baked on. This proprietary application of urethane enhances the corrosion protection of your system, even if you accidentally nick or cut the PVC coating during installation.

Flexible, overlapping sleeves on all Ocal fittings guarantee protection with a vapor- and moisture-tight seal at every connection.





Ocal supplies encapsulated screws on both Form 7 and Form 8 fittings.

The Process of Manufacturing PVC-Coated Fittings

1. Fittings are cleaned and then sprayed inside and outside with 2 mils (nominal) of blue urethane. This gives the fittings corrosion protection on the exterior as well as the interior — all fittings are "double-coated."
2. 40 mils of PVC is applied to the exterior of the fitting.
3. Covers are coated with a molded flange and molded integral O-ring seal for 2½" – 4" Form 8 and all Form 7. Conduit bodies are molded with a flat surface to ensure a superior seal.
4. Standard colors include gray, white and blue. Custom colors also available.

Thomas & Betts takes pride in providing PVC-coated conduit and fittings compliant with industry wide recognized standards.

It is this dedication to superior quality that makes Ocal "Better by Design."

NEW!



2" C Form 8 conduit body and cover

Ocal-Blue® Double-Coat UL® Listed Type 4X Form 8 Conduit Bodies

UL® Listed Type 4X and NEMA 4X!

For the conduit system that has to stand up to a corrosive environment, the newly designed Ocal-Blue Type 4X Form 8 conduit body meets the challenge. The key is in the cover. Ocal takes a cast cover and then injection molds a PVC coating around it with an integral O-ring seal.

There's no need for tools or gaskets. To meet the harsh requirements of the UL® Type 4X listing, you need only hand-tighten the stainless steel encapsulated screws to 15 in.-lbs. of torque — as compared to the 35 in.-lbs. of torque required to tighten cover screws on competitors' conduit bodies.

Ideal for providing corrosion-resistant performance in washdown and other tough applications, Ocal-Blue Type 4X Form 8 PVC-coated cast-iron conduit bodies are now available in sizes up to 2". Look for the blue to know it's a high-quality Thomas & Betts product.

Overview

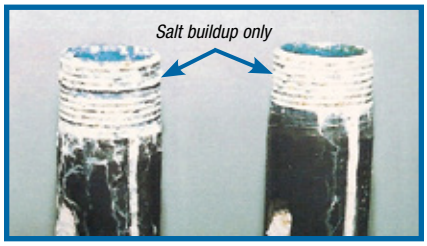
Evaluating corrosion protection of PVC-coated conduit

When evaluating any electrical raceway conduit or fittings, **applicable standards** should be referenced. The three standards that address the design and performance of PVC-coated rigid steel conduit are **ANSI C80.1, UL6 and NEMA RN-1**. ANSI C80.1, UL® and NEMA have determined the appropriate ASTM standards and test methods that apply.

Hot-Dip Galvanized Threads

Since electrical conduit systems breathe, the threads will be exposed to the corrosive environment for the duration of the installation. NEMA RN-1-2005 is the electrical industry's standard for PVC externally coated galvanized rigid steel conduit. Section 2.1 of this standard states, "Where unusually corrosive environments are encountered, it is recommended that threads be given additional protection suitable for the intended application." Hot-dip galvanizing is the process through which the steel shell is dipped in molten zinc, causing the zinc to penetrate the steel. Ocal® hot-dip galvanizes the threads of the conduit, in addition to the conduit itself. This gives the threads the protection recommended in corrosive environments.

A compelling demonstration of the protection hot-dip galvanizing provides is shown below, using a common corrosive agent, salt, on hot-dip galvanized threads. UL6, the standard for rigid metal conduit, references ASTM B117 for evaluating protective coatings. Below are the results of a salt-fog test using the standard test method ASTM B117.



Example of Hot-Dip Galvanized Threads after 42-day salt-fog test

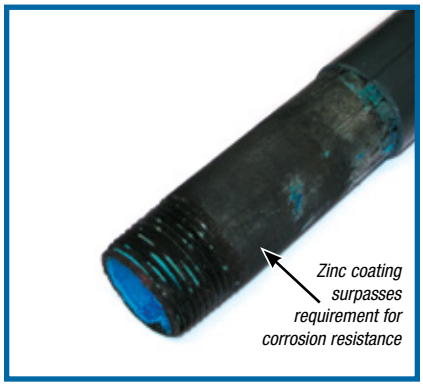
Galvanized conduit underneath the PVC coating — Preece Test

With so much riding on the integrity of their electrical conduit systems, facilities need the superior protection offered by the Thomas & Betts Ocal® PVC-coated conduit systems. The simple fact is that Ocal® PVC-coated conduit system complies fully with the design and performance standards for PVC-coated conduit set forth by UL6, NEMA RN-1 and ANSI C80.1.

ANSI C80.1, UL6 and NEMA RN-1 have determined the appropriate ASTM standards and test methods that apply, and the Preece test is one test that must be passed to be in full compliance.

Why is the Preece test relevant to PVC-coated conduit?

In cases where the PVC protection is accidentally breached, resulting from cuts, scrapes, etc., it is critical to have a second line of defense — a zinc, or galvanized, coating. The zinc coating will significantly slow corrosion and allow more time for repairs. Conduit systems without adequate zinc protection underneath the PVC coating are most likely to suffer catastrophic corrosion damage. This is why NEMA RN-1 section 3.1.1 requires the proper and correct treatment of galvanized conduit before it is PVC coated. It states, **"The surface shall be cleaned in such a manner that the galvanized surface of the conduit is not harmed or eroded."**



The purpose of the Preece test is to evaluate the zinc coating on galvanized rigid conduit to ensure adequate protection from corrosion per UL6.2.2. The test will also determine if the surface of the conduit has been damaged as a result of preparation for PVC coating.

In evaluating the test results, the conduit receives a passing grade when the sample does not show a bright, adherent deposit of copper after four 60-second immersions in the copper sulfate solution. The conduit showing the bright, firmly adhering copper has failed to provide adequate zinc protection against corrosion.

The Preece test follows procedures set forth by UL6.2.2 and ASTM A239 and is the test recognized by UL6, NEMA RN-1 and ANSI C80.1 to adequately assess zinc protection for rigid steel conduit. The Ocal® line of PVC-coated conduit systems, manufactured by Thomas & Betts, complies with UL6, NEMA RN-1 and ANSI C80.1 without exception.

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Overview

Adhesion test

The evaluation process for adhesion of PVC coating on conduit is governed by NEMA RN-1 section 3.8, Adhesion, which states, "The adhesion of the PVC coating to the conduit shall be greater than the strength of the coating itself." This adhesion test is straightforward and simple. There are no specialized conditions necessary to perform this test. Ocal routinely performs quality-control testing — including the adhesion test — on conduit as it rolls off the line. Conduit that passes this test demonstrates that the adhesion will provide years of trouble-free service.

The following demonstration shows Ocal® PVC-coated conduit being subjected to the adhesion test.



Step 1 consists of two cuts through the plastic to the substrate along the length of the conduit, approximately ½" apart and 3" to 4" in length. A third, perpendicular cut crosses the lengthwise parallel cuts.



Step 2 calls for the edge of the PVC that was cut on the perpendicular to be carefully lifted to form a plastic tab.



In **Step 3**, the tab is pulled perpendicular to the conduit with a pair of pliers. The plastic tab will tear off rather than having any peeling effect or the coating separating from the substrate.



Step 4 is the evaluation of the test, which in this case, results in a passing grade for Ocal. This result is more testimony to the fact that Ocal is "Better by Design."

Results

With Ocal PVC-coated conduit and fittings, you get corrosion protection that will extend the life of your electrical raceway systems for years and years.





PVC-Coated Conduit and Accessories

The ultimate in corrosion protection!

Ocal-Blue® Conduit



- Hot-dip galvanized steel or aluminum conduit
- Nominal .002" (2 mil) blue urethane coating on interior
- Hot-dipped galvanized threads (steel)
- Minimum .040" (40 mil) PVC coating on exterior — in your choice of blue, white, gray or custom colors
- Color-coded thread protectors
- Couplings shipped with conduit are packaged separately

CAT. NO. STEEL	CAT. NO. ALUMINUM	PIPE SIZE IN. METRIC SIZE DESIGNATOR*	OUTSIDE DIAMETER STEEL ONLY IN. MM	OUTSIDE DIAMETER WITH PVC IN. MM	NOMINAL WALL THICKNESS STEEL ONLY IN. MM	NOMINAL WALL THICKNESS WITH PVC IN. MM	NOMINAL INSIDE DIAMETER IN. MM	CROSS SECTION AREA IN SQUARE IN. MM	LENGTH WITHOUT COUPLINGS FT. M	MINIMUM WEIGHT PER FOOT STEEL ONLY LBS. KG
COND1/2-_	**COND1/2SA-_**	**½**	**.84**	**.92**	**.10**	**.14**	**.63**	**.30**	**9'11¼"**	**.79**
		16	21.30	23.30	2.64	3.56	16.10	7.72	3.03	.36
COND3/4-_	**COND3/4SA-_**	**¾**	**1.05**	**1.13**	**.11**	**.15**	**.84**	**.53**	**9'11¼"**	**1.05**
		21	26.70	28.70	2.71	3.73	21.20	13.53	3.03	.48
COND1-_	**COND1SA-_**	**1**	**1.32**	**1.40**	**.13**	**.17**	**1.06**	**.86**	**9'11"**	**1.53**
		27	33.40	35.40	3.20	4.21	27.00	21.94	3.02	.69
COND1-1/4-_	**COND1-1/4SA-_**	**1¼**	**1.66**	**1.74**	**.13**	**.17**	**1.39**	**1.50**	**9'11"**	**2.01**
		35	42.20	44.10	3.37	4.39	35.40	37.97	3.02	.91
COND1-1/2-_	**COND1-1/2SA-_**	**1½**	**1.90**	**1.98**	**.14**	**.18**	**1.62**	**2.04**	**9'11"**	**2.40**
		41	48.30	50.20	3.50	4.52	41.20	51.71	3.02	1.09
COND2-_	**COND2SA-_**	**2**	**2.38**	**2.46**	**.15**	**.19**	**2.08**	**3.36**	**9'11"**	**3.32**
		53	60.30	62.30	3.70	4.72	52.90	85.21	3.02	1.51
COND2-1/2-_	**COND2-1/2SA-_**	**2½**	**2.88**	**2.96**	**.19**	**.23**	**2.49**	**4.80**	**9'10½"**	**5.27**
		63	73.00	75.00	4.90	5.91	63.20	121.61	3.01	2.39
COND3-_	**COND3SA-_**	**3**	**3.50**	**3.58**	**.21**	**.25**	**3.09**	**7.39**	**9'10½"**	**6.83**
		78	88.90	90.90	5.20	6.22	78.50	187.80	3.01	3.10
COND3-1/2-_	**COND3-1/2SA-_**	**3½**	**4.00**	**4.08**	**.22**	**.26**	**3.57**	**9.87**	**9'10¼"**	**8.31**
		91	101.60	103.60	5.46	6.47	90.70	250.60	3.00	3.77
COND4-_	**COND4SA-_**	**4**	**4.50**	**4.58**	**.23**	**.27**	**4.05**	**12.73**	**9'10¼"**	**9.73**
		103	114.30	116.30	5.71	6.73	102.90	323.34	3.00	4.41
COND5-_	**COND5SA-_**	**5**	**5.56**	**5.64**	**.25**	**.29**	**5.07**	**20.01**	**9'10"**	**13.14**
		129	141.30	143.30	6.22	7.23	128.90	508.15	3.00	5.96
COND6-_	**COND6SA-_**	**6**	**6.63**	**6.71**	**.27**	**.31**	**6.09**	**28.89**	**9'10"**	**17.46**
		155	168.30	170.30	6.75	7.87	154.80	733.83	3.00	7.92

Note *– Inches, feet and pounds are indicated in bold type. Metric measure is directly below bold type.*
** Metric size designator (ANSI C80.1-1994).*

CAT. NO.	SIZE	MATERIAL		COLOR
COND3/4	**__ -**			**__**
		Blank = Steel		**_ = space for color identifier**
		SA = Aluminum	**G**	= Gray
			W	= White
			B	= Blue

Catalog No. Example:
COND3/4-G is ¾" steel conduit coated in gray PVC.

Custom colors also available.



Thomas&Betts

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

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Corrosion-protected connections for conduit sections.

Ocal-Blue® Couplings

- Nominal .002" (2 mil) blue urethane coating on interior and threads
- Minimum .040" (40 mil) PVC coating bonded to exterior — in your choice of blue, white, gray or custom colors
- Straight threads (NPS)
- Molded ribs on outer coating for easy installation (up to and including 4" trade size)
- Pressure-sealing sleeves protect your connection



CAT. NO.		COUPLING SIZE IN. METRIC SIZE DESIGNATOR*	MINIMUM LENGTH OF METAL IN. MM	TOTAL MINIMUM LENGTH INCLUDING SLEEVE IN. MM	WEIGHT STEEL ONLY
STEEL	ALUMINUM				
CPL1/2-_	**CPL1/2SA-_**	**½**	**1.50**	**3.75**	**.13**
		16	38.10	95.25	.06
CPL3/4-_	**CPL3/4SA-_**	**¾**	**1.53**	**3.75**	**.19**
		21	38.91	95.25	0.85
CPL1-_	**CPL1SA-_**	**1**	**1.91**	**4.94**	**0.33**
		27	48.41	139.70	.15
CPL1-1/4-_	**CPL1-1/4SA-**	**1¼**	**1.91**	**5.50**	**0.43**
		35	48.41	139.70	.19
CPL1-1/2-_	**CPL1-1/2SA-_**	**1½**	**1.91**	**5.75**	**0.56**
		41	48.41	146.05	.25
CPL2-_	**CPL2SA-_**	**2**	**1.94**	**5.94**	**0.77**
		53	49.19	150.79	.35
CPL2-1/2-_	**CPL2-1/2SA-_**	**2½**	**2.88**	**6.88**	**1.85**
		63	73.10	174.70	.83
CPL3-_	**CPL3SA-_**	**3**	**3.03**	**7.03**	**2.70**
		78	76.98	178.58	1.22
CPL3-1/2-_	**CPL3-1/2SA-_**	**3½**	**3.09**	**7.09**	**3.78**
		91	78.58	180.18	1.70
CPL4-_	**CPL4SA-_**	**4**	**3.19**	**7.19**	**3.08**
		103	80.97	182.57	1.39
CPL5-_	**CPL5SA-_**	**5**	**3.37**	**7.37**	**5.00**
		129	85.69	187.29	2.25
CPL6-_	**CPL6SA-_**	**6**	**3.44**	**7.44**	**8.00**
		155	87.29	188.89	3.60

Note *– Inches and pounds are indicated in bold type. Metric measure is directly below bold type.*

** Metric size designator (ANSI C80.1-1994).*

CAT. NO.	SIZE	MATERIAL		COLOR
CPL1SA__-				**_ = space for color identifier**
		Blank = Steel		
		SA = Aluminum	**G**	= Gray
			W	= White
			B	= Blue

Catalog No. Example:
CPL1SA-B is a 1" aluminum coupling coated in blue PVC.

Custom colors also available.

PVC-Coated Conduit and Accessories

Join threaded conduit where you can't use a standard coupling.

Ocal-Blue® Double-Coat Split Couplings

Split couplings serve as speed unions for cost-effective joining of two separate lengths of threaded conduit. Like other Ocal® fittings, they're double coated in urethane and PVC to safeguard your entire conduit system against corrosion.

- Malleable iron construction
- Nominal .002" (2 mil) blue urethane on both interior and exterior
- Minimum .040" (40 mil) PVC bonded to exterior
- PVC coating in your choice of blue, white and gray standard colors with custom colors available on request
- Stainless steel hardware included



TCC Split Coupling

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*
TCC1-_	½ 16
TCC2-_	¾ 21
TCC3-_	1 27
TCC4-_	1¼ 35
TCC5-_	1½ 41
TCC6-_	2 53

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*
TCC7-_	2½ 63
TCC8-_	3 78
TCC9-_	3½ 91
TCC10-_	4 103
TCC12-_	5 129
TCC14-_	6 155

** Metric size designator (ANSI C80.1-1994).*

CAT. NO.	COLOR
TCC1 -	___
_ = space for color identifier	
G = Gray	
W = White	
B = Blue	
Custom colors also available.	

Note: *The use of standard couplings is recommended whenever possible over the use of split couplings, because standard couplings provide better overall corrosion protection.*

Speed up your field installations with pre-threaded conduit nipples!



Ocal-Blue® Nipples

- Made from Ocal® PVC-coated steel or aluminum conduit
- Blue urethane coating over threads
- Nominal .002" (2 mil) blue urethane on interior
- Minimum .040" (40 mil) PVC coating on exterior — choose blue, white, gray or custom colors
- Color-coded thread protectors for easy identification of conduit size
- Available in 11 standard lengths — close and 2" to 12" with custom lengths available on request
- Close nipples are coated only in urethane

CAT. NO.	SIZE X LENGTH	MATERIAL	COLOR
NPL3/4x6__ -			___
		Blank = Steel	_ = space for color identifier
		SA = Aluminum	**G** = Gray
			W = White
			B = Blue
			Custom colors also available.

Catalog No. Example:
NPL3/4X6-G is a ¾" x 6" long steel nipple coated in gray PVC.

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Technical Services
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Ocal-Blue® Nipples *(continued)*



PVC-Coated Conduit Nipples — Steel

PIPE SIZE IN. METRIC SIZE*	NIPPLE LENGTH										
	CLOSE	2" 50.8	2½" 63.5	3" 76.2	3½" 88.9	4" 101.6	5" 127.0	6" 152.4	8" 203.2	10" 254.0	12" 304.8
½ 16	CLNPL1/2-_	NPL1/2X2-_	NPL1/2X21/2-_	NPL1/2X3-_	NPL1/2X31/2-_	NPL1/2X4-_	NPL1/2X5-_	NPL1/2X6-_	NPL1/2X8-_	NPL1/2X10-_	NPL1/2X12-_
¾ 21	CLNPL3/4-_	NPL3/4X2-_	NPL3/4X21/2-_	NPL3/4X3-_	NPL3/4X31/2-_	NPL3/4X4-_	NPL3/4X5-_	NPL3/4X6-_	NPL3/4X8-_	NPL3/4X10-_	NPL3/4X12-_
1 27	CLNPL1-_	NPL1X2-_	NPL1X21/2-_	NPL1X3-_	NPL1X31/2-_	NPL1X4-_	NPL1X5-_	NPL1X6-_	NPL1X8-_	NPL1X10-_	NPL1X12-_
1¼ 35	CLNPL11/4-_	NPL11/4X2-_	NPL11/4X21/2-_	NPL11/4X3-_	NPL11/4X31/2-_	NPL11/4X4-_	NPL11/4X5-_	NPL11/4X6-_	NPL11/4X8-_	NPL11/4X10-_	NPL11/4X12-_
1½ 41	CLNPL11/2-_	NPL11/2X2-_	NPL11/2X21/2-_	NPL11/2X3-_	NPL11/2X31/2-_	NPL11/2X4-_	NPL11/2X5-_	NPL11/2X6-_	NPL11/2X8-_	NPL11/2X10-_	NPL11/2X12-_
2 53	CLNPL2-_	—	NPL2X21/2-_	NPL2X3-_	NPL2X31/2-_	NPL2X4-_	NPL2X5-_	NPL2X6-_	NPL2X8-_	NPL2X10-_	NPL2X12-_
2½ 63	CLNPL21/2-_	—	—	—	NPL21/2X31/2-_	NPL21/2X4-_	NPL21/2X5-_	NPL21/2X6-_	NPL21/2X8-_	NPL21/2X10-_	NPL21/2X12-_
3 78	CLNPL3-_	—	—	—	NPL3X31/2-_	NPL3X4-_	NPL3X5-_	NPL3X6-_	NPL3X8-_	NPL3X10-_	NPL3X12-_
3½ 91	CLNPL31/2-_	—	—	—	—	NPL31/2X4-_	NPL31/2X5-_	NPL31/2X6-_	NPL31/2X8-_	NPL31/2X10-_	NPL31/2X12-_
4 103	CLNPL4-_	—	—	—	—	NPL4X4-_	NPL4X5-_	NPL4X6-_	NPL4X8-_	NPL4X10-_	NPL4X12-_
5 129	CLNPL5-_	—	—	—	—	—	NPL5X5-_	NPL5X6-_	NPL5X8-_	NPL5X10-_	NPL5X12-_
6 155	CLNPL6-_	—	—	—	—	—	NPL6X5-_	NPL6X6-_	NPL6X8-_	NPL6X10-_	NPL6X12-_

PVC-Coated Conduit Nipples — Aluminum

PIPE SIZE IN. METRIC SIZE*	NIPPLE LENGTH										
	CLOSE	2" 50.8	2½" 63.5	3" 76.2	3½" 88.9	4" 101.6	5" 127.0	6" 152.4	8" 203.2	10" 254.0	12" 304.8
½ 16	CLNPL1/2SA-_	NPL1/2X2SA-_	NPL1/2X21/2SA-_	NPL1/2X3SA-_	NPL1/2X31/2SA-_	NPL1/2X4SA-_	NPL1/2X5SA-_	NPL1/2X6SA-_	NPL1/2X8SA-_	NPL1/2X10SA-_	NPL1/2X12SA-_
¾ 21	CLNPL3/4SA-_	NPL3/4X2SA-_	NPL3/4X21/2SA-_	NPL3/4X3SA-_	NPL3/4X31/2SA-_	NPL3/4X4SA-_	NPL3/4X5SA-_	NPL3/4X6SA-_	NPL3/4X8SA-_	NPL3/4X10SA-_	NPL3/4X12SA-_
1 27	CLNPL1SA-_	NPL1X2SA-_	NPL1X21/2SA-_	NPL1X3SA-_	NPL1X31/2SA-_	NPL1X4SA-_	NPL1X5SA-_	NPL1X6SA-_	NPL1X8SA-_	NPL1X10SA-_	NPL1X12SA-_
1¼ 35	CLNPL11/4SA-_	NPL11/4X2SA-_	NPL11/4X21/2SA-_	NPL11/4X3SA-_	NPL11/4X31/2SA-_	NPL11/4X4SA-_	NPL11/4X5SA-_	NPL11/4X6SA-_	NPL11/4X8SA-_	NPL11/4X10SA-_	NPL11/4X12SA-_
1½ 41	CLNPL11/2SA-_	NPL11/2X2SA-_	NPL11/2X21/2SA-_	NPL11/2X3SA-_	NPL11/2X31/2SA-_	NPL11/2X4SA-_	NPL11/2X5SA-_	NPL11/2X6SA-_	NPL11/2X8SA-_	NPL11/2X10SA-_	NPL11/2X12SA-_
2 53	CLNPL2SA-_	—	NPL2X21/2SA-_	NPL2X3SA-_	NPL2X31/2SA-_	NPL2X4SA-_	NPL2X5SA-_	NPL2X6SA-_	NPL2X8SA-_	NPL2X10SA-_	NPL2X12SA-_
2½ 63	CLNPL21/2SA-_	—	—	—	NPL21/2X31/2SA-_	NPL21/2X4SA-_	NPL21/2X5SA-_	NPL21/2X6SA-_	NPL21/2X8SA-_	NPL21/2X10SA-_	NPL21/2X12SA-_
3 78	CLNPL3SA-_	—	—	—	NPL3X31/2SA-_	NPL3X4SA-_	NPL3X5SA-_	NPL3X6SA-_	NPL3X8SA-_	NPL3X10SA-_	NPL3X12SA-_
3½ 91	CLNPL31/2SA-_	—	—	—	—	NPL31/2X4SA-_	NPL31/2X5SA-_	NPL31/2X6SA-_	NPL31/2X8SA-_	NPL31/2X10SA-_	NPL31/2X12SA-_
4 103	CLNPL4SA-_	—	—	—	—	NPL4X4SA-_	NPL4X5SA-_	NPL4X6SA-_	NPL4X8SA-_	NPL4X10SA-_	NPL4X12SA-_
5 129	CLNPL5SA-_	—	—	—	—	—	NPL5X5SA-_	NPL5X6SA-_	NPL5X8SA-_	NPL5X10SA-_	NPL5X12SA-_
6 155	CLNPL6SA-_	—	—	—	—	—	NPL6X5SA-_	NPL6X6SA-_	NPL6X8SA-_	NPL6X10SA-_	NPL6X12SA-_

** Metric size designator (ANSI C80.1-1994).*

PVC-Coated Conduit and Accessories

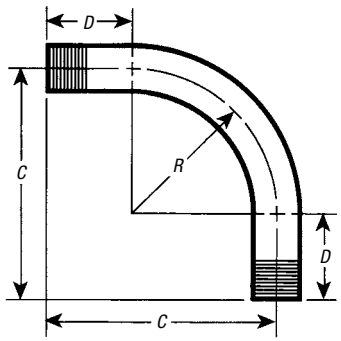
Factory bent to save wasted time and materials!

Ocal-Blue® Standard-Radius Elbows



- Fabricated from Ocal® PVC-coated conduit
- Standard radii in 30°, 45°, 60° and 90° available for immediate shipment
- Color-coded thread protectors for easy identification of conduit size

CAT. NO.		PIPE SIZE IN. METRIC SIZE DESIGNATOR*	RADIUS "R" IN. MM	OFFSET "C" IN. MM	STRAIGHT END "D" IN. MM	UNBENT LENGTH IN. MM	WEIGHT EACH STEEL ONLY LBS. KG
STEEL	ALUMINUM						
ELL1/2-_-_	ELL1/2-_-SA-_	½	4.00	6.00	2.00	10.28	.67
		16	101.60	152.40	50.80	261.19	16.95
ELL3/4-_-_	ELL3/4-_-SA-_	¾	4.50	6.50	2.00	11.07	.95
		21	114.30	165.10	50.80	281.14	24.07
ELL1-_-_	ELL1-_-SA-_	1	5.75	8.00	2.25	13.53	1.77
		27	146.05	203.20	57.15	343.71	44.97
ELL11/4-_-_	ELL11/4-_-SA-_	1¼	7.25	9.50	2.25	15.89	2.55
		35	184.15	241.30	57.15	403.56	64.80
ELL11/2-_-_	ELL11/2-_-SA-_	1½	8.25	11.00	2.75	18.46	3.98
		41	209.55	279.40	69.85	468.86	101.13
ELL2-_-_	ELL2-_-SA-_	2	9.50	13.00	3.50	21.92	6.33
		53	241.30	330.20	88.90	556.83	160.86
ELL21/2-_-_	ELL21/2-_-SA-_	2½	10.50	14.00	3.50	23.49	9.65
		63	266.70	355.60	88.90	596.73	245.09
ELL3-_-_	ELL3-_-SA-_	3	13.00	16.50	3.50	27.42	15.42
		78	330.20	419.10	88.90	696.48	391.77
ELL31/2-_-_	ELL31/2-_-SA-_	3½	15.00	20.75	5.75	35.06	23.30
		91	381.00	527.05	146.05	890.57	591.84
ELL4-_-_	ELL4-_-SA-_	4	16.00	21.75	5.75	36.63	29.68
		103	406.40	552.45	146.05	930.47	753.80
ELL5-_-_	ELL5-_-SA-_	5	24.00	31.00	7.00	51.70	60.82
		129	609.60	787.40	177.80	1313.16	1544.89
ELL6-_-_	ELL6-_-SA-_	6	30.00	39.00	9.00	65.12	85.69
		155	762.00	990.60	228.60	1654.15	2176.51



ITEM	PIPE SIZE	ANGLE	MATERIAL	COLOR
ELL3/4	-	__ -	__	- __
		30 = 30°	**Blank** = Steel	**G** = Gray
		45 = 45°	**SA** = Aluminum	**W** = White
		60 = 60°		**B** = Blue
		Blank = 90°		

Custom colors also available.

Catalog No. Example:
ELL3/4SA-W is a ¾" trade size 90° aluminum elbow coated in white PVC.

Thomas&Betts

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

www.tnb.com

PVC-Coated Conduit and Accessories

Choose the size and angle to meet your exact requirements.

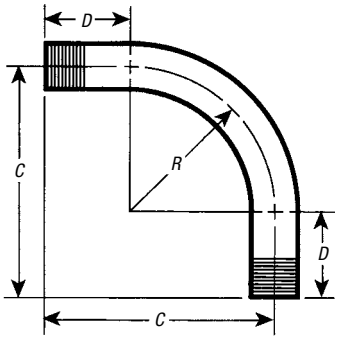


Ocal-Blue® Large-Radius Elbows

- Fabricated from Ocal® PVC-coated conduit
- Large radius in 90° available for immediate shipment
- Special radii and angles not listed available upon request
- Color-coded thread protectors for easy identification of conduit size

CAT. NO.		PIPE SIZE IN. METRIC SIZE DESIGNATOR*	RADIUS "R" IN. MM	OFFSET "C" FT./IN. MM	STRAIGHT END "D" IN. MM	UNBENT LENGTH FT./IN. MM
STEEL	ALUMINUM					
LRELL_X12-_-_	LRELL_X12-_-SA-_	1–2½	12.00	1' 9"	9.00	3' 0"
		27–63	304.80	533.40	228.60	914.40
LRELL_X15-_-_	LRELL_X15-_-SA-_	1–3	15.00	2' 0"	9.00	3' 6"
		27–78	381.00	609.60	228.60	1066.80
LRELL_X18-_-_	LRELL_X18-_-SA-_	1–4	18.00	2' 4"	10.00	4' 0"
		27–103	457.20	711.20	254.00	1219.20
LRELL_X24-_-_	LRELL_X24-_-SA-_	1–4	24.00	2' 11"	11.00	4' 11"
		27–103	609.60	889.00	279.40	1498.60
LRELL_X30-_-_	LRELL_X30-_-SA-_	1–5	30.00	3' 5"	11.00	5' 9"
		27–129	762.00	1041.40	279.40	1752.60
LRELL_X36-_-_	LRELL_X36-_-SA-_	1–6	36.00	3' 11"	11.00	6' 6"
		27–155	914.40	1193.80	279.40	1981.20
LRELL_X42-_-_	LRELL_X42-_-SA-_	1–6	42.00	4' 6"	12.00	7' 6"
		27–155	1066.80	1371.60	304.80	2286.00
LRELL_X48-_-_	LRELL_X48-_-SA-_	1–6	48.00	5' 0"	12.00	8' 6"
		27–155	1219.20	1524.00	304.80	2590.80
LRELL_X60-_-_	LRELL_X60-_-SA-_	2½–6	60.00	6' 0"	12.00	9' 10"
		63–155	1524.00	1828.80	304.80	2997.20

** Metric size designator (ANSI C80.1-1994).*



ITEM	PIPE SIZE	RADIUS	ANGLE	MATERIAL	COLOR
LRELL	__	X12	- __ -	__ -	__
	1 = 1"		**30** = 30°	Blank = Steel	G = Gray
	2 = 2"		**45** = 45°	SA = Aluminum	W = White
	etc.		**60** = 60°		B = Blue
			Blank = 90°		

Catalog No. Example:
LRELL3X18-45-G is a 3" trade size steel elbow with a radius of 18" and an angle of 45°, coated in gray PVC.

Custom colors also available.

www.tnb.com

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

Thomas&Betts

PVC-Coated Conduit and Accessories

PVC coating evenly molded around saddle prevents exposure of metal — an Ocal® exclusive!

Ocal® PVC-Coated Beam Clamps and U-Bolts

- Beam clamps support and attach conduit runs to structural beams
- Molded right-angle beam clamps and U-bolts provide extra protection
- Encapsulated, hex-shaped nuts fit standard wrenches
- Stainless steel hardware included
- Parallel (PAR) and edge (EC) clamps feature nominal .015" (15 mil) PVC coating for corrosion protection
- Right-Angle clamps (RA) and U-Bolts (UB) feature nominal .040" (40 mil) PVC coating for corrosion protection



Edge (EC)



Parallel (PAR)

PVC-Coated Beam Clamps

CAT. NO.			PIPE SIZE	
RIGHT ANGLE	PARALLEL	EDGE	IN.	METRIC SIZE DESIGNATOR*
RA1/2-_	PAR1/2-_	EC1/2-_	½	16
RA3/4-_	PAR3/4-_	EC3/4-_	¾	21
RA1-_	PAR1-_	EC1-_	1	27
RA1-1/4-_	PAR1-1/4-_	EC1-1/4-_	1¼	35
RA1-1/2-_	PAR1-1/2-_	EC1-1/2-_	1½	41
RA2-_	PAR2-_	EC2-_	2	53
RA2-1/2-_	PAR2-1/2-_	—	2½	63
RA3-_	PAR3-_	—	3	78
RA3-1/2-_	PAR3-1/2-_	—	3½	91
RA4-_	PAR4-_	—	4	103

Cat. No. **Color**

RA1 - ___

_ = space for color identifier

G = Gray

W = White

B = Blue

Custom colors also available.



Right Angle (RA)

PVC-Coated U-Bolts

	PIPE SIZE		"A" DIMENSION	
CAT. NO.	IN.	METRIC SIZE DESIGNATOR*	IN.	MM
UB1/2-_	½	16	1.38	34.93
UB3/4-_	¾	21	1.56	39.69
UB1-_	1	27	1.84	46.83
UB1-1/4-_	1¼	35	2.19	55.56
UB1-1/2-_	1½	41	2.50	63.50
UB2-_	2	53	2.97	75.41
UB2-1/2-_	2½	63	3.47	88.11
UB3-_	3	78	4.09	103.98
UB3-1/2-_	3½	91	4.59	116.68
UB4-_	4	103	5.09	129.38
UB5-_	5	129	6.63	168.28
UB6-_	6	155	8.00	203.20

* Metric size designator (ANSI C80.1-1994).

Item **Size** **Color**

UB1 - ___

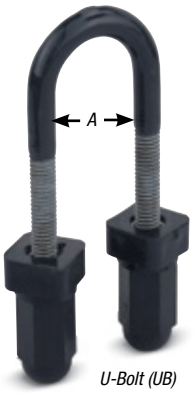
_ = space for color identifier

G = Gray

W = White

B = Blue

Custom colors also available.



U-Bolt (UB)

Thomas&Betts

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

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PVC-Coated Conduit and Accessories

Support conduit on walls and structures.

Pipe Straps



One-Hole PVC-Coated Pipe Strap

Two-Hole PVC-Coated Pipe Strap

- Available in malleable iron/stamped steel with nominal .015" (15 mil) PVC coating in your choice of blue, white or gray or in 303 stainless steel
- Choose one- or two-hole versions
- Sized to allow for the extra thickness of the PVC coating



Two-Hole Stainless Steel Pipe Strap

One-Hole Stainless Steel Pipe Strap

PVC-Coated Pipe Straps

CAT NO.		PIPE SIZE IN. METRIC SIZE DESIGNATOR*
ONE-HOLE MALLEABLE IRON	TWO-HOLE STAMPED STEEL	
1HMS1/2-_	2HS1/2-_	½ 16
1HMS3/4-_	2HS3/4-_	¾ 21
1HMS1-_	2HS1-_	1 27
1HMS1-1/4-_	2HS1-1/4-_	1¼ 35
1HMS1-1/2-_	2HS1-1/2-_	1½ 41
1HMS2-_	2HS2-_	2 53
1HMS2-1/2-_	2HS2-1/2-_	2½ 63
1HMS3-_	2HS3-_	3 78
1HMS3-1/2-_	2HS3-1/2-_	3½ 91
1HMS4-_	2HS4-_	4 103

303 Stainless Steel Pipe Straps for PVC-Coated Conduit

CAT NO.		PIPE SIZE IN. METRIC SIZE DESIGNATOR*	CONDUIT STRAP I.D. IN. MM	PVC-COATED CONDUIT O.D. IN. MM
ONE-HOLE 303 S.S. STRAP	TWO-HOLE 303 S.S. STRAP			
TS102-SS	TS902-SS	½ 16	.92 23.37	.92 23.37
TS103-SS	TS903-SS	¾ 21	1.16 29.46	1.13 28.70
TS104-SS	TS904-SS	1 27	1.51 38.35	1.40 35.56
TS105-SS	TS905-SS	1¼ 35	1.74 44.20	1.74 44.20
TS106-SS	TS906-SS	1½ 41	2.20 55.88	1.98 50.29
HS107-SS	HS907-SS	2 53	2.88 73.15	2.46 62.48
HS108-SS	HS908-SS	2½ 63	3.50 88.90	2.96 75.18
HS109-SS	HS909-SS	3 78	4.00 101.60	3.98 101.09
HS110-SS	HS910-SS	3½ 91	4.50 114.30	4.08 103.63

** Metric size designator (ANSI C80.1-1994).*

Use as spacers with one-hole pipe straps.

Ocal® PVC-Coated Clamp-Back Spacers



- Provides space for air flow between conduit and mounting surface
- Nominal .015" (15 mil) PVC coating for corrosion protection

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*
CB1/2-_	½ 16
CB3/4-_	¾ 21
CB1-_	1 27
CB1-1/4-_	1¼ 35
CB1-1/2-_	1½ 41
CB2-_	2 53
CB2-1/2-_	2½ 63
CB3-_	3 78
CB3-1/2-_	3½ 91
CB4-_	4 103

Cat. No.	Color
CB1 - _	___
_ = space for color identifier	
G = Gray	
W = White	
B = Blue	

Custom colors also available.

PVC-Coated Conduit Bodies and Fittings

Easy access for pulling, splicing, mounting and maintenance!

Ocal-Blue® Double-Coat Conduit Bodies

With Ocal-Blue® Double-Coat Conduit Bodies, you can connect sections of conduit — with or without 90° bends — and provide easy access for wire pulling, making splices in branch conductors and maintenance and future system changes. Conduit bodies can also serve as mounting outlets for wiring devices and lighting fixtures.

- Type 4X Form 8 (½"–2") conduit bodies have injection-molded PVC-coated cover with integral O-ring seal
- Flat surface molded on conduit body seals with molded flange on cover on 2½"–4" Form 8 and all Form 7
- Available in Form 7 and Form 8 ferrous as well as Mark 9 and Form 7 aluminum
- All Ocal-Blue® conduit bodies offer double corrosion protection — both bodies and covers coated inside and out with a nominal .002" (2 mil) blue urethane, then exterior coated with a nominal .040" (40 mil) PVC
- PVC coating in your choice of blue, gray or white with custom colors available
- All threaded hubs fitted with pressure-sealing sleeves
- Conduit bodies ship complete with covers and encapsulated stainless steel screws
- Covers also sold separately for replacement or retrofit purposes



¾" T Form 8 conduit body and cover



2 ½" LB Form 8 conduit body and cover



2½" LB Form 7 conduit body and cover





¾" X Form 7 conduit body and cover



¾" LB Mark 9 conduit body and cover

Cat. No.	Material	Color
LB27-___		___
	Blank = Ferrous	**_ = space for color identifier**
	SA = Aluminum	**G** = Gray
Catalog No. Example:		**W** = White
LB27-W is a ¾" LB ferrous conduit body and cover coated in white PVC.		**B** = Blue
		Custom colors also available.

Thomas&Betts

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PVC-Coated Conduit Bodies and Fittings

Ocal-Blue® Conduit Bodies Quick Reference

SHAPE	STYLE	SIZE (IN. AND METRIC SIZE DESIGNATOR*)									
		½" 16	¾" 21	1" 27	1¼" 35	1½" 41	2" 53	2½" 63	3" 78	3½" 91	4" 103
 C	Form 7	C17-_	C27-_	C37-_	C47-_	C57-_	C67-_	C77-_	C87-_	—	—
	Form 8	C18-4X-_	C28-4X-_	C38-4X-_	C448-4X-_	C58-4X-_	C68-4X-_	C78-_	C88-_	—	—
	Mark 9	C19-_	C29-_	C39-_	C49-_	C59-_	C69-_	C789-_	C889-_	C989-_	C1089-_
	Form 7 Aluminum	C17SA-_	C27SA-_	C37SA-_	C47SA-_	C57SA-_	C67SA-_	C77SA-_	C87SA-_	—	—
 LU	Form 7	LU17-_	LU27-_	LU37-_	LU47-_	LU57-_	LU67-_	—	—	—	—
	Form 8	LU18-4X-_	LU28-4X-_	LU38-4X-_	LU448-4X-_	LU58-4X-_	LU68-4X-_	—	—	—	—
 LB	Form 7	LB17-_	LB27-_	LB37-_	LB47-_	LB57-_	LB67-_	LB777-_	LB87-_	LB97-_	LB107-_
	Form 8	LB18-4X-_	LB28-4X-_	LB38-4X-_	LB448-4X-_	LB58-4X-_	LB68-4X-_	LB78-_	LB888-_	LB98-_	LB108-_
	Mark 9	LB19-_	LB29-_	LB39-_	LB49-_	LB59-_	LB69-_	LB789-_	LB889-_	LB989-_	LB1089-_
	Form 7 Aluminum	LB17SA-_	LB27SA-_	LB37SA-_	LB47SA-_	LB57SA-_	LB67SA-_	LB777SA-_	LB87SA-_	LB97SA-_	LB107SA-_
 LL	Form 7	LL17-_	LL27-_	LL37-_	LL47-_	LL57-_	LL67-_	LL777-_	LL87-_	LL97-_	LL107-_
	Form 8	LL18-4X-_	LL28-4X-_	LL38-4X-_	LL448-4X-_	LL58-4X-_	LL68-4X-_	LL78-_	LL888-_	—	—
	Mark 9	LL19-_	LL29-_	LL39-_	LL49-_	LL59-_	LL69-_	LL789-_	LL889-_	LL989-_	LL1089-_
	Form 7 Aluminum	LL17SA-_	LL27SA-_	LL37SA-_	LL47SA-_	LL57SA-_	LL67SA-_	LL777SA-_	LL87SA-_	LL97SA-_	LL107SA-_
 LR	Form 7	LR17-_	LR27-_	LR37-_	LR47-_	LR57-_	LR67-_	LR777-_	LR87-_	LR97-_	LR107-_
	Form 8	LR18-4X-_	LR28-4X-_	LR38-4X-_	LR448-4X-_	LR58-4X-_	LR68-4X-_	LR78-_	LR888-_	—	—
	Mark 9	LR19-_	LR29-_	LR39-_	LR49-_	LR59-_	LR69-_	LR789-_	LR889-_	LR989-_	LR1089-_
	Form 7 Aluminum	LR17SA-_	LR27SA-_	LR37SA-_	LR47SA-_	LR57SA-_	LR67SA-_	LR777SA-_	LR87SA-_	LR97SA-_	LR107SA-_
 T	Form 7	T17-_	T27-_	T37-_	T47-_	T57-_	T67-_	T77-_	T87-_	T97-_	T107-_
	Form 8	T18-4X-_	T28-4X-_	T38-4X-_	T448-4X-_	T58-4X-_	T68-4X-_	T78-_	T88-_	—	—
	Mark 9	T19-_	T29-_	T39-_	T49-_	T59-_	T69-_	T789-_	T889-_	T989-_	T1089-_
	Form 7 Aluminum	T17SA-_	T27SA-_	T37SA-_	T47SA-_	T57SA-_	T67SA-_	T77SA-_	T87SA-_	T97SA-_	T107SA-_
 TB	Form 7	TB17-_	TB27-_	TB37-_	TB47-_	TB57-_	TB67-_	—	—	—	—
	Form 8	TB18-4X-_	TB28-4X-_	TB38-4X-_	TB448-4X-_	TB58-4X-_	TB68-4X-_	—	—	—	—
	Mark 9	TB19-_	TB29-_	TB39-_	TB49-_	—	—	—	—	—	—
	Form 7 Aluminum	TB17SA-_	TB27SA-_	TB37SA-_	TB47SA-_	TB57SA-_	TB67SA-_	—	—	—	—
 X	Form 7	X17-_	X27-_	X37-_	X47-_	X57-_	X67-_	—	—	—	—
	Form 8	X18-4X-_	X28-4X-_	X38-4X-_	X448-4X-_	X58-4X-_	X68-4X-_	—	—	—	—
	Mark 9	X19-_	X29-_	X39-_	—	—	—	—	—	—	—
	Form 7 Aluminum	X17SA-_	X27SA-_	X37SA-_	X47SA-_	X57SA-_	X67SA-_	—	—	—	—

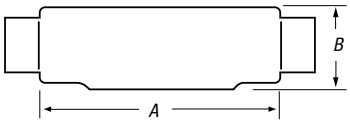
Ocal-Blue® Conduit Body Covers

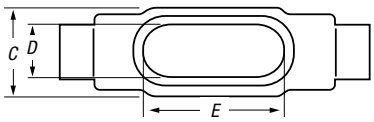
	STYLE	SIZE (IN. AND METRIC SIZE DESIGNATOR*)									
		½" 16	¾" 21	1" 27	1¼" 35	1½" 41	2" 53	2½" 63	3" 78	3½" 91	4" 103
	Form 7	170F-_	270F-_	370F-_	470F-_	570F-_	670F-_	870F-_	870F-_	970F-_	970F-_
	Form 8	180F-4X-_	280F-4X-_	380F-4X-_	480F-4X-_	580F-4X-_	680F-4X-__	880F-_	880F-_	980F-_	980F-_
	Mark 9	190-_	290-_	390-_	490-_	590-_	690-_	889-_	889-_	989-_	989-_
	Form 7 Aluminum	170SA-_	270SA-_	370SA-_	470SA-_	570SA-_	670SA-_	870SA-_	870SA-_	970SA-_	970SA-_

** Metric size designator (ANSI C80.1-1994).*

PVC-Coated Conduit Bodies and Fittings

C





C Form 7 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
C17-_	½"	5.45	1.40	1.45	.95	3.20	4.00
	16	138.43	35.56	36.83	24.13	81.28	65.55
C27-_	¾"	6.05	1.60	1.65	1.15	3.80	6.60
	21	153.67	40.64	41.91	29.21	96.52	108.15
C37-_	1"	6.75	1.90	1.80	1.35	4.55	10.60
	27	171.45	48.26	45.72	34.29	115.57	173.70
C47-_	1¼"	7.30	2.30	2.20	1.80	5.00	18.80
	35	185.42	58.42	55.88	45.72	127.00	308.08
C57-_	1½"	8.60	2.60	2.45	2.05	5.45	26.40
	41	218.44	66.04	62.23	52.07	138.43	432.62
C67-_	2"	9.50	3.20	3.05	2.45	6.40	51.00
	53	241.30	81.28	77.47	62.23	162.56	835.74
C77-_	2½"	12.10	3.65	4.25	3.60	8.40	102.00
	63	307.34	92.71	107.95	91.44	213.36	1671.48
C87-_	3"	12.10	4.40	4.25	3.60	8.40	132.00
	78	307.34	111.76	107.95	91.44	213.36	2163.09

C Mark 9 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
C19-_	½"	5.00	1.38	1.38	1.19	3.31	—
	16	127.00	35.05	35.05	30.23	84.07	—
C29-_	¾"	5.69	1.63	1.56	1.38	3.94	—
	21	144.53	41.40	39.62	35.05	100.08	—
C39-_	1"	6.59	1.88	1.75	1.50	4.56	—
	27	167.39	47.75	44.45	38.10	115.82	—
C49-_	1¼"	7.50	2.50	2.19	1.94	5.31	—
	35	190.50	63.50	55.63	49.28	134.87	—
C59-_	1½"	8.25	2.75	2.50	2.25	6.00	—
	41	209.55	69.85	63.50	57.15	152.40	—
C69-_	2"	10.50	3.44	3.19	2.88	8.06	—
	53	266.70	87.38	81.03	73.15	204.72	—
C789-_	2½"	15.63	4.44	5.00	4.25	10.88	—
	63	397.00	112.78	127.00	107.95	276.35	—
C889-_	3"	15.63	4.81	5.00	4.25	10.88	—
	78	397.00	122.17	127.00	107.95	276.35	—
C989-_	3½"	18.75	5.69	6.25	5.44	13.44	—
	91	476.25	144.53	158.75	138.18	341.38	—
C1089-_	4"	18.75	5.94	6.25	5.44	13.44	—
	103	476.25	150.88	158.75	138.18	341.38	—

C Form 8 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
C18-4X-_	½"	5.53	1.44	1.38	1.00	3.31	4.90
	16	140.49	36.51	34.93	25.40	84.14	80.30
C28-4X-_	¾"	6.28	1.53	1.19	1.19	3.94	8.00
	21	159.54	38.89	30.16	30.16	100.01	131.10
C38-4X-_	1"	7.31	1.94	1.75	1.38	4.56	13.00
	27	185.74	49.21	44.45	34.93	115.89	213.03
C448-4X-_	1¼"	8.50	2.38	2.19	1.75	5.31	23.50
	35	215.90	60.33	55.56	44.45	134.94	385.10
C58-4X-_	1½"	10.38	2.78	2.75	2.13	6.50	45.00
	41	263.53	70.64	69.85	53.98	165.10	737.42
C68-4X-_	2"	12.25	3.56	3.75	3.00	8.56	88.00
	53	311.15	90.49	95.25	76.20	217.49	1442.06
C78-_	2½"	15.63	4.44	5.00	4.25	10.88	110.00
	63	396.88	112.71	127.00	107.95	276.23	1802.58
C88-_	3"	15.63	4.81	5.00	4.25	10.88	110.00
	78	396.88	122.24	127.00	107.95	276.23	1802.58

C Form 7 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
C17SA-_	½"	5.45	1.40	1.45	.95	3.20	4.00
	16	138.43	35.56	36.83	24.13	81.28	65.55
C27SA-_	¾"	6.05	1.60	1.65	1.15	3.80	6.60
	21	153.67	40.64	41.91	29.21	96.52	108.15
C37SA-_	1"	6.75	1.90	1.80	1.35	4.55	10.60
	27	171.45	48.26	45.72	34.29	115.57	173.70
C47SA-_	1¼"	7.30	2.30	2.20	1.80	5.00	18.80
	35	185.42	58.42	55.88	45.72	127.00	308.08
C57SA-_	1½"	8.60	2.60	2.45	2.05	5.45	26.40
	41	218.44	66.04	62.23	52.07	138.43	432.62
C67SA-_	2"	9.50	3.20	3.05	2.45	6.40	51.00
	53	241.30	81.28	77.47	62.23	162.56	835.74
C77SA-_	2½"	12.10	3.65	4.25	3.60	8.40	102.00
	63	307.34	92.71	107.95	91.44	213.36	1671.48
C87SA-_	3"	12.10	4.40	4.25	3.60	8.40	132.00
	78	307.34	111.76	107.95	91.44	213.36	2163.09

** Metric size designator (ANSI C80.1-1994).*

*** Dimensions shown are for uncoated conduit bodies.*

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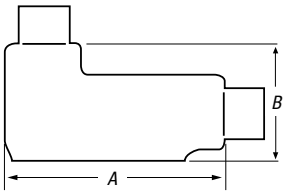
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Fax: 901.252.1354

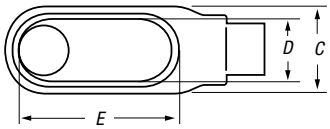
Technical Services
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PVC-Coated Conduit Bodies and Fittings

LB





LB Form 7 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LB17-_	**½"**	**4.60**	**2.20**	**1.35**	**.95**	**3.20**	**4.00**
	16	116.84	55.88	34.29	24.13	81.28	65.55
LB27-_	**¾"**	**5.25**	**2.40**	**1.65**	**1.15**	**3.80**	**6.60**
	21	133.35	60.96	41.91	29.21	96.52	108.15
LB37-_	**1"**	**6.00**	**2.65**	**1.80**	**1.35**	**4.55**	**10.60**
	27	152.40	67.31	45.72	34.29	115.57	173.70
LB47-_	**1¼"**	**6.45**	**3.20**	**2.20**	**1.80**	**5.00**	**18.80**
	35	163.83	81.28	55.88	45.72	127.00	308.08
LB57-_	**1½"**	**7.25**	**3.90**	**2.45**	**2.05**	**5.45**	**26.40**
	41	184.15	99.06	62.23	52.07	138.43	432.62
LB67-_	**2"**	**8.30**	**4.45**	**3.10**	**2.45**	**6.40**	**51.00**
	53	210.82	113.03	78.74	62.23	162.56	835.74
LB777-_	**2½"**	**10.55**	**5.20**	**4.25**	**3.60**	**8.40**	**102.00**
	63	267.97	132.08	107.95	91.44	213.36	1671.48
LB87-_	**3"**	**10.55**	**5.95**	**4.25**	**3.60**	**8.40**	**132.00**
	78	267.97	151.13	107.95	91.44	213.36	2163.09
LB97-_	**3½"**	**12.85**	**6.70**	**5.25**	**4.55**	**10.25**	**210.00**
	91	326.39	170.18	133.35	115.57	260.35	3441.28
LB107-_	**4"**	**12.85**	**7.20**	**5.25**	**4.55**	**10.25**	**243.00**
	103	326.39	182.88	133.35	115.57	260.35	3982.06

LB Mark 9 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LB19-_	**½"**	**4.59**	**2.13**	**1.38**	**1.19**	**3.31**	**—**
	16	116.68	53.98	34.93	30.16	84.14	—
LB29-_	**¾"**	**5.25**	**2.41**	**1.56**	**1.38**	**3.94**	**—**
	21	133.35	61.12	39.69	34.93	100.01	—
LB39-_	**1"**	**6.09**	**2.84**	**1.75**	**1.50**	**4.56**	**—**
	27	154.78	72.23	44.45	38.10	115.89	—
LB49-_	**1¼"**	**7.03**	**3.47**	**2.19**	**1.94**	**5.31**	**—**
	35	178.59	88.11	55.56	49.21	134.94	—
LB59-_	**1½"**	**7.75**	**3.75**	**2.50**	**2.25**	**6.00**	**—**
	41	196.85	95.25	63.50	57.15	152.40	—
LB69-_	**2"**	**10.03**	**4.47**	**3.19**	**2.88**	**8.06**	**—**
	53	254.79	113.51	80.96	73.03	204.79	—
LB789-_	**2½"**	**13.94**	**6.13**	**5.00**	**4.25**	**10.88**	**—**
	63	354.01	155.58	127.00	107.95	276.23	—
LB889-_	**3"**	**13.94**	**6.50**	**5.00**	**4.25**	**10.88**	**—**
	78	354.01	165.10	127.00	107.95	276.23	—
LB989-_	**3½"**	**16.88**	**7.56**	**6.25**	**5.44**	**13.44**	**—**
	91	428.63	192.09	158.75	138.11	341.31	—
LB1089-_	**4"**	**16.88**	**7.81**	**6.25**	**5.44**	**13.44**	**—**
	103	428.63	198.44	158.75	138.11	341.31	—

LB Form 8 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LB18-4X-_	**½"**	**4.94**	**2.22**	**1.38**	**1.00**	**3.31**	**4.90**
	16	125.41	56.36	34.93	25.40	84.14	80.30
LB28-4X-_	**¾"**	**5.56**	**2.44**	**1.56**	**1.19**	**3.31**	**8.00**
	21	141.29	61.93	39.69	30.16	84.14	131.10
LB38-4X-_	**1"**	**6.50**	**2.81**	**1.75**	**1.38**	**4.56**	**13.00**
	27	165.10	71.45	44.45	34.93	115.89	213.03
LB448-4X-_	**1¼"**	**7.53**	**3.34**	**2.19**	**1.75**	**5.31**	**23.50**
	35	191.29	84.93	55.56	44.45	134.94	385.10
LB58-4X-_	**1½"**	**9.13**	**4.03**	**2.75**	**2.13**	**6.50**	**45.00**
	41	231.78	102.39	69.85	53.98	165.10	737.42
LB68-4X-_	**2"**	**11.00**	**4.41**	**3.75**	**3.00**	**8.56**	**88.00**
	53	279.40	111.92	95.25	76.20	217.49	1442.06
LB78-_	**2½"**	**13.94**	**6.13**	**5.00**	**4.25**	**10.88**	**110.00**
	63	354.01	155.58	127.00	107.95	276.23	1802.58
LB888-_	**3"**	**13.94**	**6.50**	**5.00**	**4.25**	**10.88**	**110.00**
	78	354.01	165.10	127.00	107.95	276.23	1802.58
LB98-_	**3½"**	**16.88**	**7.56**	**6.25**	**5.44**	**13.44**	**250.00**
	91	428.63	192.09	158.75	138.11	341.31	4096.77
LB108-_	**4"**	**16.88**	**7.81**	**6.25**	**5.44**	**13.44**	**250.00**
	103	428.63	198.44	158.75	138.11	341.31	4096.77

LB Form 7 Aluminum Conduit Bodies with Covers

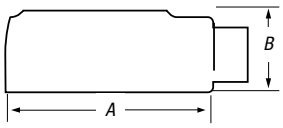
CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LB17SA-_	**½"**	**4.60**	**2.20**	**1.35**	**.95**	**3.20**	**4.00**
	16	116.84	55.88	34.29	24.13	81.28	65.55
LB27SA-_	**¾"**	**5.25**	**2.40**	**1.65**	**1.15**	**3.80**	**6.60**
	21	133.35	60.96	41.91	29.21	96.52	108.15
LB37SA-_	**1"**	**6.00**	**2.65**	**1.80**	**1.35**	**4.55**	**10.60**
	27	152.40	67.31	45.72	34.29	115.57	173.70
LB47SA-_	**1¼"**	**6.45**	**3.20**	**2.20**	**1.80**	**5.00**	**18.80**
	35	163.83	81.28	55.88	45.72	127.00	308.08
LB57SA-_	**1½"**	**7.25**	**3.90**	**2.45**	**2.05**	**5.45**	**26.40**
	41	184.15	99.06	62.23	52.07	138.43	432.62
LB67SA-_	**2"**	**8.30**	**4.45**	**3.10**	**2.45**	**6.40**	**51.00**
	53	210.82	113.03	78.74	62.23	162.56	835.74
LB777SA-_	**2½"**	**10.55**	**5.20**	**4.25**	**3.60**	**8.40**	**102.00**
	63	267.97	132.08	107.95	91.44	213.36	1671.48
LB87SA-_	**3"**	**10.55**	**5.95**	**4.25**	**3.60**	**8.40**	**132.00**
	78	267.97	151.13	107.95	91.44	213.36	2163.09
LB97SA-_	**3½"**	**12.85**	**6.70**	**5.25**	**4.55**	**10.25**	**210.00**
	91	326.39	170.18	133.35	115.57	260.35	3441.28
LB107SA-_	**4"**	**12.85**	**7.20**	**5.25**	**4.55**	**10.25**	**243.00**
	103	326.39	182.88	133.35	115.57	260.35	3982.06

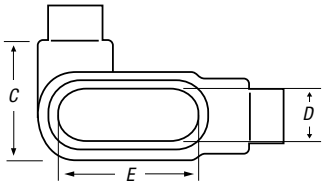
** Metric size designator (ANSI C80.1-1994).*

*** Dimensions shown are for uncoated conduit bodies.*

PVC-Coated Conduit Bodies and Fittings

LL





LL Form 7 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LL17-_	½"	4.60	1.40	1.45	.95	3.20	4.00
	16	116.84	35.56	36.83	24.13	81.28	65.55
LL27-_	¾"	5.25	1.60	1.65	1.15	3.80	6.60
	21	133.35	40.64	41.91	29.21	96.52	108.15
LL37-_	1"	6.00	1.90	2.60	1.35	4.55	10.60
	27	152.40	48.26	66.04	34.29	115.57	173.70
LL47-_	1¼"	6.45	2.30	3.05	1.80	5.00	18.60
	35	163.83	58.42	77.47	45.72	127.00	304.80
LL57-_	1½"	7.90	2.60	3.80	2.05	5.45	26.40
	41	200.66	66.04	96.52	52.07	138.43	432.62
LL67-_	2"	8.30	3.20	4.25	2.45	6.40	51.00
	53	210.82	81.28	107.95	62.23	162.56	835.74
LL777-_	2½"	10.55	3.65	5.80	3.60	8.40	102.00
	63	267.97	92.71	147.32	91.44	213.36	1671.48
LL87-_	3"	10.55	4.40	5.80	3.60	8.40	132.00
	78	267.97	111.76	147.32	91.44	213.36	2163.09
LL97-_	3½"	12.85	4.90	7.03	4.55	10.25	210.00
	91	326.39	124.46	178.56	115.57	260.35	3441.28
LL107-_	4"	12.85	5.40	7.03	4.55	10.25	243.00
	103	326.39	137.16	178.56	115.57	260.35	3982.06

LL Mark 9 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LL19-_	½"	4.59	1.38	2.13	1.19	3.31	—
	16	116.68	34.93	53.98	30.16	84.14	—
LL29-_	¾"	5.25	1.63	2.38	1.38	3.94	—
	21	133.35	41.28	60.33	34.93	100.01	—
LL39-_	1"	6.09	1.88	2.63	1.50	4.56	—
	27	154.78	47.63	66.68	38.10	115.89	—
LL49-_	1¼"	7.03	2.50	3.09	1.94	5.31	—
	35	178.59	63.50	78.58	49.21	134.94	—
LL59-_	1½"	7.75	2.75	3.44	2.25	6.00	—
	41	196.85	69.85	87.31	57.15	152.40	—
LL69-_	2"	10.03	3.44	4.13	2.88	8.06	—
	53	254.79	87.31	104.78	73.03	204.79	—
LL789-_	2½"	13.94	4.44	6.69	4.25	10.88	—
	63	354.01	112.71	169.86	107.95	276.23	—
LL889-_	3"	13.94	4.81	6.69	4.25	10.88	—
	78	354.08	122.24	169.93	107.95	276.35	—
LL989-_	3½"	16.88	5.69	8.13	5.44	13.44	—
	91	428.63	144.46	206.38	138.11	341.31	—
LL1089-_	4"	16.88	5.94	8.13	5.44	13.44	—
	103	428.63	150.81	206.38	138.11	341.31	—

LL Form 8 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LL18-4X-_	½"	4.94	1.44	2.16	1.00	3.31	4.90
	16	125.41	36.51	54.77	25.40	84.14	80.30
LL28-4X-_	¾"	5.56	1.69	2.31	1.19	3.94	8.00
	21	141.29	42.86	58.74	30.16	100.01	131.10
LL38-4X-_	1"	6.47	1.94	2.63	1.38	4.56	13.00
	27	164.31	49.21	66.68	34.93	115.89	213.03
LL448-4X-_	1¼"	7.53	2.38	3.16	1.75	5.31	23.50
	35	191.29	60.33	80.17	44.45	134.94	385.10
LL58-4X-_	1½"	9.13	2.78	4.00	2.13	6.50	45.00
	41	231.78	70.64	101.60	53.98	165.10	737.42
LL68-4X-_	2"	11.00	3.56	5.00	3.00	8.56	88.00
	53	279.40	90.49	127.00	76.20	217.49	1442.06
LL78-_	2½"	13.94	4.44	6.69	4.25	10.88	110.00
	63	354.01	112.71	169.86	107.95	276.23	1802.58
LL888-_	3"	13.94	4.81	6.69	4.25	10.88	110.00
	78	354.01	122.24	169.86	107.95	276.23	1802.58

** Metric size designator (ANSI C80.1-1994).*

*** Dimensions shown are for uncoated conduit bodies.*

LL Form 7 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LL17SA-_	½"	4.60	1.40	1.45	.95	3.20	4.00
	16	116.84	35.56	36.83	24.13	81.28	65.55
LL27SA-_	¾"	5.25	1.60	1.65	1.15	3.80	6.60
	21	133.35	40.64	41.91	29.21	96.52	108.15
LL37SA-_	1"	6.00	1.90	2.60	1.35	4.55	10.60
	27	152.40	48.26	66.04	34.29	115.57	173.70
LL47SA-_	1¼"	6.45	2.30	3.05	1.80	5.00	18.60
	35	163.83	58.42	77.47	45.72	127.00	304.80
LL57SA-_	1½"	7.90	2.60	3.80	2.05	5.45	26.40
	41	200.66	66.04	96.52	52.07	138.43	432.62
LL67SA-_	2"	8.30	3.20	4.25	2.45	6.40	51.00
	53	210.82	81.28	107.95	62.23	162.56	835.74
LL777SA-_	2½"	10.55	3.65	5.80	3.60	8.40	102.00
	63	267.97	92.71	147.32	91.44	213.36	1671.48
LL87SA-_	3"	10.55	4.40	5.80	3.60	8.40	132.00
	78	267.97	111.76	147.32	91.44	213.36	2163.09
LL97SA-_	3½"	12.85	4.90	7.03	4.55	10.25	210.00
	91	326.39	124.46	178.56	115.57	260.35	3441.28
LL107SA-_	4"	12.85	5.40	7.03	4.55	10.25	243.00
	103	326.39	137.16	178.56	115.57	260.35	3982.06

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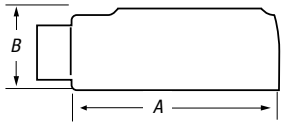
United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

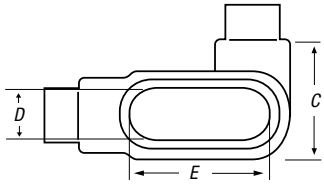
Technical Services
Tel: 888.862.3289

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PVC-Coated Conduit Bodies and Fittings

LR





LR Form 7 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LR17-_	½"	4.60	1.40	1.45	.95	3.20	4.00
	16	116.84	35.56	36.83	24.13	81.28	65.55
LR27-_	¾"	5.25	1.60	1.65	1.15	3.80	6.60
	21	133.35	40.64	41.91	29.21	96.52	108.15
LR37-_	1"	6.00	1.90	2.60	1.35	4.55	10.60
	27	152.40	48.26	66.04	34.29	115.57	173.70
LR47-_	1¼"	6.45	2.30	3.05	1.80	5.00	18.80
	35	163.83	58.42	77.47	45.72	127.00	308.08
LR57-_	1½"	7.90	2.60	3.80	2.05	5.45	26.40
	41	200.66	66.04	96.52	52.07	138.43	432.62
LR67-_	2"	8.30	3.20	4.25	2.45	6.40	51.00
	53	210.82	81.28	107.95	62.23	162.56	835.74
LR777-_	2½"	10.55	3.65	5.80	3.60	8.40	102.00
	63	267.97	92.71	147.32	91.44	213.36	1671.48
LR87-_	3"	10.55	4.40	5.80	3.60	8.40	132.00
	78	267.97	111.76	147.32	91.44	213.36	2163.09
LR97-_	3½"	12.85	4.90	7.03	4.55	10.25	210.00
	91	326.39	124.46	178.56	115.57	260.35	3441.28
LR107-_	4"	12.85	5.40	7.03	4.55	10.25	243.00
	103	326.39	137.16	178.56	115.57	260.35	3982.06

LR Mark 9 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LR19-_	½"	4.59	1.38	2.13	1.19	3.31	—
	16	116.68	34.93	53.98	30.16	84.14	—
LR29-_	¾"	5.25	1.63	2.38	1.38	3.94	—
	21	133.35	41.28	60.33	34.93	100.01	—
LR39-_	1"	6.09	1.88	2.63	1.50	4.56	—
	27	154.78	47.63	66.68	38.10	115.89	—
LR49-_	1¼"	7.03	2.50	3.09	1.94	5.31	—
	35	178.59	63.50	78.58	49.21	134.94	—
LR59-_	1½"	7.75	2.75	3.44	2.25	6.00	—
	41	196.85	69.85	87.31	57.15	152.40	—
LR69-_	2"	10.03	3.44	4.13	2.88	8.06	—
	53	254.79	87.31	104.78	73.03	204.79	—
LR789-_	2½"	13.94	4.44	6.69	4.25	10.88	—
	63	354.01	112.71	169.86	107.95	276.23	—
LR889-_	3"	13.94	4.81	6.69	4.25	10.88	—
	78	354.08	122.24	169.93	107.95	276.35	—
LR989-_	3½"	16.88	5.69	8.13	5.44	13.44	—
	91	428.63	144.46	206.38	138.11	341.31	—
LR1089-_	4"	16.88	5.94	8.13	5.44	13.44	—
	103	428.63	150.81	206.38	138.11	341.31	—

LR Form 8 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LR18-4X-_	½"	4.94	1.44	2.16	1.00	3.31	4.90
	16	125.41	36.51	54.77	25.40	84.14	80.30
LR28-4X-_	¾"	5.56	1.69	2.31	1.19	3.94	8.00
	21	141.29	42.86	58.74	30.16	100.01	131.10
LR38-4X-_	1"	6.47	1.94	2.63	1.38	4.56	13.00
	27	164.31	49.21	66.68	34.93	115.89	213.03
LR448-4X-_	1¼"	7.53	2.38	3.16	1.75	5.31	23.50
	35	191.29	60.33	80.17	44.45	134.94	385.10
LR58-4X-_	1½"	9.13	2.78	4.00	2.13	6.50	45.00
	41	231.78	70.64	101.60	53.98	165.10	737.42
LR68-4X-_	2"	11.00	3.56	5.00	3.00	8.56	88.00
	53	279.40	90.49	127.00	76.20	217.49	1442.06
LR78-_	2½"	13.94	4.44	6.69	4.25	10.88	110.00
	63	354.01	112.71	169.86	107.95	276.23	1802.58
LR888-_	3"	13.94	4.81	6.69	4.25	10.88	110.00
	78	354.01	122.24	169.86	107.95	276.23	1802.58

** Metric size designator (ANSI C80.1-1994).*

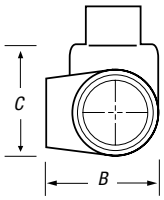
*** Dimensions shown are for uncoated conduit bodies.*

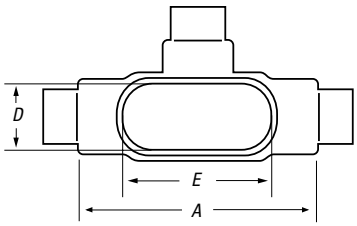
LR Form 7 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
LR17SA-_	½"	4.60	1.40	1.45	.95	3.20	4.00
	16	116.84	35.56	36.83	24.13	81.28	65.55
LR27SA-_	¾"	5.25	1.60	1.65	1.15	3.80	6.60
	21	133.35	40.64	41.91	29.21	96.52	108.15
LR37SA-_	1"	6.00	1.90	2.60	1.35	4.55	10.60
	27	152.40	48.26	66.04	34.29	115.57	173.70
LR47SA-_	1¼"	6.45	2.30	3.05	1.80	5.00	18.80
	35	163.83	58.42	77.47	45.72	127.00	308.08
LR57SA-_	1½"	7.90	2.60	3.80	2.05	5.45	26.40
	41	200.66	66.04	96.52	52.07	138.43	432.62
LR67SA-_	2"	8.30	3.20	4.25	2.45	6.40	51.00
	53	210.82	81.28	107.95	62.23	162.56	835.74
LR777SA-_	2½"	10.55	3.65	5.80	3.60	8.40	102.00
	63	267.97	92.71	147.32	91.44	213.36	1671.48
LR87SA-_	3"	10.55	4.40	5.80	3.60	8.40	132.00
	78	267.97	111.76	147.32	91.44	213.36	2163.09
LR97SA-_	3½"	12.85	4.90	7.03	4.55	10.25	210.00
	91	326.39	124.46	178.56	115.57	260.35	3441.28
LR107SA-_	4"	12.85	5.40	7.03	4.55	10.25	243.00
	103	326.39	137.16	178.56	115.57	260.35	3982.06

PVC-Coated Conduit Bodies and Fittings

T





T Form 7 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
T17-_	½"	5.60	1.80	2.35	.95	3.20	6.00
	16	142.24	45.72	59.69	24.13	81.28	98.32
T27-_	¾"	6.20	2.00	2.60	1.15	3.80	9.10
	21	157.48	50.80	66.04	29.21	96.52	149.12
T37-_	1"	7.35	2.30	3.10	1.35	4.55	16.90
	27	186.69	58.42	78.74	34.29	115.57	276.94
T47-_	1¼"	7.30	2.30	3.05	1.80	5.00	19.30
	35	185.42	58.42	77.47	45.72	127.00	316.27
T57-_	1½"	8.60	2.60	3.80	2.05	5.45	27.50
	41	218.44	66.04	96.52	52.07	138.43	450.64
T67-_	2"	9.50	3.20	4.25	2.45	6.40	50.00
	53	241.30	81.28	107.95	62.23	162.56	819.35
T77-_	2½"	12.10	3.65	5.80	3.60	8.40	102.00
	63	307.34	92.71	147.32	91.44	213.36	1671.48
T87-_	3"	12.10	4.40	5.80	3.60	8.40	132.00
	78	307.34	111.76	147.32	91.44	213.36	2163.09
T97-_	3½"	14.65	4.90	7.05	4.55	10.25	210.00
	91	372.11	124.46	179.07	115.57	260.35	3441.28
T107-_	4"	14.65	5.40	7.05	4.55	10.25	243.00
	103	372.11	137.16	179.07	115.57	260.35	3982.06

T Mark 9 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
T19-_	½"	5.00	1.38	2.13	1.19	3.31	—
	16	127.00	34.93	53.98	30.16	84.14	—
T29-_	¾"	5.69	1.63	2.38	1.38	3.94	—
	21	144.46	41.28	60.33	34.93	100.01	—
T39-_	1"	6.59	1.88	2.63	1.50	4.56	—
	27	167.48	47.63	66.68	38.10	115.89	—
T49-_	1¼"	7.50	2.50	3.09	1.94	5.31	—
	35	190.50	63.50	78.58	49.21	134.94	—
T59-_	1½"	8.25	2.75	3.44	2.25	6.00	—
	41	209.55	69.85	87.31	57.15	152.40	—
T69-_	2"	10.50	3.44	4.13	2.88	8.06	—
	53	266.70	87.31	104.78	73.03	204.79	—
T789-_	2½"	15.63	4.44	6.69	4.25	10.88	—
	63	396.88	112.71	169.86	107.95	276.23	—
T889-_	3"	15.63	4.81	6.69	4.25	10.88	—
	78	396.88	122.24	169.86	107.95	276.23	—
T989-_	3½"	18.75	5.69	8.13	5.44	13.44	—
	91	476.25	144.46	206.38	138.11	341.31	—
T1089-_	4"	18.75	5.94	8.13	5.44	13.44	—
	103	476.25	150.81	206.38	138.11	341.31	—

T Form 8 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
T18-4X-_	½"	5.69	1.75	2.16	1.00	3.31	6.00
	16	144.46	44.45	54.77	25.40	84.14	98.32
T28-4X-_	¾"	6.28	2.00	2.31	1.19	3.94	9.00
	21	159.54	50.80	58.74	30.16	100.01	147.48
T38-4X-_	1"	7.31	2.25	2.63	1.38	4.56	15.00
	27	185.74	57.15	66.68	34.93	115.89	245.81
T448-4X-_	1¼"	8.50	2.63	3.16	1.75	5.31	24.00
	35	215.90	66.68	80.17	44.45	134.94	393.29
T58-4X-_	1½"	10.38	2.78	4.00	2.13	6.50	46.50
	41	263.53	70.64	101.60	53.98	165.10	762.00
T68-4X-_	2"	12.25	3.56	5.00	3.00	8.56	88.00
	53	311.15	90.49	127.00	76.20	217.49	1442.06
T78-_	2½"	15.63	4.44	6.69	4.25	10.88	110.00
	63	396.88	112.71	169.86	107.95	276.23	1802.58
T88-_	3"	15.63	4.81	6.69	4.25	10.88	110.00
	78	396.88	122.24	169.86	107.95	276.23	1802.58

* Metric size designator (ANSI C80.1-1994).

** Dimensions shown are for uncoated conduit bodies.

T Form 7 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
T17SA-_	½"	5.60	1.80	2.35	.95	3.20	6.00
	16	142.24	45.72	59.69	24.13	81.28	98.32
T27SA-_	¾"	6.20	2.00	2.60	1.15	3.80	9.10
	21	157.48	50.80	66.04	29.21	96.52	149.12
T37SA-_	1"	7.35	2.30	3.10	1.35	4.55	16.90
	27	186.69	58.42	78.74	34.29	115.57	276.94
T47SA-_	1¼"	7.30	2.30	3.05	1.80	5.00	19.30
	35	185.42	58.42	77.47	45.72	127.00	316.27
T57SA-_	1½"	8.60	2.60	3.80	2.05	5.45	27.50
	41	218.44	66.04	96.52	52.07	138.43	450.64
T67SA-_	2"	9.50	3.20	4.25	2.45	6.40	50.00
	53	241.30	81.28	107.95	62.23	162.56	819.35
T77SA-_	2½"	12.10	3.65	5.80	3.60	8.40	102.00
	63	307.34	92.71	147.32	91.44	213.36	1671.48
T87SA-_	3"	12.10	4.40	5.80	3.60	8.40	132.00
	78	307.34	111.76	147.32	91.44	213.36	2163.09
T97SA-_	3½"	14.65	4.90	7.05	4.55	10.25	210.00
	91	372.11	124.46	179.07	115.57	260.35	3441.28
T107SA-_	4"	14.65	5.40	7.05	4.55	10.25	243.00
	103	372.11	137.16	179.07	115.57	260.35	3982.06

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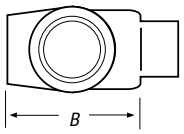
United States
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800.816.7809
Fax: 901.252.1354

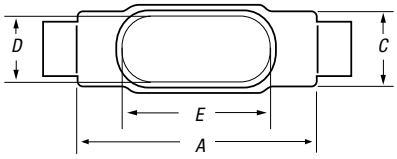
Technical Services
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PVC-Coated Conduit Bodies and Fittings

TB





TB Form 7 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
TB17-_	½"	5.60	2.06	1.63	.95	3.20	6.00
	16	142.24	52.32	41.40	24.13	81.28	98.32
TB27-_	¾"	6.20	2.31	1.81	1.15	3.80	9.10
	21	157.48	58.67	45.97	29.21	96.52	149.12
TB37-_	1"	7.35	2.50	2.31	1.35	4.55	16.90
	27	186.69	63.50	58.67	34.29	115.57	276.94
TB47-_	1¼"	7.30	3.19	2.25	1.80	5.00	19.30
	35	185.42	81.03	57.15	45.72	127.00	316.27
TB57-_	1½"	8.60	3.91	2.42	2.05	5.45	27.50
	41	218.44	99.31	61.47	52.07	138.43	450.64
TB67-_	2"	9.50	4.50	3.06	2.45	6.40	52.80
	53	241.30	114.30	77.72	62.23	162.56	865.24

TB Mark 9 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
TB19-_	½"	5.00	2.13	1.38	1.19	3.31	—
	16	127.00	53.98	34.93	30.16	84.14	—
TB29-_	¾"	5.69	2.41	1.56	1.38	3.94	—
	21	144.46	61.12	39.69	34.93	100.01	—
TB39-_	1"	6.59	2.84	1.75	1.50	4.56	—
	27	167.48	72.23	44.45	38.10	115.89	—
TB49-_	1¼"	7.50	3.47	2.19	1.94	5.31	—
	35	190.50	88.11	55.56	49.21	134.94	—

TB Form 8 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
TB18-4X-_	½"	5.69	2.63	1.38	1.00	3.31	6.00
	16	144.46	66.68	34.93	25.40	84.14	98.32
TB28-4X-_	¾"	6.28	2.88	1.19	1.19	3.94	9.00
	21	159.54	73.03	30.16	30.16	100.01	147.48
TB38-4X-_	1"	7.31	3.25	1.75	1.38	4.56	15.00
	27	185.74	82.55	44.45	34.93	115.89	245.81
TB448-4X-_	1¼"	8.50	3.31	2.19	1.75	5.31	24.00
	35	215.90	84.14	55.56	44.45	134.94	393.29
TB58-4X-_	1½"	10.38	3.69	2.75	2.13	6.50	46.50
	41	263.53	93.66	69.85	53.98	165.10	762.00
TB68-4X-_	2"	12.25	4.25	3.75	3.00	8.56	88.00
	53	311.15	107.95	95.25	76.20	217.49	1442.06

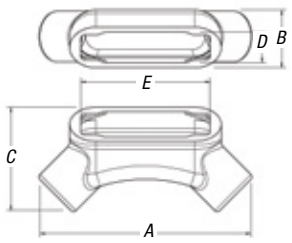
** Metric size designator (ANSI C80.1-1994).*

*** Dimensions shown are for uncoated conduit bodies.*

TB Form 7 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
TB17SA-_	½"	5.60	2.06	1.63	.95	3.20	6.00
	16	142.24	52.32	41.40	24.13	81.28	98.32
TB27SA-_	¾"	6.20	2.31	1.81	1.15	3.80	9.10
	21	157.48	58.67	45.97	29.21	96.52	149.12
TB37SA-_	1"	7.35	2.50	2.31	1.35	4.55	16.90
	27	186.69	63.50	58.67	34.29	115.57	276.94
TB47SA-_	1¼"	7.30	3.19	2.25	1.80	5.00	19.30
	35	185.42	81.03	57.15	45.72	127.00	316.27
TB57SA-_	1½"	8.60	3.91	2.42	2.05	5.45	27.50
	41	218.44	99.31	61.47	52.07	138.43	450.64
TB67SA-_	2"	9.50	4.50	3.06	2.45	6.40	52.80
	53	241.30	114.30	77.72	62.23	162.56	865.24

LU



LU Form 7

LU Form 7 Ferrous Conduit Bodies with Covers

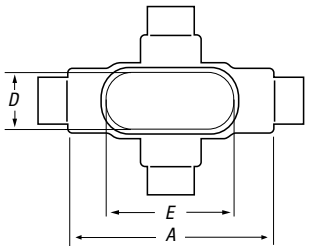
CAT. NO.	HUB SIZE	DIMENSIONS (IN.) A	B	C	D	E	CU. IN.
LU17-_	½"	5.54	1.45	2.72	.95	3.20	4.8
LU27-_	¾"	6.22	1.70	3.07	1.15	3.80	7.6
LU37-_	1"	7.34	1.97	3.52	1.35	4.55	13.4
LU47-_	1¼"	8.40	2.47	4.21	1.80	5.00	23.0
LU57-_	1½"	8.95	2.72	4.44	2.05	5.45	28.3
LU67-_	2"	10.61	3.43	5.43	2.45	6.40	56.0

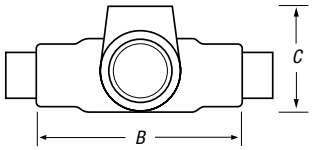
* Metric size designator (ANSI C80.1-1994).

** Dimensions shown are for uncoated conduit bodies.

PVC-Coated Conduit Bodies and Fittings

X





X Form 7 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
X17-_	½"	5.60	1.80	3.05	.95	3.20	6.00
	16	142.24	45.72	77.47	24.13	81.28	98.32
X27-_	¾"	6.20	2.00	3.30	1.15	3.80	9.10
	21	157.48	50.80	83.82	29.21	96.52	149.12
X37-_	1"	7.35	2.30	3.80	1.35	4.55	16.90
	27	186.69	58.42	96.52	34.29	115.57	276.94
X47-_	1¼"	7.30	2.30	3.85	1.80	5.00	19.30
	35	185.42	58.42	97.79	45.72	127.00	316.27
X57-_	1½"	8.60	2.60	5.05	2.05	5.45	27.50
	41	218.44	66.04	128.27	52.07	138.43	450.64
X67-_	2"	9.50	3.20	5.45	2.45	6.40	52.80
	53	241.30	81.28	138.43	62.23	162.56	865.24

X Form 8 Ferrous Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
X18-4X-_	½"	5.69	1.75	2.91	1.00	3.31	6.00
	16	144.46	44.45	73.82	25.40	84.14	98.32
X28-4X-_	¾"	6.28	2.00	3.06	1.38	3.94	9.00
	21	159.54	50.80	77.79	34.93	100.01	147.48
X38-4X-_	1"	7.31	2.25	3.50	1.38	4.56	15.00
	27	185.74	57.15	88.90	34.93	115.89	245.81
X448-4X-_	1¼"	8.50	2.63	4.13	1.75	5.31	24.00
	35	215.90	66.68	104.78	44.45	134.94	393.29
X58-4X-_	1½"	10.38	2.47	5.25	2.13	6.50	46.50
	41	263.53	62.71	133.35	53.98	165.10	762.00
X68-4X-_	2"	12.25	3.56	6.25	3.00	8.56	88.00
	53	311.15	90.49	158.75	76.20	217.49	1442.06

** Metric size designator (ANSI C80.1-1994). ** Dimensions shown are for uncoated conduit bodies.*

X Mark 9 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
X19-_	½"	5.69	2.91	1.75	1.00	3.31	—
	16	144.46	73.82	44.45	25.40	84.14	—
X29-_	¾"	6.28	3.06	2.00	1.19	3.94	—
	21	159.54	77.79	50.80	30.16	100.01	—
X39-_	1"	7.31	3.50	2.25	1.38	4.56	—
	27	185.74	88.90	57.15	34.93	115.89	—

X Form 7 Aluminum Conduit Bodies with Covers

CAT. NO.	HUB SIZE*	DIMENSIONS (IN. AND MM)** A	B	C	D	E	VOL. CAP. (CU.IN./CU.CM)
X17SA-_	½"	5.60	1.80	3.05	.95	3.20	6.00
	16	142.24	45.72	77.47	24.13	81.28	98.32
X27SA-_	¾"	6.20	2.00	3.30	1.15	3.80	9.10
	21	157.48	50.80	83.82	29.21	96.52	149.12
X37SA-_	1"	7.35	2.30	3.80	1.35	4.55	16.90
	27	186.69	58.42	96.52	34.29	115.57	276.94
X47SA-_	1¼"	7.30	2.30	3.85	1.80	5.00	19.30
	35	185.42	58.42	97.79	45.72	127.00	316.27
X57SA-_	1½"	8.60	2.60	5.05	2.05	5.45	27.50
	41	218.44	66.04	128.27	52.07	138.43	450.64
X67SA-_	2"	9.50	3.20	5.45	2.45	6.40	52.80
	53	241.30	81.28	138.43	62.23	162.56	865.24

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Make 90° bends while allowing straight pulls!

Ocal-Blue® Double-Coat Pulling Elbows



LBD2200-G

LBD and LBH bodies are installed at 90° bends in rigid conduit to act as pull outlets for conductors that are stiff due to large size or type of insulation and to make 90° bends in conduit system while allowing straight wire pulls in either direction.

- Choose LBD series for ordinary locations and LBH series for hazardous locations
- Coated with a nominal .002" (2 mil) blue urethane on both interior and exterior
- Nominal .040" (40 mil) PVC coating bonded to exterior
- Pressure-sealing sleeves seal connections

Cat. No.	Color
LBD1100 - _	
_ = space for color identifier	
G = Gray	
W = White	
B = Blue	

Custom colors also available.

ORDINARY LBD SERIES CAT. NO.	HAZARDOUS LBH SERIES** CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*
LBD1100-_	LBH10-_	½ 16
LBD2200-_	LBH20-_	¾ 21
LBD3300-_	LBH30-_	1 27
LBD4400-_	LBH40-_	1¼ 35
LBD5500-_	LBH50-_	1½ 41
LBD6600-_	LBH60-_	2 53
LBD7700-_	LBH70-_	2½ 63
LBD8800-_	LBH80-_	3 78
LBD9900-_	LBH90-_	3½ 91
LBD10900-_	LBH100-_	4 103
LBD012-_	—	5 129
LBD014-_	—	6 15

** Metric size designator (ANSI C80.1-1994).*
*** Ratings prior to PVC coating*



BC3-G Mogul



BLB4-G Mogul



BUB3-G Mogul

Ocal-Blue® Double-Coat Mogul Fittings

Install mogul fittings in conduit systems to act as pull outlets for conductors that are stiff due to large size or type of installation, to provide the longer openings needed when pulling large conductors, to prevent sharp bends and kinks in large conductors or to provide more splicing space.

- Nominal .002" (2 mil) blue urethane on both interior and exterior
- Nominal .040" (40 mil) PVC coating bonded to exterior
- Pressure-sealing sleeves protect connections



BG48-G Replacement Cover

Cat. No.	Color
BC3 - _	
_ = space for color identifier	
G = Gray	
W = White	
B = Blue	

Custom colors also available.

MOGUL FITTING WITH COVER AND GASKET				REPLACEMENT	PIPE SIZE IN.
BC CAT. NO.	BLB CAT. NO.	BUB CAT. NO.	BT CAT. NO.	COVER BG CAT. NO.	METRIC SIZE DESIGNATOR*
BC3-_	BLB3-_	BUB3-_	BT3-_	BG48-_	1 27
BC4-_	BLB4-_	BUB4-_	BT4-_	BG48-_	1¼ 35
BC5-_	BLB5-_	BUB5-_	BT5-_	BG68-_	1½ 41
BC6-_	BLB6-_	BUB6-_	BT6-_	BG68-_	2 53
BC7-_	BLB7-_	BUB7-_	BT7-_	BG88-_	2½ 63
BC8-_	BLB8-_	BUB8-_	BT8-_	BG88-_	3 78
BC9-_	BLB9-_	BUB9-_	BT9-_	BG98-_	3½ 91
BC10-_	BLB10-_	BUB10-_	BT10-_	BG98-_	4 103

** Metric size designator (ANSI C80.1-1994).*

PVC-Coated Conduit Bodies and Fittings

Make 90° bends in limited space!

Ocal-Blue® Double-Coat Service Entrance Elbows

LBY Series elbows are installed in conduit systems to make 90° bends where space is limited, to act as pull outlets and to provide access to conductors for maintenance and future system changes.

- Nominal .002" (2 mil) blue urethane on both interior and exterior
- Nominal .040" (40 mil) PVC coating bonded to exterior
- Pressure-sealing sleeves protect connections



LBY25-G

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*
LBY15-_	½ 16
LBY25-_	¾ 21
LBY35-_	1 27
LBY45-_	1¼ 35
LBY55-_	1½ 41



LBY25-G

Cat. No.	Color
LBY15 - _	_

_ = space for color identifier

G = Gray

W = White

B = Blue

Custom colors also available.

** Metric size designator (ANSI C80.1-1994).*

End or change directions in conduit runs.

Ocal-Blue® Double-Coat Malleable Elbows

EL Series elbows are installed at the end of conduit runs, in a box or a fitting hub to change direction in threaded rigid conduit run by 45° or 90° or when terminating at a box or fitting.

- Nominal .002" (2 mil) blue urethane on both interior and exterior
- Nominal .040" (40 mil) PVC coating bonded to exterior
- Pressure-sealing sleeves protect connections





90° MALE CAT. NO.	90° FEMALE CAT. NO.	90° MALE-FEMALE CAT. NO.	45° FEMALE CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*
EL195-_	EL19-_	EL196-_	EL1-_	½ 16
EL295-_	EL29-_	EL296-_	EL2-_	¾ 21
EL395-_	EL39-_	EL396-_	EL3-_	1 27
—	EL49-_	EL496-_	EL4-_	1¼ 35
—	EL59-_	—	EL5-_	1½ 41
—	EL69-_	—	EL6-_	2 53
—	EL79-_	—	EL7-_	2½ 63
—	—	—	EL8-_	3 78
—	—	—	EL9-_	3½ 91
—	—	—	EL10-_	4 103

Cat. No.	Color
EL195 - _	_

_ = space for color identifier

G = Gray

W = White

B = Blue

Custom colors also available.

** Metric size designator (ANSI C80.1-1994).*

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PVC-Coated Conduit Bodies and Fittings

Unique sealing ring and groove design for optimum performance!

Ocal-Blue® Double-Coat and Stainless Steel Hubs

- Captive sealing ring won't buckle or slip during installation and provides a complete 360° seal — even when conduit isn't perpendicular to the enclosure
- Hexagonal/splined body and locknut enable fast and easy installation
- Insulated throat molded from 105° C-rated thermoplastic, UL94V0 flammability rated
- Sharper and deeper teeth provide a more penetrating bite for improved bonding to the enclosure
- Zinc or copper-free aluminum with a nominal .040" (40 mil) PVC coating bonded to exterior — in blue, white, gray or custom colors
- Pressure-sealing sleeves protect your connections
- Also available uncoated in 316-grade stainless steel



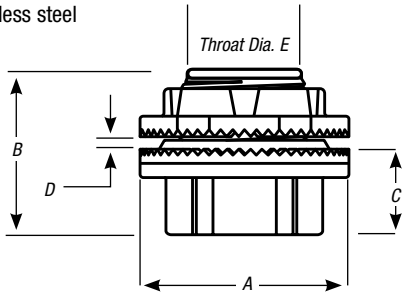
HUB1-1/4-G
PVC-Coated Zinc Hub



STG6-G
PVC-Coated Zinc Grounded Hub



H050GRSST
Stainless Steel
Grounded Hub



Cat. No.	Color
HUB1 - _	
_ = space for color identifier	G = Gray
	W = White
Custom colors also available.	B = Blue

Knockout Hubs

PVC-COATED ZINC HUB CAT. NO.	PVC-COATED ALUMINUM HUB CAT. NO.	PVC-COATED ZINC GROUNDED HUB CAT. NO.	316 STAINLESS GROUNDED HUB CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR* IN.	MM	DIMENSIONS (UNCOATED HUB) A (OVERALL DIA.) IN.	MM	B IN.	MM	C IN.	MM	D (MAX. PANEL THICKNESS) IN.	MM	E (THROAT DIA.) IN.	MM
HUB1/2-_	HUB1/2SA-_	STG1-_	H050GRSST	½	16	1.44	36.58	1.56	39.62	.88	22.35	.19	4.83	.59	14.99
HUB3/4-_	HUB3/4SA-_	STG2-_	H075GRSST	¾	21	1.44	36.58	1.59	40.39	.91	23.11	.19	4.83	.78	19.81
HUB1-_	HUB1SA-_	STG3-_	H100GRSST	1	27	2.00	50.80	1.81	45.97	1.06	26.92	.25	6.35	1.00	25.40
HUB1-1/4-_	HUB1-1/4SA-_	STG4-_	H125GRSST	1¼	35	2.38	60.45	1.88	47.75	1.06	26.92	.25	6.35	1.31	33.27
HUB1-1/2-_	HUB1-1/2SA-_	STG5-_	H150GRSST	1½	41	2.75	69.85	1.88	47.75	1.06	26.92	.25	6.35	1.53	38.86
HUB2-_	HUB2SA-_	STG6-_	H200GRSST	2	53	3.25	82.55	1.94	49.28	1.16	29.46	.25	6.35	1.97	50.04
HUB2-1/2-_	HUB2-1/2SA-_	STG7-_	—	2½	63	3.75	95.25	2.56	65.02	1.56	39.62	.25	6.35	2.41	61.21
HUB3-_	HUB3SA-_	STG8-_	—	3	78	4.38	111.25	2.44	61.98	1.59	40.39	.25	6.35	2.97	75.44
HUB3-1/2-_	HUB3-1/2SA-_	STG9-_	—	3½	91	5.00	127.00	2.72	69.09	1.63	41.40	.25	6.35	3.41	86.61
HUB4-_	HUB4SA-_	STG10-_	—	4	103	5.50	139.70	2.72	69.09	1.63	41.40	.25	6.35	3.88	98.55
HUB5-_	HUB5SA-_	STG11-_	—	5	129	6.88	174.75	3.03	76.96	1.94	49.28	.25	6.35	4.94	125.48
HUB6-_	HUB6SA-_	STG12-_	—	6	155	7.69	195.33	3.16	80.26	2.00	50.80	.31	7.87	6.00	152.40

T&B® Grounding and Bonding Locknuts for Hubs

- Available in zinc, copper-free aluminum or 316 stainless steel
- UL File No. E-3060, CSA File No. 4484
- Use as replacement locknuts for the hubs featured above



ZINC CAT. NO.	ALUMINUM CAT. NO.	316 STAINLESS CAT. NO.	PIPE SIZE IN.	METRIC SIZE DESIGNATOR*	DIAMETER IN.	MM	HEIGHT IN.	MM	GROUND SCREW	MAX. COND. SIZE AWG	SQ. MM
L050GR-TB	L050GRA-TB	L050GRSST	½	16	1.50	38.10	.41	10.41	#10-32 x ¼"	#10	6
L075GR-TB	L075GRA-TB	L075GRSST	¾	21	1.69	42.93	.41	10.41	#10-32 x ¼"	#10	6
L100GR-TB	L100GRA-TB	L100GRSST	1	27	2.00	50.80	.41	10.41	#10-32 x ¼"	#10	6
L125GR-TB	L125GRA-TB	L125GRSST	1¼	35	2.38	60.45	.47	11.94	¼-20 x ¼"	#10	6
L150GR-TB	L150GRA-TB	L150GRSST	1½	41	2.75	69.85	.47	11.94	¼-20 x 5⁄16"	#8	10
L200GR-TB	L200GRA-TB	L200GRSST	2	53	3.25	82.55	.47	11.94	¼-20 x 5⁄16"	#8	10
L250GR-TB	L250GRA-TB	—	2½	63	3.75	95.25	.69	17.53	¼-20 x 5⁄16"	#6	16
L300GR-TB	L300GRA-TB	—	3	78	4.38	111.25	.72	18.29	¼-20 x 5⁄16"	#6	16
L350GR-TB	L350GRA-TB	—	3½	91	5.00	127.00	.72	18.29	¼-20 x 5⁄16"	#6	16
L400GR-TB	L400GRA-TB	—	4	103	5.50	139.70	.72	18.29	¼-20 x 5⁄16"	#4	25
L500GR-TB	L500GRA-TB	—	5	129	6.63	168.40	.72	18.29	⅜-16 x ⅜"	#2	35
L600GR-TB	L600GRA-TB	—	6	155	7.69	195.33	.72	18.29	⅜-16 x ⅜"	#1	50

** Metric size designator (ANSI C80.1-1994).*

PVC-Coated Conduit Bodies and Fittings

In bulkhead and through-bulkhead styles!

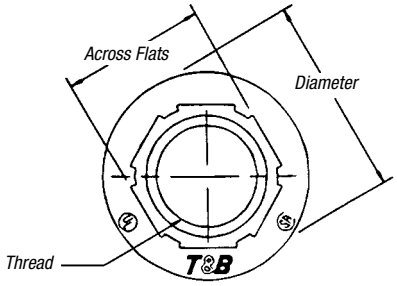
Ocal® PVC-Coated Bulkhead Fittings

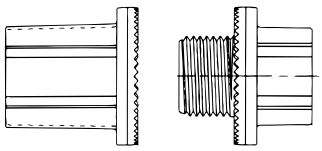


STTB2-G
Bulkhead Fitting

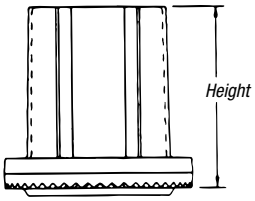


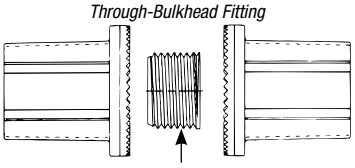
STTTB2-G
Through-Bulkhead
Fitting





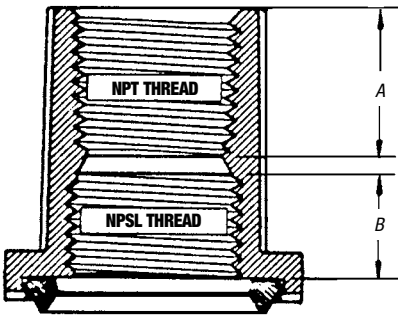
Bulkhead Fitting





Through-Bulkhead Fitting

Nipple Nut Not Included



- Zinc body and locknut with thermoplastic insulating throat and nitrile sealing ring
- Nominal .040" (40 mil) PVC coating bonded to exterior — in blue, white, gray or custom colors
- Pressure-sealing sleeves protect your connections

Cat. No.	Color
STTB1 - _	
_ = space for color identifier	
G = Gray	
W = White	
B = Blue	

Custom colors also available.

BULKHEAD FITTING CAT. NO.	THROUGH-BULKHEAD FITTING CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*	THREAD	HEIGHT IN. MM	DIA. IN. MM	ACROSS FLATS IN. MM	"A" IN. MM	"B" IN. MM
STTB1-_	**STTTB1-_**	½	½–14	**1.41**	**1.44**	**1.00**	**.75**	**.50**
		16	—	35.72	36.51	25.40	19.05	12.70
STTB2-_	**STTTB2-_**	¾	¾–14	**1.47**	**1.69**	**1.25**	**.78**	**.53**
		21	—	37.31	42.86	31.75	19.84	13.49
STTB3-_	**STTTB3-_**	1	1–11½	**1.69**	**2.00**	**1.53**	**.91**	**.59**
		27	—	42.86	50.80	38.89	23.02	15.08
STTB4-_	**STTTB4-_**	1¼	1¼–11½	**1.78**	**2.38**	**1.84**	**.91**	**.66**
		35	—	45.24	60.33	46.83	23.02	16.67
STTB5-_	**STTTB5-_**	1½	1½–11½	**1.81**	**2.75**	**1.13**	**.91**	**.66**
		41	—	46.04	69.85	28.58	23.02	16.67
STTB6-_	**STTTB6-_**	2	2–11½	**1.84**	**3.25**	**2.63**	**.94**	**.66**
		53	—	46.83	82.55	66.68	23.81	16.67
STTB7-_	—	2½	2½–8	**2.28**	**3.75**	**3.13**	**1.22**	**.88**
		63	—	57.94	95.25	79.38	30.96	22.23
STTB8-_	—	3	3–8	**2.56**	**4.38**	**3.78**	**1.19**	**.91**
		78	—	65.09	111.13	96.04	30.16	23.02
STTB9-_	—	3½	3½–8	**2.56**	**5.00**	**4.28**	**1.38**	**.88**
		91	—	65.09	127.00	108.74	34.93	22.23
STTB10-_	—	4	4–8	**2.56**	**5.50**	**4.84**	**1.38**	**.88**
		103	—	65.09	139.70	123.03	34.93	22.23
STTB11-_	—	5	5-8	**2.72**	**6.63**	**5.91**	**1.47**	**.88**
		129	—	69.06	168.28	150.02	37.31	22.23
STTB12-_	—	6	6–8	**3.00**	**7.69**	**7.03**	**1.50**	**.97**
		155	—	76.20	195.26	178.58	38.10	24.61

** Metric size designator (ANSI C80.1-1994).*
Dimensions shown are for uncoated fittings.

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PVC-Coated Conduit Bodies and Fittings

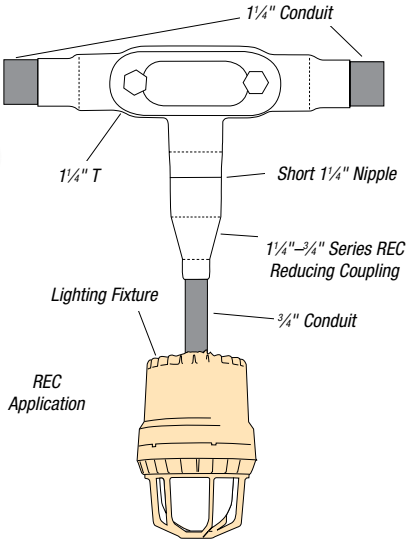
Easily join two different sizes of conduit!

Ocal-Blue® Double-Coat Reducing Couplings

- Integral bushings in both ends prevent damage to wires
- Funnel-shaped interior guides wires from large to small conduit, making them easier to pull
- Nominal .002" (2 mil) blue urethane coating on both interior and exterior
- Nominal .040" (40 mil) PVC coating bonded to exterior
- Pressure-sealing sleeves protect connections



REC21-G



CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR* A	B
REC21-_	¾ 21	½ 16
REC31-_	1 27	½ 16
REC32-_	1 27	¾ 21
REC42-_	1¼ 35	¾ 21
REC43-_	1¼ 35	1 27
REC52-_	1½ 41	¾ 21
REC53-_	1½ 41	1 27
REC54-_	1½ 41	1¼ 35
REC602-_	2 53	¾ 21

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR* A	B
REC603-_	2 53	1 27
REC604-_	2 53	1¼ 35
REC605-_	2 53	1½ 41
REC75-_	2½ 63	1½ 41
REC86-_	3 78	2 53
REC97-_	3½ 91	2½ 63
REC108-_	4 103	3 78
REC01210-_	5 129	4 103

** Metric size designator (ANSI C80.1-1994).*

Cat. No. **Color**

REC21 - _

_ = space for color identifier

G	= Gray	
W	= White	
B	= Blue	

Custom colors also available.

Reduce a conduit hub to a smaller size.

Ocal-Blue® Urethane-Coated Reducing Bushings



RE32-G

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR* A - MALE	B - FEMALE
RE21-G	¾ 21	½ 16
RE31-G	1 27	½ 16
RE32-G	1 27	¾ 21
RE41-G	1¼ 35	½ 16
RE42-G	1¼ 35	¾ 21
RE43-G	1¼ 35	1 21
RE51-G	1½ 41	½ 16
RE52-G	1½ 41	¾ 21

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR* A - MALE	B - FEMALE
RE53-G	1½ 41	1 27
RE54-G	1½ 41	1¼ 35
RE61-G	2 53	½ 16
RE62-G	2 53	¾ 21
RE63-G	2 53	1 27
RE64-G	2 53	1¼ 35
RE65-G	2 53	1½ 41
RE73-G	2½ 63	1 27

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR* A - MALE	B - FEMALE
RE74-G	2½ 63	1¼ 35
RE75-G	2½ 63	1½ 41
RE76-G	2½ 63	2 53
RE83-G	3 78	1 27
RE84-G	3 78	1¼ 35
RE85-G	3 78	1½ 41
RE86-G	3 78	2 53
RE87-G	3 78	2½ 63

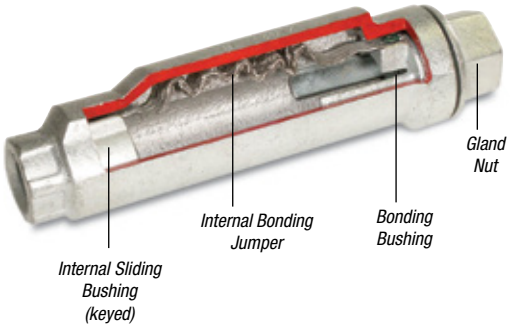
CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR* A - MALE	B - FEMALE
RE96-G	3½ 91	2 53
RE97-G	3½ 91	2½ 63
RE98-G	3½ 91	3 78
RE106-G	4 103	2 53
RE107-G	4 103	2½ 63
RE108-G	4 103	3 78

** Metric size designator (ANSI C80.1-1994).*

PVC-Coated Conduit Bodies and Fittings



8" Movement
Coupling shown uncoated



Coupling shown uncoated

No disassembly required.

Ocal® PVC-Coated XJG Rigid Conduit Expansion Coupling

When you install a rigid expansion coupling in a long conduit run, you normally need three hands, two strong backs and lots of patience. Now you can relax.

With the no-hassle XJG Rigid Conduit Expansion Coupling, installation's just a few turns and you're done.

The XJG Rigid Conduit Expansion Coupling features innovations that provide convenience to the installer, saving time and money on the job. No disassembly is needed during installation, requiring fewer tools and less opportunity for lost pieces. It also features a true internal bonding jumper, eliminating the need for external jumpers, so there are fewer parts to buy and install.

If you need a fitting that can give and take without a lot of hassle, reach for the XJG Rigid Conduit Expansion Coupling. It's the latest breakthrough in the industry's leading line of conduit fittings.

Innovative Design Makes Installations Easier.

- No disassembly necessary to install
- Fast, simple and requires fewer steps
- True internal bonding jumper — no external grounding strap required
- Tamper-proof internal jumper protected from the environment
- Exceeds code requirements for long conduit runs to permit linear movement



1

Slide the fitting onto the conduit until it stops at the internal sliding bushing. Tighten and you're ready. No parts to reassemble!



2

With a wrench, tighten the gland nut to create a raintight seal around the conduit.



3

Thread the next length of conduit into the other end of the fitting and tighten. You're done!

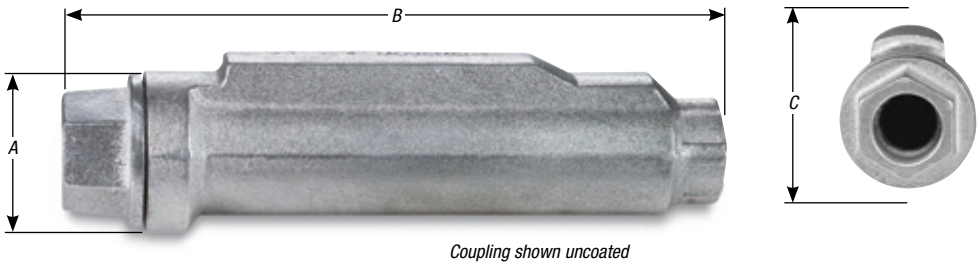
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800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

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PVC-Coated Conduit Bodies and Fittings



Coupling shown uncoated

PVC-Coated XJG Rigid Conduit Expansion Couplings

CAT NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*	MOVEMENT IN. MM	A DIAMETER IN. MM	B LENGTH IN. MM	C HEIGHT IN. MM
XJG24-_	**¾**	**4.00**	**2.43**	**10.00**	**2.75**
	21	101.60	61.72	254.00	69.85
XJG28-_	**¾**	**8.00**	**2.43**	**14.00**	**2.75**
	21	203.20	61.72	355.60	69.85
XJG34-_	**1**	**4.00**	**2.67**	**10.00**	**2.99**
	27	101.60	67.82	254.00	75.95
XJG38-_	**1**	**8.00**	**2.67**	**14.00**	**2.99**
	27	203.20	67.82	355.60	75.95
XJG44-_	**1¼**	**4.00**	**3.36**	**10.56**	**3.68**
	35	101.60	85.34	268.22	93.47
XJG48-_	**1¼**	**8.00**	**3.36**	**14.56**	**3.68**
	35	203.20	85.34	369.82	93.47
XJG54-_	**1½**	**4.00**	**3.36**	**10.56**	**3.68**
	41	101.60	85.34	268.22	93.47
XJG58-_	**1½**	**8.00**	**3.36**	**14.56**	**3.68**
	41	203.20	85.34	369.82	93.47
XJG64-_	**2**	**4.00**	**3.86**	**11.25**	**4.18**
	53	101.60	98.04	285.75	106.17
XJG68-_	**2**	**8.00**	**3.86**	**15.25**	**4.18**
	53	203.20	98.04	387.35	106.17
XJG74-_	**2½**	**4.00**	**4.96**	**12.12**	**5.25**
	63	101.60	125.98	307.85	133.35
XJG78-_	**2½**	**8.00**	**4.96**	**16.12**	**5.25**
	63	203.20	125.98	409.45	133.35
XJG84-_	**3**	**4.00**	**4.96**	**12.12**	**5.25**
	78	101.60	125.98	307.85	133.35
XJG88-_	**3**	**8.00**	**4.96**	**16.12**	**5.25**
	78	203.20	125.98	409.45	133.35
XJG94-_	**3½**	**4.00**	**6.37**	**12.87**	**6.75**
	91	101.60	161.80	326.90	171.45
XJG98-_	**3½**	**8.00**	**6.37**	**16.87**	**6.75**
	91	203.20	161.80	428.50	171.45
XJG104-_	**4**	**4.00**	**6.37**	**12.87**	**6.75**
	103	101.60	161.80	326.90	171.45
XJG108-_	**4**	**8.00**	**6.37**	**16.87**	**6.75**
	103	203.20	161.80	428.50	171.45
XJG1208-_	**5**	**8.00**	**7.99**	**18.87**	**8.56**
	129	203.20	161.80	479.30	217.42

** Metric size designator (ANSI C80.1 - 1994).*
Dimensions shown are for uncoated coupling.



XJG24-G
4" Movement

Standard Materials/Finish

- Body/Finish: Ductile iron with nominal 40-mil PVC exterior coating
- Internal Bonding Jumper: Tinned copper braid

Cat. No.	Color
XJG24 -	___
_ = space for color identifier	
G = Gray	
W = White	
B = Blue	

Custom colors also available.

PVC-Coated Conduit Bodies and Fittings

The ultimate liquidtight solution for corrosive environments!

Ocal® PVC-Coated Liquidtight Conduit Connectors



Ocal PVC-Coated Liquidtight Fittings – Straight (top left), 45° Angled (above) and 90° Angled (left).

- Nominal .040" (40 mil) PVC coating bonded to exterior — available in gray, white, blue or custom colors
- Pressure-sealing sleeves protect the connection
- Ocal uses only genuine T&B® liquidtight fittings to ensure quality installations

Cat. No.	Material	Color
ST3/4 _		- _
	Blank = Steel/Iron	**G** = Gray
	SA = Aluminum	**W** = White
		B = Blue

G in Cat. No. designates ground lug.
Custom colors also available.

Non-Grounding Connectors

PVC-COATED STEEL STRAIGHT CAT. NO.	PVC-COATED ALUMINUM STRAIGHT CAT. NO.	PVC-COATED STEEL 45° CAT. NO.	PVC-COATED STEEL 90° CAT. NO.	PVC-COATED ALUMINUM 90° CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*
ST3/8-_	ST3/8SA-_	ST3/845-_	ST3/890-_	ST3/890SA-_	⅜ 12
ST1/2-_	ST1/2SA-_	ST1/245-_	ST1/290-_	ST1/290SA-_	½ 16
ST3/4-_	ST3/4SA-_	ST3/445-_	ST3/490-_	ST3/490SA-_	¾ 21
ST1-_	ST1SA-_	ST145-_	ST190-_	ST190SA-_	1 27
ST1-1/4-_	ST1-1/4SA-_	ST1-1/445-_	ST1-1/490-_	ST1-1/490SA-_	1¼ 35
ST1-1/2-_	ST1-1/2SA-_	ST1-1/245-_	ST1-1/290-_	ST1-1/290SA-_	1½ 41
ST2-_	ST2SA-_	ST245-_	ST290-_	ST290SA-_	2 53
ST2-1/2-_	ST2-1/2SA-_	ST2-1/245-_	ST2-1/290-_	ST2-1/290SA-_	2½ 63
ST3-_	ST3SA-_	ST345-_	ST390-_	ST390SA-_	3 78
ST4-_	ST4SA-_	ST445-_	ST490-_	ST490SA-_	4 103

** Metric size designator (ANSI C80.1-1994).*

Connectors with Grounding Lug

PVC-COATED STEEL STRAIGHT CAT. NO.	PVC-COATED STEEL 45° CAT. NO.	PVC-COATED STEEL 90° CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*
ST3/8G-_	ST3/845G-_	ST3/890G-_	⅜ 12
ST1/2G-_	ST1/245G-_	ST1/290G-_	½ 16
ST3/4G-_	ST3/445G-_	ST3/490G-_	¾ 21
ST1G-_	ST145G-_	ST190G-_	1 27
ST1-1/4G-_	ST1-1/445G-_	ST1-1/490G-_	1¼ 35
ST1-1/2G-_	ST1-1/245G-_	ST1-1/290G-_	1½ 41
ST2G-_	ST245G-_	ST290G-_	2 53
ST2-1/2G-_	ST2-1/245G-_	ST2-1/290G-_	2½ 63
ST3G-_	ST345G-_	ST390G-_	3 78
ST4G-_	ST445G-_	ST490G-_	4 103

** Metric size designator (ANSI C80.1-1994).*

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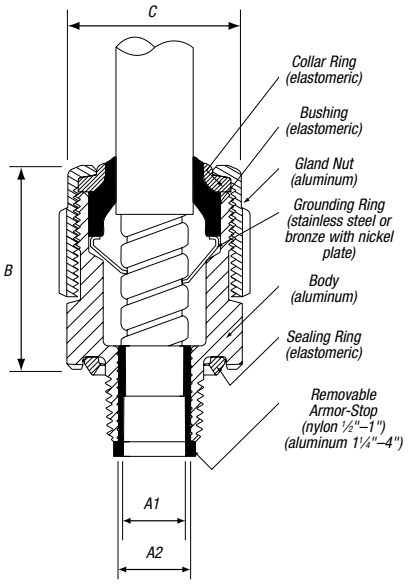
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Tel: 888.862.3289

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The ideal fitting for jacketed metal-clad cable in ordinary locations!

Ocal-Blue® Double-Coat STAR TECK EXTREME® STE Series Fittings for Ordinary Locations

- Provides a means for passing armored and metal-clad jacketed cables through a bulkhead or enclosure
- Forms a mechanical grip and water- and/or oil-resistant termination
- Provides grounding continuity of cable armor
- Removable armor stop accommodates a wide range of cable sizes
- Features built-in sealing device and jacket stripping gauge, elastomeric collar ring/bushing and grounding ring
- Aluminum construction
- Nominal .002" (2 mil) blue urethane coating on both interior and exterior
- Nominal .040" (40 mil) PVC coating bonded to exterior





Cat. No. STE050- _

_ = space for color identifier

G	= Gray	
W	= White	
B	= Blue	

Custom colors also available.

PVC-Coated STE Series Fittings for Ordinary Locations

CAT. NO.	HUB SIZE IN. METRIC SIZE DESIGNATOR**	STRIP LENGTH IN. MM	GLAND TORQUE LB.-IN. NM	RANGE OVER JACKET MIN. IN. MM	RANGE OVER JACKET MAX. IN. MM	RANGE OVER ARMOR MIN. IN. MM	RANGE OVER ARMOR MAX. IN. MM	A1: THROAT DIA. MIN. W/END STOP IN. MM	A2: THROAT DIA. MIN. W/O END STOP IN. MM	B OVERALL HEIGHT IN. MM	C MAX. WIDTH IN. MM
ST050-462-_*	½	1.25	300	.53	.65	.42	.57	N/A***	.40	2.02	1.22
	16	31.75	33.90	13.46	16.51	10.67	14.48	N/A***	10.16	51.31	30.99
STE050-_*	½	1.25	300	.60	.99	.52	.90	.51	.61	2.65	1.63
	16	31.75	33.90	15.24	25.15	13.21	22.86	12.95	15.49	67.31	41.40
STE075-_*	¾	1.25	600	.86	1.21	.78	1.13	.66	.82	2.90	2.08
	21	31.75	67.79	21.84	30.73	19.81	28.70	16.76	20.83	73.66	52.83
STE100-_*	1	1.25	700	.95	1.38	.87	1.30	.79	1.04	3.02	2.30
	27	31.75	79.09	24.13	35.05	22.10	33.02	20.07	26.42	76.71	58.42
STE125-_*	1¼	1.25	1000	1.15	1.63	.99	1.47	.97	1.25	4.01	2.82
	35	31.75	112.98	29.21	41.40	25.15	37.34	24.64	31.75	101.85	71.63
STE150-_*	1½	1.75	1200	1.44	1.97	1.28	1.81	1.26	1.56	4.29	3.25
	41	44.45	135.58	36.58	50.04	32.51	45.97	32.00	39.62	108.97	82.55
STE200-_*	2	1.75	1600	1.83	2.38	1.67	2.22	1.65	2.00	4.12	3.60
	53	44.45	180.78	46.48	60.45	42.42	56.39	41.91	50.80	104.65	91.44
STE250-_	2½	2.50	1600	2.27	2.81	2.11	2.68	2.08	2.42	5.32	4.75
	63	63.50	180.78	57.66	71.37	53.59	68.07	52.83	61.47	135.13	120.65
STE300-_	3	2.50	1600	2.67	3.27	2.55	3.15	2.53	2.89	5.40	5.40
	78	63.50	180.78	67.82	83.06	64.77	80.01	64.26	73.41	137.16	137.16
STE350-_	3½	2.50	1600	3.22	3.87	3.09	3.64	3.07	3.46	5.36	5.90
	91	63.50	180.78	81.79	98.30	78.49	92.46	77.98	87.88	136.14	149.86
STE400-_	4	2.50	1600	3.67	4.34	3.55	4.23	3.53	3.94	5.42	6.40
	103	63.50	180.78	93.22	110.27	90.17	107.44	89.66	100.08	137.67	162.56

*These products are UL Listed UL84H3 and watertight NEMA Type 6P.

**Metric size designator (ANSI C80.1-1994).

***This fitting does not have a removable armor stop.

PVC-Coated Boxes and Covers

Variety of styles offers versatility!

Ocal-Blue® Double-Coat FS and FD Series Device Boxes


FS2-G


FSC2-G


FS22-G


FSR2-G


FSL2-G


FSC222-G


FSCC2-G


FSS2-G


FSS222-G

Install these boxes in conduit systems to accommodate wiring devices, act as pull boxes for conductors, provide openings to make splices and taps and provide access to conductors for maintenance and future system changes.

- Cast class 30 gray iron alloy boxes
- Coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior before PVC coating is applied
- Nominal .040" (40 mil) PVC coating bonded to exterior
- PVC coating available in your choice of blue, white or gray with custom colors available on request
- Pressure-sealing sleeves protect connections with conduit

Cat. No.	Color
FS1 -	_

_ = space for color identifier

G = Gray

W = White

B = Blue

Custom colors also available.

DEAD END CAT. NO.	FEED-THRU CAT. NO.	HUB RIGHT CAT. NO.	HUB LEFT CAT. NO.	STYLE	PIPE SIZE IN. METRIC SIZE DESIGNATOR*
Single-Gang					
FS1-_	FSC1-_	FSR1-_	FSL1-_	Shallow	½ 16
FS2-_	FSC2-_	FSR2-_	FSL2-_	Shallow	¾ 21
FS3-_	FSC3-_	—	—	Shallow	1 27
FD1-_	FDC1-_	FDR1-_	FDL1-_	Deep	½ 16
FD2-_	FDC2-_	FDR2-_	FDL2-_	Deep	¾ 21
FD3-_	FDC3-_	—	—	Deep	1 27
—	FSCC2-_	—	—	Shallow	¾ 21
—	FDCC2-_	—	—	Deep	¾ 21
FSS2-_	—	—	—	Shallow	¾ 21
FDD2-_	—	—	—	Deep	¾ 21
Double-Gang					
FS22-_	—	—	—	Shallow	¾ 21
FD22-_	—	—	—	Deep	¾ 21
FSS222-_	—	—	—	Shallow	¾ 21
FDS222-_	—	—	—	Deep	¾ 21
—	FSC222-_	—	—	Shallow	¾ 21
—	FDC222-_	—	—	Deep	¾ 21

** Metric size designator (ANSI C80.1-1994).*

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PVC-Coated Boxes and Covers

Designed for use with Ocal® FS and FD Series Boxes.

Ocal-Blue® Double-Coat FS and FD Series Covers



DS23-G



DS21G-G



DS32G-G



DS100G-G



DS185-G



FSK1VDR-G



FSKWGF1-G



WLGFFS-G



WLRD1-G



S1002G-G



S322G-G



S232-G



DS1282-G



S232GFI-G

CAT. NO.	DESCRIPTION	MATERIAL
Single-Gang		
DS23-_	Duplex Receptacle Cover	Steel
DS21G-_	Round Flush Receptacle Cover	Iron
DS32G-_	Toggle Switch Cover	Iron
DS100G-_	Blank Cover	Aluminum
Single-Gang — NEMA 3R Raintight when used with appropriate Ocal boxes		
WLRD1-_	Duplex Receptacle Cover – Box Mount – Horizontal	Aluminum
FSK1VDR-_	Duplex Receptacle Cover – Box Mount – Vertical	Aluminum
WLGFFS-_	GFCI Receptacle Cover – Box Mount – Horizontal	Aluminum
FSKWGF1-_	GFCI Receptacle Cover – Box Mount – Vertical	Aluminum
DS185-_	Front Lever Switch Cover – Box Mount – NEMA 4	Aluminum
Double-Gang		
S1002G-_	Blank Cover	Iron
S322G-_	2-Toggle Switch Cover	Iron
S232-_	2-Duplex Receptacle Cover	Stamped Steel
S232GFI-_	2-GFCI Receptacle Cover	Steel
Double-Gang — NEMA 3R Raintight when used with appropriate Ocal boxes		
DS1282-_	2-Plunger-Style Switch Cover	Aluminum

PVC-coated covers in other styles and materials are available upon request. Contact Technical Services for more information.

Cat. No.	Color
DS23 -	**_**

_ = space for color identifier

G = Gray

W = White

B = Blue

Custom colors also available.

PVC-Coated Hazardous Location Fittings

Specially designed for hazardous locations!

Ocal-Blue® Double-Coat STAR TECK EXTREME® STEX Series Fittings for Hazardous Locations



- Offers all the features of the STE Series
- Classified for Class I, Division 1, Groups A, B, C, D and Class II, Division 1, Groups E, F, G environments with approved metal-clad cable installed in accordance with NEC®/CEC requirements
- Requires T&B® sealing compound for use in hazardous locations



PVC-Coated STEX Series Fittings for Hazardous Locations

CAT. NO.	HUB SIZE IN. METRIC SIZE DESIGNATOR**	STRIP LENGTH IN. MM	GLAND TORQUE LB.-IN. NM	RANGE OVER JACKET MIN. IN. MM	RANGE OVER JACKET MAX. IN. MM	RANGE OVER ARMOR MIN. IN. MM	RANGE OVER ARMOR MAX. IN. MM	A1: THROAT DIA. MIN. W/END STOP IN. MM	A2: THROAT DIA. MIN. W/O END STOP IN. MM	B OVERALL HEIGHT IN. MM	C MAX. WIDTH IN. MM
STX050-462-_*	**½**	**1.25**	**300**	**.53**	**.65**	**.42**	**.57**	**N/A*****	**.40**	**2.50**	**1.63**
	16	31.75	33.90	13.46	16.51	10.67	14.48	N/A***	10.16	63.50	41.40
STX050-464-_*	**½**	**1.25**	**300**	**.60**	**.76**	**.49**	**.68**	**N/A*****	**.49**	**2.53**	**1.63**
	16	31.75	33.90	15.24	19.30	12.45	17.27	N/A***	12.45	64.26	41.40
STEX075-_*	**¾**	**1.25**	**600**	**.60**	**.99**	**.52**	**.90**	**.50**	**.68**	**3.40**	**1.82**
	21	31.75	67.79	15.24	25.15	13.21	22.86	12.70	17.27	86.36	46.23
STEX100-_*	**1**	**1.25**	**700**	**.86**	**1.21**	**.78**	**1.13**	**.65**	**.83**	**3.58**	**2.30**
	27	31.75	79.09	21.84	30.73	19.81	28.70	16.51	21.08	90.93	58.42
STEX125-_*	**1¼**	**1.25**	**1000**	**.95**	**1.38**	**.87**	**1.30**	**.83**	**1.07**	**3.92**	**2.51**
	3	31.75	112.98	24.13	35.05	22.10	33.02	21.08	27.18	99.57	63.75
STEX150-_*	**1½**	**1.75**	**1200**	**1.15**	**1.63**	**.99**	**1.47**	**.96**	**1.27**	**5.02**	**3.26**
	41	44.45	135.58	29.21	41.40	25.15	37.34	24.38	32.26	127.51	82.80
STEX200-_*	**2**	**1.75**	**1600**	**1.44**	**1.97**	**1.28**	**1.81**	**1.25**	**1.56**	**5.12**	**3.62**
	53	44.45	180.78	36.58	50.04	32.51	45.97	31.75	39.62	130.05	91.95
STEX250-_†	**2½**	**2.50**	**1600**	**1.83**	**2.38**	**1.67**	**2.22**	**1.64**	**2.00**	**5.17**	**4.58**
	63	63.50	180.78	46.48	60.45	42.42	56.39	41.66	50.80	131.32	116.33
STEX300-_†	**3**	**2.50**	**1600**	**2.27**	**2.81**	**2.11**	**2.68**	**2.08**	**2.46**	**6.61**	**5.10**
	78	63.50	180.78	57.66	71.37	53.59	68.07	52.83	62.48	167.89	129.54
STEX350-_†	**3½**	**2.50**	**1600**	**2.67**	**3.27**	**2.55**	**3.15**	**2.53**	**2.86**	**7.38**	**5.79**
	91	63.50	180.78	67.82	83.06	64.77	80.01	64.26	72.64	187.45	147.07
STEX400-_†	**4**	**2.50**	**1600**	**3.22**	**3.87**	**3.09**	**3.64**	**3.06**	**3.46**	**7.65**	**6.19**
	103	63.50	180.78	81.79	98.30	78.49	92.46	77.72	87.88	194.31	157.23
STX400-484-_†	**4**	—	**1600**	**3.81**	**4.03**	**3.68**	**3.87**	—	—	—	—
	103	—	180.78	96.77	102.36	93.47	98.30	—	—	—	—
STX400-485-_†	**4**	—	**1600**	**3.97**	**4.19**	**3.84**	**4.03**	—	—	—	—
	103	—	180.78	100.84	106.43	97.54	102.36	—	—	—	—

**These products are UL Listed UL84H3 and watertight NEMA Type 6P.*
****This fitting does not have a removable armor stop.*
• Ratings prior to PVC coating.
***Metric size designator (ANSI C80.1-1994).*
†CSA approved for hazardous locations.

T&B® Sealing Compounds — Used for Hazardous Locations

CAT. NO.	DESCRIPTION	VOLUME
SC4-KIT	Liquid-Type Sealing Compound for Use in Control Cable Applications	2.8 fl. oz.
SC65	Putty-Type Sealing Compound	60 grams

Thomas&Betts

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PVC-Coated Hazardous Location Fittings

Explosion-proof, dust-ignition-proof three-piece couplings.

Ocal-Blue® Double-Coat Conduit Unions

- Install in threaded thick-wall conduit systems in hazardous areas
- Use UNY male unions to connect conduit to a conduit fitting, junction box or device enclosure
- Use UNF female unions to connect conduit to conduit or to provide means for future modifications to the conduit system
- Nominal .002" (2 mil) blue urethane on interior and exterior
- Nominal .040" (40 mil) PVC coating bonded to exterior
- Pressure-sealing sleeves protect your connection
- Explosion-proof, dust-ignition-proof and suitable for use in the following environments:†
  - Class I, Division 1 & 2, Groups A, B, C, D
  - Class II, Division 1, Groups E, F, G
  - Class III, Division 1 & 2





UNF205-G



UNY Male ½"–4" (shown uncoated)



UNY Male 5"–6" (shown uncoated)



UNF Female ½"–4" (shown uncoated)



UNF Female 5"–6" (shown uncoated)



Cat. No.	Color
UNF105-	_

_ = space for color identifier

G = Gray

W = White

B = Blue

Custom colors also available.

UNY Male Unions

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*	OVERALL LENGTH IN. MM	OVERALL DIAMETER IN. MM
UNY105-_	½	2.39	1.50
	16	60.71	38.10
UNY205-_	¾	2.44	1.81
	21	61.98	45.97
UNY305-_	1	2.75	2.00
	27	69.85	50.80
UNY405-_	1¼	3.06	2.75
	35	77.72	69.85
UNY505-_	1½	3.63	3.06
	41	92.20	77.72
UNY605-_	2	3.50	3.81
	53	88.90	96.77
UNY705-_	2½	4.81	4.31
	63	122.17	109.47
UNY805-_	3	5.34	5.06
	78	135.64	128.52
UNY905-_	3½	5.50	5.69
	91	139.70	144.53
UNY1005-_	4	5.63	6.19
	103	143.00	157.23
UNY905-_	5	5.25	8.19
	129	133.35	208.03
UNY014-_	6	5.38	9.31
	155	136.65	236.47

** Metric size designator (ANSI C80.1-1994).*

UNF Female Unions

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*	OVERALL LENGTH IN. MM	OVERALL DIAMETER IN. MM
UNF105-_	½	1.88	1.50
	16	47.75	38.10
UNF205-_	¾	2.13	1.81
	21	54.10	45.97
UNF305-_	1	2.16	2.00
	27	54.86	50.80
UNF405-_	1¼	2.25	2.75
	35	57.15	69.85
UNF505-_	1½	2.75	3.06
	41	69.85	77.72
UNF605-_	2	2.50	3.81
	53	63.50	96.77
UNF705-_	2½	3.50	4.31
	63	88.90	109.47
UNF805-_	3	4.00	5.06
	78	101.60	128.52
UNF905-_	3½	4.16	5.69
	91	105.66	144.53
UNF1005-_	4	4.25	6.19
	103	107.95	157.23
UNF012-_	5	3.81	8.19
	129	96.77	208.03
UNF014-_	6	3.81	9.31
	155	96.77	236.47

† Ratings prior to PVC coating.

PVC-Coated Hazardous Location Fittings

Provides access to wiring, directional changes in conduit and more!

Ocal-Blue® Double-Coat GUA Series Conduit Boxes



GUA

GUA series conduit boxes are installed in hazardous areas to protect conductors, act as pull and splice boxes, provide access to conductors for maintenance and future system changes, act as mounting outlets for fixtures (with proper covers) or change conduit direction.

- Grade 60-45-10 ductile iron bodies and cast aluminum covers (iron covers also available)
- Nominal .002" (2 mil) blue urethane coating on both interior and exterior and nominal .040" (40 mil) PVC coating bonded to exterior
- All hubs have minimum five full threads, integral bushing and pressure-sealing sleeves
- All units furnished with internal grounding screw and ship complete with aluminum cover with O-ring gasket (covers also sold separately for replacement purposes)
- Explosion-proof, dust-ignition-proof, raintight and suitable for use in the following environments:†
  – Class I, Division 1 & 2, Groups C, D
  – Class II, Division 1, Groups E, F, G
  – Class III, Division 1 & 2
  – NEMA 3, 4, 7 CD, 9 EFG

Listings/Certifications†

- UL514A Wet Locations (when used with gasketed covers)
- UL886
- CSA C22.2 No. 30



GUAB



GUAC



GUAT



GUAX

CAT. NO.					ALUMINUM COVER ONLY	IRON COVER ONLY	PIPE SIZE IN. METRIC SIZE DESIGNATOR*	COVER OPENING IN. MM
GUA	GUAC	GUAT	GUAX	GUAB				
GUA14-_	GUAC14-_	GUAT14-_	GUAX14-_	GUAB14-_	GUA04-_	GUA04WOD-_	½ 16	**2.00** 50.80
GUA24-_	GUAC24-_	GUAT24-_	GUAX24-_	GUAB24-_	GUA04-_	GUA04WOD-_	¾ 21	**2.00** 50.80
GUA16-_	GUAC16-_	GUAT16-_	GUAX16-_	GUAB16-_	GUA06-_	GUA06WOD-_	½ 16	**3.00** 76.20
GUA26-_	GUAC26-_	GUAT26-_	GUAX26-_	GUAB26-_	GUA06-_	GUA06WOD-_	¾ 21	**3.00** 76.20
GUA36-_	GUAC36-_	GUAT36-_	GUAX36-_	GUAB36-_	GUA06-_	GUA06WOD-_	**1** 27	**3.00** 76.20
—	—	GUAT37-_	GUAX37-_	—	GUA07-_	GUA07WOD-_	**1** 27	**3.63** 92.20
GUA47-_	GUAC47-_	GUAT47-_	GUAX47-_	GUAB47-_	GUA07-_	GUA07WOD-_	**1¼** 35	**3.63** 92.20
—	GUAC49-_	GUAT49-_	GUAX49-_	—	GUA09-_	GUA09WOD-_	**1¼** 35	**5.00** 127.00
GUA59-_	GUAC59-_	GUAT59-_	GUAX59-_	GUAB59-_	GUA09-_	GUA09WOD-_	**1½** 41	**5.00** 127.00
—	GUAC69-_	GUAT69-_	GUAX69-_	GUAB69-_	GUA09-_	GUA09WOD-_	**2** 53	**5.00** 127.00

†*Ratings prior to PVC coating.*

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PVC-Coated Hazardous Location Fittings



GUAD



GUAL



GUAM



GUAN



GUAW

Cat. No.	Color
GUA14 - _	
_ = space for color identifier	
G = Gray	
W = White	
B = Blue	

Custom colors also available.

CAT. NO.								
GUAD	GUAL	GUAM	GUAN	GUAW	ALUMINUM COVER ONLY	IRON COVER ONLY	PIPE SIZE IN. METRIC SIZE DESIGNATOR*	COVER OPENING IN. MM
GUAD14-_	GUAL14-_	GUAM14-_	GUAN14-_	GUAW14-_	GUA04-_	GUA04WOD-_	½ 16	**2.00** 50.80
GUAD24-_	GUAL24-_	GUAM24-_	GUAN24-_	GUAW24-_	GUA04-_	GUA04WOD-_	¾ 21	**2.00** 50.80
GUAD16-_	GUAL16-_	GUAM16-_	GUAN16-_	GUAW16-_	GUA06-_	GUA06WOD-_	½ 16	**3.00** 76.20
GUAD26-_	GUAL26-_	GUAM26-_	GUAN26-_	GUAW26-_	GUA06-_	GUA06WOD-_	¾ 21	**3.00** 76.20
GUAD36-_	GUAL36-_	GUAM36-_	GUAN36-_	—	GUA06-_	GUA06WOD-_	**1** 27	**3.00** 76.20
—	GUAL47-_	GUAM47-_	GUAN47-_	—	GUA07-_	GUA07WOD-_	**1¼** 35	**3.63** 92.20
GUAD49-_	GUAL49-_	—	—	—	GUA09-_	GUA09WOD-_	**1¼** 35	**5.00** 127.00
—	GUAL59-_	—	GUAN59-_	—	GUA09-_	GUA09WOD-_	**1½** 41	**5.00** 127.00
—	GUAL69-_	GUAM69-_	GUAN69-_	—	GUA09-_	GUA09WOD-_	**2** 53	**5.00** 127.00

PVC-Coated Hazardous Location Fittings

Junction boxes for branch conduits in hazardous locations.

Ocal-Blue® Double-Coat External Aluminum Hubs with Covers and Installed Green Ground Screw

- Accessible wiring chamber provides a convenient location to maintain or change a system, pull conductors and make splices
- Unique mounting pads and rugged protective housing ideal for installation of OEM devices or instruments
- Die-cast copper-free aluminum alloy A360 construction with precision cast and machined surfaces
- Precision NPT threaded hubs for trouble-free field installation
- Nominal .002" (2 mil) blue urethane coating on both interior and exterior and nominal .040" (40 mil) PVC coating bonded to exterior
- Explosion-proof, dust-ignition-proof, raintight and suitable for use in the following environments:††
  - Class I, Division 1 & 2, Groups C, D
  - Class II, Division 1, Groups E, F, G
  - Class III, Division 1 & 2
  - NEMA 3, 4, 7 CD, 9 EFG (NEMA 4 rated when ordered with O-ring installed)



GAC



GAE



GAL



GALB



GAT

CAT. NO.						PIPE SIZE IN. METRIC SIZE DESIGNATOR*	COVER OPENING IN. MM
THROUGH-FEED W/SURF. COVER GAC	DEAD END W/SURF. COVER GAE	L-STYLE W/SURF. COVER GAL	LB-STYLE W/SURF. COVER GALB	T-STYLE W/SURF. COVER GAT	SURFACE COVER ONLY GAS		
GAC-1-_ †	GAE-1-_ †	GAL-1-_ †	GALB-1-_ †	GAT-1-_ †	GAS-123-_ •	½	3.69
						16	93.73
GAC-2-_ †	GAE-2-_ †	GAL-2-_ †	GALB-2-_ †	GAT-2-_ †	GAS-123-_ •	¾	3.69
						21	93.73
GAC-3-_ †•	GAE-3-_ †•	GAL-3-_ †•	GALB-3-_ †	GAT-3-_ †	GAS-123-_ •	1	3.69
						27	93.73
GAC-4-_ †•	—	GAL-4-_ †•	GALB-4-_ †	GAT-4-_ †	GAS-4-_ •	1¼	3.91
						35	99.31
GAC-5-_ †•	—	GAL-5-_ †•	GALB-5-_ †•	GAT-5-_ †	GAS-56-_ •	1½	5.19
						41	131.83
GAC-6-_ †•	—	GAL-6-_ †•	GALB-6-_ †•	GAT-6-_ †	GAS-56-_ •	2	5.19
						53	131.83

** Metric size designator (ANSI C80.1-1994).*

• Made-to-order item. Consult factory for lead time and minimum quantities.

† Suffix -OR: O-ring available for NEMA 4 rating. Consult factory for lead time and price.

†† Ratings prior to PVC coating.

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PVC-Coated Hazardous Location Fittings



GAX



GAFX



GAJU
(shown uncoated)



GAS



GAJ
(shown uncoated)



GAD

Cat. No.	Color
GAC-1-	_

_ = space for color identifier

G = Gray

W = White

B = Blue

Custom colors also available.

CAT. NO.						PIPE SIZE IN. METRIC SIZE DESIGNATOR*	COVER OPENING IN. MM
X-STYLE W/SURF. COVER GAX	X-STYLE W/FLANGE & SURF. COVER GAFX	U-STYLE SURFACE W/CANOPY COVER GAJU	SURFACE COVER ONLY GAS	DOME COVER ONLY (CLASS I,GR. D) GAD	CANOPY COVER ONLY GAJ		
GAX-1-_ †	GAFX-1-_ †	GAJU-1-_ •	GALB-1-_ †	GAD-123-_ •	GAJ-123-_•	½ 16	3.69 93.73
GAX-2-_ †	GAFX-2-_ †	GAJU-2-_ •	GALB-2-_ †	GAD-123-_ •	GAJ-123-_•	¾ 21	3.69 93.73
GAX-3-_ †•	GAFX-3-_ †	GAJU-3-_	GALB-3-_ †	GAD-123-_ •	GAJ-123-_•	1 27	3.69 93.73
GAX-4-_ †•	—	—	GALB-4-_ †	—	GAJ-4-_•	1¼ 35	3.91 99.31
GAX-5-_ †•	—	GAJU-5-_ •	GALB-5-_ †•	—	GAJ-56-_•	1½ 41	5.19 131.83
GAX-6-_ †•	—	GAJU-6-_	GALB-6-_ †•	—	GAJ-56-_•	2 53	5.19 131.83

* Metric size designator (ANSI C80.1-1994).

• Made-to-order item. Consult factory for lead time and minimum quantities.

† Suffix -OR: O-ring available for NEMA 4 rating. Consult factory for lead time and price.

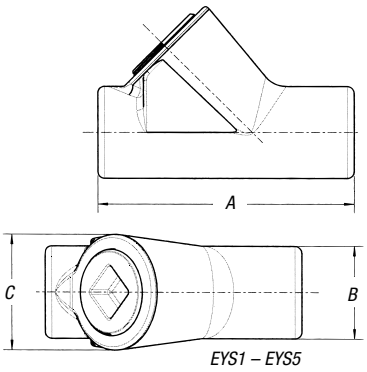
PVC-Coated Hazardous Location Fittings

Restrict the passage of gases, vapors and flames at atmospheric pressure and normal ambient temperatures.

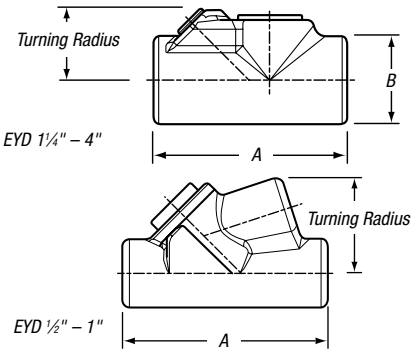
Ocal-Blue® Double-Coat Sealing Fittings

- Prevents pre-compression or "pressure piling" in conduit systems
- Gray iron alloy body construction coated with nominal .002" (2 mil) blue urethane on both interior and exterior
- Nominal .040" (40 mil) PVC coating bonded to exterior — available in gray, white, blue or custom colors
- Explosion-proof, dust-ignition-proof and suitable for use in the following environments:†
  - Class I, Division 1 & 2, Groups C, D
  - Class II, Division 1, Groups E, F, G
  - Class III, Division 1 & 2


EYS




EYD



EYD Series Drain Sealing Fittings

FEMALE CAT. NO.	MALE & FEMALE CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*	DIMENSIONS IN. MM A	DIMENSIONS IN. MM B	TURNING RADIUS IN. MM
EYD1-_	EYD16-_	½	3.81	1.50	1.75
		16	96.77	38.10	44.45
EYD2-_	EYD26-_	¾	4.08	1.75	1.98
		21	103.63	44.45	50.29
EYD3-_	EYD36-_	1	4.85	2.19	2.19
		27	123.19	55.63	55.63
EYD4-_	EYD46-_	1¼	5.00	2.25	1.80
		35	127.00	57.15	45.72
EYD5-_	EYD56-_	1½	5.44	2.44	2.00
		41	138.18	61.98	50.80
EYD6-_	EYD66-_	2	6.25	3.00	2.32
		53	158.75	76.20	58.93
EYD7-_	EYD76-_	2½	7.50	3.50	2.69
		63	190.50	88.90	68.33
EYD8-_	EYD86-_	3	8.50	4.25	3.15
		78	215.90	107.95	80.01
EYD9-_	EYD96-_	3½	9.19	4.75	3.38
		91	233.43	120.65	85.85
EYD10-_	EYD106-_	4	9.75	5.25	3.64
		103	247.65	133.35	92.46

EYS Series Sealing Fittings

FEMALE CAT. NO.	MALE & FEMALE CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*	DIMENSIONS IN. MM A	DIMENSIONS IN. MM B	DIMENSIONS IN. MM C	TURNING RADIUS IN. MM
Vertical Only						
EYS1-_	EYS16-_	½	3.31	1.25	1.50	1.66
		16	84.07	31.75	38.10	42.16
EYS2-_	EYS26-_	¾	3.65	1.50	1.75	1.96
		21	92.71	38.10	44.45	49.78
EYS3-_	EYS36-_	1	4.25	1.75	2.19	2.40
		27	107.95	44.45	55.63	60.96
Vertical or Horizontal						
EYS11-_	EYS116-_	½	3.63	1.25	—	1.09
		16	92.20	31.75	—	27.69
EYS21-_	EYS216-_	¾	3.66	1.50	—	1.25
		21	92.96	38.10	—	31.75
EYS31-_	EYS316-_	1	4.25	1.75	—	1.59
		27	107.95	44.45	—	40.39
EYS4-_	EYS46-_	1¼	5.00	2.25	—	1.81
		35	127.00	57.15	—	45.97
EYS5-_	EYS56-_	1½	5.44	2.44	—	2.00
		41	138.18	61.98	—	50.80
EYS6-_	EYS66-_	2	6.25	3.00	—	2.31
		53	158.75	76.20	—	58.67
EYS7-_	EYS76-_	2½	7.50	3.50	—	2.56
		63	190.50	88.90	—	65.02
EYS8-_	EYS86-_	3	8.50	4.25	—	3.09
		78	215.90	107.95	—	78.49
EYS9-_	EYS96-_	3½	9.19	4.75	—	3.38
		91	233.43	120.65	—	85.85
EYS10-_	EYS106-_	4	9.75	5.25	—	3.53
		103	247.65	133.35	—	89.66

** Metric size designator (ANSI C80.1-1994).*

*** EYSX and EYDX are expanded-fill styles. When ordering, add X to part number. For example: EYSX31-G, EYDX31-B.*

† *Ratings prior to PVC coating.*

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PVC-Coated Hazardous Location Fittings



EZS



EZD



EZD with Inspection Cover off

EZS Series Sealing Fittings

FEMALE CAT. NO.	MALE & FEMALE CAT. NO.	IN. METRIC SIZE DESIGNATOR*
EZS1-_	EZS16-_	½ 16
EZS2-_	EZS26-_	¾ 21
EZS3-_	EZS36-_	1 27
EZS4-_	EZS46-_	1¼ 35
EZS5-_	EZS56-_	1½ 41
EZS6-_	EZS66-_	2 53
EZS7-_	EZS76-_	2½ 63
EZS8-_	EZS86-_	3 78

** Metric size designator (ANSI C80.1-1994).*

EZD Series Sealing Fittings

CAT. NO.	IN. METRIC SIZE DESIGNATOR*
EZD111-_	½ 16
EZD211-_	¾ 21
EZD311-_	1 27
EZD411-_	1¼ 35
EZD511-_	1½ 41
EZD611-_	2 53

** Metric size designator (ANSI C80.1-1994).*

Cat. No.	Color
EYS1-	_

_ = space for color identifier

G = Gray

W = White

B = Blue

Custom colors also available.

Ensures proper functioning of EYS sealing fittings.

Chico® Sealing Compound and Fiber

- Sealing compound mixes with water, pours easily and hardens in 60–70 minutes
- Fiber filler mineral wool holds sealing compound in place while it hardens

Ocal-Blue Double-Coat EYS Sealing Fittings require fiber filler and sealing compound to function properly. Use Chico® X Fiber Filler to form a dam around the sealing fitting's integral bushing, as well as at the end of the conduit and around conductors entering the hub. Chico® A Sealing Compound expands slightly while hardening and bonds to the inner walls of the sealing fitting.



FIBER-X6



SEAL-A3

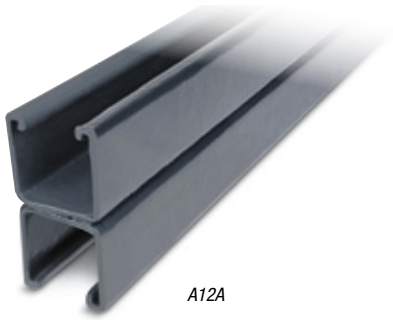
CAT. NO.	DESCRIPTION
SEAL-A3	Chico® A Sealing Compound, 1 lb. net wt./23 cu.in. vol.
FIBER-X6	Chico® X Fiber Filler, 8 oz.
SEALKIT-A4	Chico® A Sealing Compound, 1 lb. net wt./23 cu.in. vol., with 1 oz. Chico® X Fiber Filler

Chico® is a registered trademark of Cooper Crouse-Hinds.

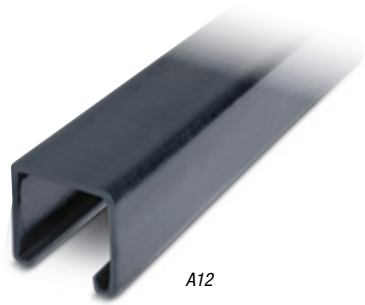
PVC-Coated Strut and Accessories

Rugged steel channels protected by corrosion-resistant PVC!

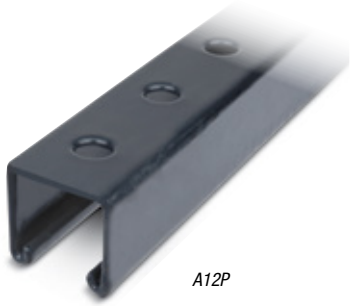
Ocal® PVC-Coated Steel Strut



A12A

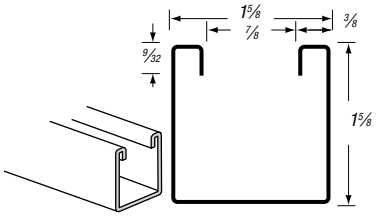


A12

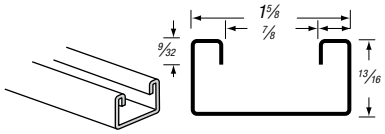


A12P

- Electro-galvanized zinc plated
- Nominal .015" (15 mil) PVC coating
- PVC coating available in your choice of blue, white or gray standard colors
- Custom colors also available on request
- Sold in 10-ft. (3.048m) lengths with standard length tolerance of ± ⅛" (3.18mm)
- Choose between standard 1⅝" (41.28mm) and shallow 13⁄16" (20.64mm) depths
- Available in both solid and punched styles
- Not recommended for vertical applications



A12



C14

Cat. No.	Color
A12 -	___

_ = space for color identifier

Catalog No. Example:

C14P-W is shallow punched strut channel coated in white PVC.

Custom colors also available.

G = Gray

W = White

B = Blue

CAT. NO.	STYLE	STEEL GAUGE MM	IN. MM W		H
A12-_	Standard	**12**	**1.63**	**x**	**1.63**
		2.65	41.28	x	41.28
A12A-_	Back to Back	**12**	**1.63**	**x**	**3.25**
		2.65	41.28	x	82.55
A12P-_	Standard Punched	**12**	**1.63**	**x**	**1.63**
		2.65	41.28	x	41.28
C14-_	Shallow	**14**	**1.63**	**x**	**.81**
		1.89	41.28	x	20.64
C14P-_	Shallow Punched	**14**	**1.63**	**x**	**.81**
		1.89	41.28	x	20.64

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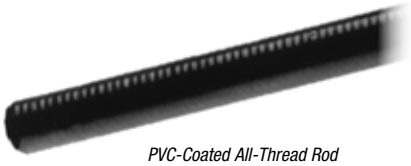
Technical Services
Tel: 888.862.3289

www.tnb.com

Continuously threaded rod for use with conduit hangers and strut to suspend overhead conduit runs.

PVC-Coated All-Thread Rod

- All-thread steel rod coated with nominal .015" (15 mil) PVC in blue, white or gray with custom colors available on request
- Available in ¼", ⅜" or ½" standard diameters and in 3-, 6- or 10-ft. standard lengths



PVC-Coated All-Thread Rod

Cat. No.	Diameter x Length	Color
THR3/8X3 - _		

_ = space for color identifier

G = Gray

W = White

B = Blue

Custom colors also available.

Ocal® PVC-Coated Steel All-Thread Rod

CAT. NO.	TRADE SIZE IN. MM	LENGTH FT. M
THR1/4X10-_	¼ 6.35	10.00 3.05
THR3/8X3-_	⅜ 9.53	3.00 0.91
THR3/8X6-_	⅜ 9.53	6.00 1.83
THR3/8X10-_	⅜ 9.53	10.00 3.05
THR1/2X3-_	½ 12.70	3.00 0.91
THR1/2X6-_	½ 12.70	6.00 1.83
THR1/2X10-_	½ 12.70	10.00 3.05

Designed for easy attachment of conduit to strut!

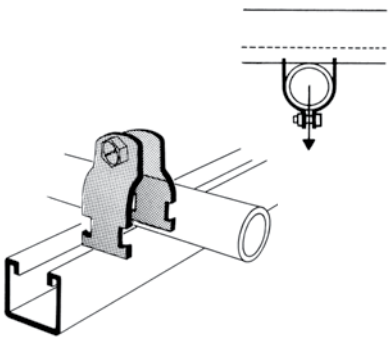
PVC-Coated Pipe Straps for Strut

Just twist-insert these pipe straps anywhere you need them along the slot side of a channel. For additional flexibility, you can position the straps as closely as your pipe couplings permit.

- Combination slot and hex head bolt for flexibility of attachment
- Captivated square nut on shoulder enables easy one-handed tightening
- Use with either 1⅝" or 1½" strut for greater versatility
- Shipped pre-assembled for easier counting, sorting and handling
- Available with nominal .015" (15 mil) PVC coating in your choice of blue, white or gray standard colors (custom colors also available on request)



PVC-Coated Pipe Strap



Cat. No.	Size	Color
SS1-		_

_ = space for color identifier

G = Gray

W = White

B = Blue

Custom colors also available.

Ocal® PVC-Coated Strut Pipe Straps

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*
SS1/2-_	½ 16
SS3/4-_	¾ 21
SS1-_	1 27
SS1-1/4-_	1¼ 35
SS1-1/2-_	1½ 41
SS2-_	2 53
SS2-1/2-_	2½ 63
SS3-_	3 78
SS3-1/2-_	3½ 91
SS4-_	4 103
SS5-_	5 129

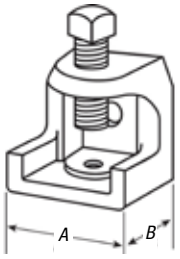
** Metric size designator (ANSI C80.1-1994).*

Corrosion-protected clamps for hanging threaded rod.

Ocal® PVC-Coated Hanger Rod Beam Clamps

- Malleable iron construction
- Nominal .015" (15 mil) PVC coating in blue, white, gray or custom colors
- 500, 502 and 503 also available uncoated in Type 316 stainless steel; add -SS316 to catalog number to order (for example: 502-SS316)





500-G
Hanger Rod Beam Clamp

Cat. No.	Color
500-	
_ = space for color identifier	
G = Gray	
W = White	
B = Blue	
Custom colors also available.	

CAT. NO.	BASE "A" IN. MM	BASE "B" IN. MM	JAW OPENING IN. MM	TAPPED HOLE IN. MM	LOAD RATING‡ LBS. KG
500-_	**1**	**1¼**	**15⁄16**	**¼ - 20**	**450**
	25.40	31.75	23.81	6.35 - 20	204.12
501-_	**1½**	**1⅝**	**⅞**	**15⁄16 - 18**	**800**
	38.10	41.28	22.23	7.94 - 18	362.87
502-_	**2**	**2**	**1**	**⅜ - 16**	**1300**
	50.80	50.80	25.40	9.53 - 16	589.67
503-_	**2⅝**	**2½**	**1**	**½ - 13**	**1300**
	66.68	63.50	25.40	12.70 - 13	589.67
508-_	**2½**	**2⅜**	**2⅛**	**½ - 13**	**1700**
	63.50	60.33	53.98	12.70 - 13	771.11

** Metric size designator (ANSI C80.1-1994).*

‡ Load ratings based on bottom hole of beam clamp with safety factor of three.

CSA File No. LR-52208

Includes stainless steel bolt and nut for fast, easy installation.

Ocal® PVC-Coated Mini Conduit Hangers

- Nominal .015" (15 mil) PVC coating in blue, white, gray or custom colors
- Rated for loads of up to 500 lbs. (226.80kg) with a safety factor of three



MINE3/4-G
Mini Conduit Hanger

Cat. No.	Color
MINE1-	_
_ = space for color identifier	
G = Gray	
W = White	
B = Blue	
Custom colors also available.	

CAT. NO.	PIPE SIZE IN. METRIC SIZE DESIGNATOR*
MINE1/2-_	½
	16
MINE3/4-_	¾
	21
MINE1-_	1
	27
MINE1-1/4-_	1¼
	35
MINE1-1/2-_	1½
	41
MINE2-_	2
	53
MINE2-1/2-_	2½
	63
MINE3-_	3
	78
MINE3-1/2-_	3½
	91
MINE4-_	4
	103

** Metric size designator (ANSI C80.1-1994).*

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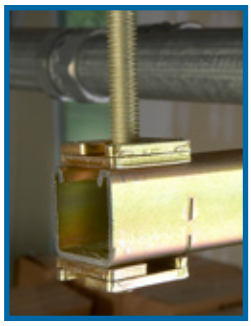
Fewer parts, less installation time and huge labor savings!

Trapnut® Strut Fastener

The unique scissor action of the Trapnut® Strut Fastener closes at any desired position on the threaded rod. Once closed, precision threads trap the rod for a sturdy hold that can be adjusted up or down for fine-tune positioning. While the versatile Trapnut® Fastener has a locking pin that holds it in the desired position, it can also be removed and reused.



Standard method using nuts and washers



New method using Trapnut® Strut Fastener

Unlike a hex nut, there's no need to thread the Trapnut® Fastener from either end of the rod, saving valuable time on the job. While the Trapnut® Fastener is a time-saver for new work, it's invaluable for retrofit applications. Rather than disassembling an existing trapeze to run additional conduit above it, simply clamp the Trapnut® Fastener between the trapeze and beam clamp for a speedy retrofit solution. It's ideal for applications where the rod ends aren't accessible.

The Trapnut® Fastener offers sturdy, load-bearing steel construction, so you can be confident of a solid installation. In addition, the Trapnut® Fastener functions as a hex nut, square washer and flat washer all in one, so there are fewer parts to keep track of on the job.

- Takes 30% less time than the traditional method on new work*
- Takes 43% less time than the traditional method on retrofit applications*

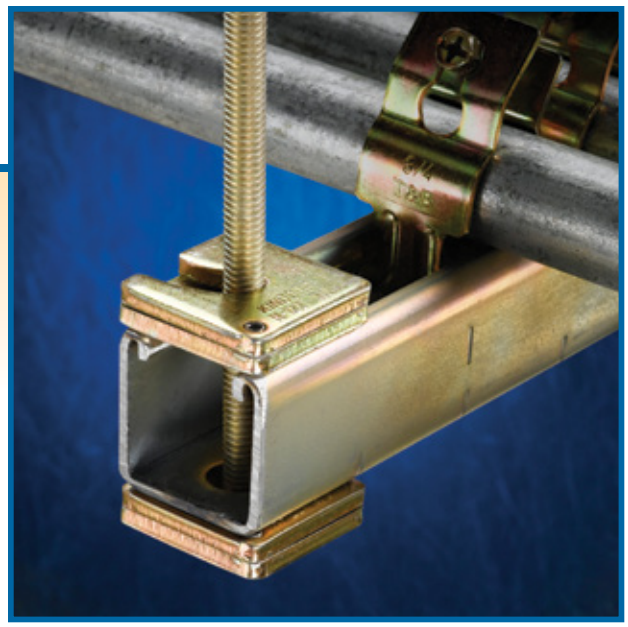
** Based on time study conducted by Thomas & Betts comparing the time to install 15 feet of 2" conduit with typical trapeze assemblies using washers and nuts versus Trapnut® fasteners.*



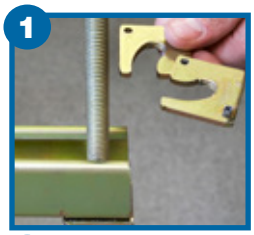


Type 316 Stainless Steel Trapnut® Fastener

CAT. NO.	MATERIAL	SIZE IN. MM	DESIGN LOAD LBS. KG
H122-1/4-SS6	Type 316 Stainless Steel	¼"	150.00
		6.35	68.04
H122-3/8-SS6	Type 316 Stainless Steel	⅜"	590.00
		9.53	267.62
H122-1/2-SS6	Type 316 Stainless Steel	½"	1080.00
		12.70	489.88

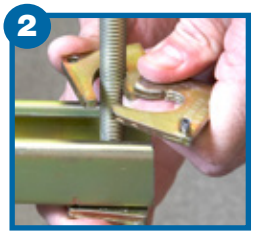


Trapnut® Fastener is Quick and Easy to Install



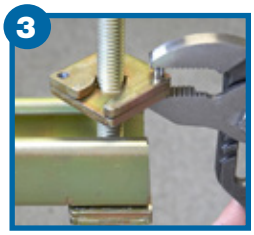
Hold in the open position.

- No need to thread the Trapnut® Fastener from either end of the rod — saves valuable time
- Perfect for retrofit applications where the rod ends are not accessible



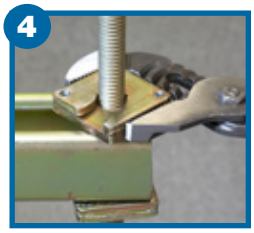
Insert the bottom plate on the rod and close the top plate.

- Precision threads trap the threaded rod for a sturdy hold that can be adjusted up or down for fine-tune positioning
- Functions as a hex nut, square washer and flat washer combined



Press the pin with pliers.

- Locking pin holds Trapnut® Fastener in the desired position
- Can be removed and reused



Tighten to the desired position with pliers.

- Can be adjusted up or down for fine-tune positioning
- Sturdy, load-bearing stainless steel construction
- Sized to provide custom fit for either 1⅝" or 1½" strut systems

Ocal® Installation Products

The Right Tools for the Job!

Thomas & Betts Ocal® PVC-Coated Conduit is designed to prevent corrosion from striking weak points in conduit systems. But any PVC-coated conduit system is only as good as the installation job. The wrong tools can result in incorrectly installed pipes and fittings or damage to PVC coating, creating those weak points where corrosion starts.

After careful research and evaluation, Thomas & Betts now offers you the very best installation tools available for PVC-coated conduit. These tools are ready for use on PVC-coated conduit right out of the box. What that means to you, the installer, is lower costs — in equipment, in installation time and in time you'd normally have to spend adapting standard tools for use on PVC-coated conduit.









Hassle-Free Installation

Count on Thomas & Betts to provide a hassle-free way for installers to get the right tools for the job in their hands — just another benefit of using Ocal® products.

For more information on Ocal® Installation Guidelines, see ***pages E-445–E-451.***

Thomas&Betts

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Bends ½" through 2" PVC-coated conduit.

GREENLEE® Model 555 Electric Bender for PVC-Coated Conduit

When you use this electric bending machine on ½" through 2" conduit, the shoes as well as the roller assembly should be of the type designed specifically for use with PVC-coated conduit.

If you use conventional shoes, the shoes and each of the rollers in the roller assembly must be machined 60 thousandths. Some manufacturers use slide bars instead of a roller assembly, and these, too, must be machined 60 thousandths.

Be sure to compensate for "spring back," since PVC coating often requires the setting to be off as much as 5°.



CAT. NO.	DESCRIPTION
GBENDER	GREENLEE® Model 555 Bender
Shoes and Roller Kit for 40-mil PVC-Coated Conduit	
12586	½" – 2" Shoes and Roller Supports

Make saddles, offsets and conventional bends.

Hand Bender for PVC-Coated Conduit



CAT. NO.	CONDUIT SIZE
35220	½"
35225	¾"
2424A8	1"

High-speed threading — up to 25 rpm!

RHINO® High-Performance Threading Machine



RHINO® Threading Machine with optional wheeled stand

- Standard threading machine with built-in pipe cutter, reamer, foot-operated safety switch, ½" to 2" and 2½" to 4" automatic die heads and precision alloy dies
- Heavy-duty, 115V AC/DC, 50/60 Hz motor develops up to 3hp
- Quiet operation — 85dB maximum noise level
- Easy to maintain and service
- Precision pipe cutter with dual guide for accuracy and control
- COLLINS® SUPER GRIP R/L chucking system features four heavy-duty jaws, specially designed for PVC-coated conduit, at front and rear to automatically grip and center pipe

CAT. NO.	DESCRIPTION
RHINO® High-Performance Threading Machine	
P00551C	RHINO® ½"–4" Threading Machine with Jaws for PVC-Coated Conduit
ROTH00548	Optional Wheeled Stand with Tool Tray for RHINO® Threading Machine
Replacement Threading Die Sets for RHINO® Threading Machine	
89101	½"–¾" Threading Die Set
89102	1"–2" Threading Die Set
59912	2½"–4" Threading Die Set
Replacement Jaws Sets for RHINO® Threading Machine	
P20305C	Jaw Set for PVC-Coated Conduit
ROTH02385	Jaw Set for Galvanized Rigid Conduit

Portable and compact for mobile use and hard-to-reach spaces!

SUPERTRONIC® 2000 Power Threader



- Quick and easy production of precision-threaded joints to approved standards
- Dust-tight casing with sealed lubrication ensures long service life and low maintenance
- Optimized gearing for high-performance output with minimal energy consumption
- 15–25 rpm threading speed with 60 rpm rapid reverse for time savings
- Complete set includes SUPERTRONIC® 2000, forged pipe clamp, thread-cutting spray, quick-change die heads with tempered-steel precision dies for ½", ¾", 1", 1¼", 1½" and 2" PVC-coated conduit and carrying case



Forged pipe clamp, shown above, is included with the P71259C SUPERTRONIC® 2000 Power Threader Set

CAT. NO.	DESCRIPTION
P71259C	SUPERTRONIC® 2000 Power Threader Set for ½", ¾", 1", 1¼", 1½" and 2" PVC-Coated Conduit

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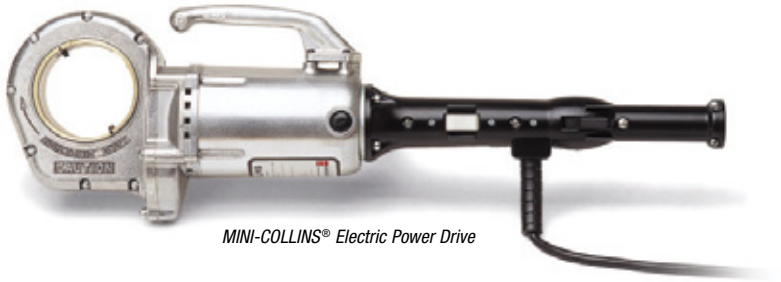
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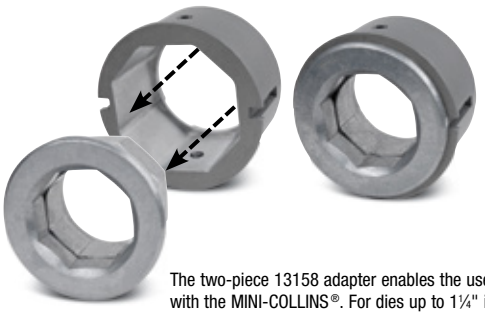
Threads ½" to 2" conduit in seconds!

MINI-COLLINS® Electric Power Drive

- Lightweight, compact design goes anywhere — only 28" long and requires only 1¾" clearance in trenches, overhead and other tight spaces
- Easy to maintain — built-in fill plug eliminates disassembly of gearbox for oiling
- 115V, 15A reversible motor provides the power to make any turning job easier
- Tightens nuts, drives cable pullers, turns hoists and jacks, opens and closes valves and drives up to 6" geared threaders
- Compatible with RIDGID® 12R die heads
- Cat. No. 13158 Adapter enables SUPER CUT die heads (below) to be used with ROTHENBERGER® MINI-COLLINS® and RIDGID® Model 700 portable threading machines



MINI-COLLINS® Electric Power Drive



The two-piece 13158 adapter enables the use of SUPER CUT die heads with the MINI-COLLINS®. For dies up to 1¼" in size, use both pieces together, as shown at above right. For larger dies, separate the two pieces, as shown at above left, and use only the outer ring.

CAT. NO.	DESCRIPTION
MINI-COLLINS® Electric Power Drive & Accessories	
ROTH00074	MINI-COLLINS® Electric Power Drive
13158	MINI-COLLINS® Adapter for SUPER CUT Die Heads
ROTH00117	MINI-COLLINS® 1" Square Shaft Drive for Geared Threaders
ROTH00119	Steel Carrying Case for MINI-COLLINS®

Machined to thread PVC-coated conduit.

SUPER CUT Die Heads



- Optimized cutting geometry offers easy starting and excellent shaving discharge
- Purchase dies individually
- Or choose the complete set, including ratchet handle, quick-change die heads, tempered-steel precision dies for ½", ¾", 1", 1¼", 1½" and 2" PVC-coated conduit and plastic carrying case
- Fit SUPERTRONIC® 2000 threader
- Use with MINI-COLLINS® (above) or RIDGID® Model 700 with Catalog No. 13158 adapter (above)

CAT. NO.	DESCRIPTION
P70905C	Complete Die Set for ½" – 2"
P70912C	½" Die
P70913C	¾" Die
P70914C	1" Die
P70915C	1¼" Die
P70849C	1½" Die
P70850C	2" Die

Equipped with chain vise.

Tri-Stand Vise

- Sturdy, stable frame collapses for easy mobility and storage
- Ceiling brace for overhead support enables you to secure frame even during difficult work
- Features recesses for bending tubes ⅜", ½" and ¾" O.D.

CAT. NO.	DESCRIPTION	PIPE CAPACITY IN. METRIC SIZE DESIGNATOR*
ROTH00076	Tri-Stand with 6" Chain Vise	**½ – 6**
	(use with Ocal Jaws for PVC-coated conduit)	16 – 155

** Metric size designator (ANSI C80.1-1994).*



ROTH00076

Superior design and construction for faster, safer chain-vise clamping of PVC-coated conduit.

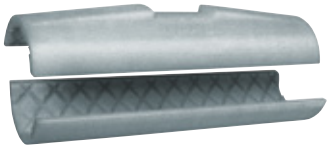
Ocal® Half-Shell Clamps

NEW!

If you already have a chain vise, now you can avoid the expense of purchasing a yoke vise with special jaws — or the trouble of making clamps out of PVC or steel pipe — to cut and thread PVC-coated conduit. These Half-Shell Clamps come in the full range of ½" to 6" trade sizes. Buy the individual sizes you need, or choose our convenient set, which contains all the sizes from ½" to 2" in a handy carrying/storage case.

A unique internal design ensures secure clamping while protecting the integrity of the conduit's PVC coating. Cast from ductile iron for extreme strength and durability, Ocal® Half-Shell Clamps offer you years of consistent, reliable service.







- Two-piece construction, cast from ductile iron for exceptional strength, durability and performance
- Cross-hatched interior surface grips conduit securely while safeguarding PVC jacket from damage
- Available individually in ½" through 4" trade sizes
- Also available in a convenient set – ½" to 2" trade sizes
- Each clamp clearly marked with trade size for easy identification
- Openings at each end enable hanging for handy storage

	CONDUIT SIZE	
CAT. NO.	IN.	METRIC*
Individual Half-Shell Clamps		
HLF-SHL-CLP1/2	**½**	16
HLF-SHL-CLP3/4	**¾**	21
HLF-SHL-CLP1	**1**	27
HLF-SHL-CLP1-1/4	**1¼**	35
HLF-SHL-CLP1-1/2	**1½**	41
HLF-SHL-CLP2	**2**	53
HLF-SHL-CLP2-1/2	**2½**	63
HLF-SHL-CLP3	**3**	78
HLF-SHL-CLP3-1/2	**3½**	91
HLF-SHL-CLP4	**4**	103
Half-Shell Clamp Set (in carrying/storage case)		
HLF-SHL-CLP-SET1	**½ – 2**	16 – 53

** Metric size designator (ANSI C80.1-1994).*

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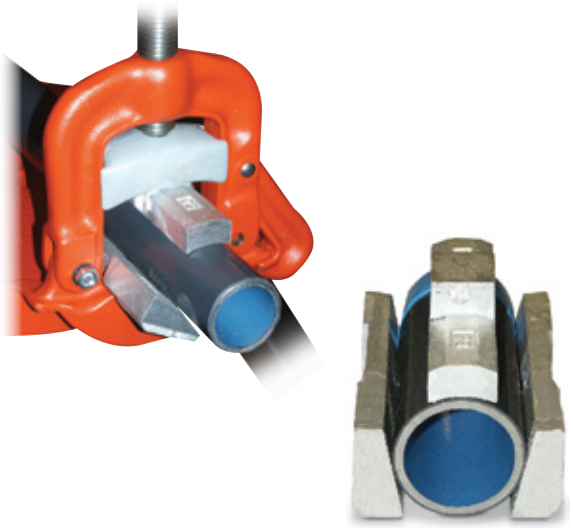
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Ocal® Installation Products

Designed to hold PVC-coated conduit safely and securely in a yoke-style vise.

Ocal® Jaws for PVC-Coated Conduit

- Replaces the standard jaw inserts in a yoke vise
- Provides greater clamping force and prevents pipe from spinning during threading
- Machined aluminum construction
- Three-piece set



CAT. NO.	DESCRIPTION	WEIGHT LBS.	WEIGHT KG
JAWS23	Used with RIDGID No. 23 or No. 40A Yoke Vises	2.80	1.27

Specially designed for cutting PVC-coated conduit.

Steel Pipe Cutters

- Easy pressure control transmits optimum force onto tube
- Hardened, high-alloy steel cutter wheel provides long service life and burr-free external cutting



CAT. NO.	DESCRIPTION	PIPE O.D.
P70045C	Steel Pipe Cutter — Up to 2"	⅛"–2"
P70060C	Steel Pipe Cutter — Up to 4"	⅛"–4"

Rapid and clean deburring!

Ratchet Pipe Reamer

- Smooth-running ratchet
- Tempered-steel cutting bit
- For steel tubes ¼" to 2" O.D.



CAT. NO.	DESCRIPTION	PIPE O.D.
70289	Ratchet Pipe Reamer	¼"–2"

Ocal® Installation Products

Removable aluminum jaws for PVC-coated conduit.

Ocal® J-Wrenches

Use with our pliers, or purchase just the jaws and adapt your own!



J460



J460



J42



J60



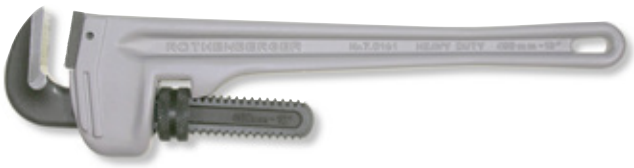
J442

CAT. NO.	DESCRIPTION	PIPE CAPACITY
J442	12" J-Wrench with Jaws	½" to 1¼"
J460	16" J-Wrench with Jaws	1½" to 2½"
J42	12" Jaw Set only	½" to 1¼"
J60	16" Jaw Set only	1½" to 2½"

Jaws grip PVC-coated pipe securely without damaging the plastic coating!

Aluminum Pipe Wrenches

- Extremely light aluminum alloy offers high strength but weighs 40% less than standard cast
- Self-clamping, spring-supported hook for easy, one-handed, ratchet-like use
- Scale on hook for quick preset of tube diameter



CAT. NO.	LENGTH IN. MM	STEEL TUBE O.D. MAX. IN. METRIC SIZE DESIGNATOR*
P70159C	10	1½
	254	16
P70160C	14	2
	356	53
P70161C	18	2½
	457	63
P70162C	24	3
	610	78

** Metric size designator (ANSI C80.1-1994).*

Specially coated strap won't absorb oil.

Strap Wrenches



31370

31355

CAT. NO.	HANDLE LENGTH IN. MM	STRAP LENGTH IN. MM	STRAP WIDTH IN. MM	PIPE CAPACITY IN. MM	PIPE CAPACITY (O.D.) IN. MM	WEIGHT LB. KG
31355	11.75	17.00	1.75	2.00	3.50	1.75
	298.45	431.80	44.45	50.80	88.90	.79
31370	18.00	29.25	1.75	5.00	5.50	2.75
	457.20	742.95	44.45	127.00	139.70	1.25

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Protects, lubricates and enhances the conductivity of all electrical connections!

KOPR-SHIELD® Joint Compound

- Meets NEC® requirements for protection against corrosion: *"Where corrosion protection is necessary and the conduit is threaded in the field, all threads shall be coated with an approved electrically conductive, corrosion-resistant compound."*
- Extremely adhesive compound flows smoothly into uneven contours and voids, ensuring easy application and complete, positive protection and lubrication
- Won't settle out, thin, thicken, harden or dry out under the most severe environmental conditions
- Excellent temperature characteristics — can be brushed on at -50° F to 250° F (-45° C to 121° C) and remains intact for short periods even at 1,800° F (982° C)
- Ensures low resistance and seals out air and moisture
- Unique, homogenized blend of pure, polished colloidal copper, rust and corrosion inhibitors

NEC and National Electrical Code are registered trademarks of the National Fire Protection Association, Inc.



KOPR-SHIELD® Joint Compound

CAT. NO.	CONTAINER	SIZE
201-31879	Brush Cap Can	1½ oz. (.04 liter)
201-31879-1	Brush Cap Can	4 oz. (.12 liter)
CP8-TB	Brush Cap Can	8 oz. (.24 liter)
CP16	Brush Cap Can	1 pint (.47 liter)
CP128	Can	1 gallon (3.79 liter)

***Note**: Not recommended for food & beverage processing applications.*



Fast-drying, air-cure patch for Ocal® conduit and fittings.

Ocal® Touch-Up Compounds

CAT. NO.	CONTAINER	SIZE	COLOR
Exterior PVC Patch			
SPRAY-G	Spray Can	12½ oz. (.37 liter)	Dark Gray
SPRAY-W	Spray Can	12½ oz. (.37 liter)	White
SPRAY-B	Spray Can	12½ oz. (.37 liter)	Light Blue
PATCHP-G	Brush Cap Can	1 pint (.47 liter)	Dark Gray
PATCHP-W	Brush Cap Can	1 pint (.47 liter)	White
PATCHP-B	Brush Cap Can	1 pint (.47 liter)	Light Blue
PATCHG-G	Bottle	1 gallon (3.79 liter)	Dark Gray
PATCHG-W	Bottle	1 gallon (3.79 liter)	White
PATCHG-B	Bottle	1 gallon (3.79 liter)	Light Blue
Interior Urethane Patch			
URETHANEPATCH	Brush Cap Can	1 pint (.47 liter)	Blue

A better patching solution for hot weather applications!

Ocal® Heat-Cure Patch

Even in the best of installations, the PVC jacket on PVC-coated conduit or fittings can be cut, nicked or abraded. To maintain corrosion protection, Ocal® has added a new, thicker PVC patch to its offering of touch-up compounds.

Ideal for use in hot weather, Ocal® Heat-Cure Patch offers a thicker consistency at high ambient temperatures than standard air-cure patches, ensuring better coverage and a more effective patch.



Ocal® Heat-Cure Patch makes patching fast and easy.

1. Make sure the area to be patched is clean and dry.
2. Squeeze the amount of patch material needed onto the area to be repaired.
3. If necessary, spread and level the patch material with a putty knife.
4. Apply heat with a heat gun or torch, such as the T&B® Portable Heat-Shrink Torch.
5. Being careful not to overheat (500° F/260° C max.), apply heat for two minutes total, or at least one minute after surface of patch has turned glossy. (The patch material is a glossy liquid that turns flat with initial heat application and then turns glossy again as heating continues.)
6. Allow the patched area to air cool, or use a water quench.

CAT NO.	COLOR	SIZE
PATCHT-G	Dark Gray	6 oz. (.18 liter)
PATCHT-W	White	6 oz. (.18 liter)
PATCHT-B	Light Blue	6 oz. (.18 liter)

Separate controls enable precise adjustment of flame and temperature!

T&B® Portable Heat-Shrink Torch

- 2,500° F (1,371° C) output capacity satisfies virtually any heating, brazing or soldering requirement
- Dual fuel- and air-flow controls enable separate adjustment of temperature and flame precision
- Brass and steel construction provides durability
- Operates on standard butane lighter fluid (not included)

Specifications

- Dimensions (without base) L x W x H:
  3.90" x 1.40" x 5.40"
  99.06mm x 35.56mm x 137.16mm
- Weight (when filled):
  9.88 oz.
  280.09g
- Fuel Tank Capacity:
  2.03 fl. oz.
  60.03ml
- Operating Time (per full fuel tank):
  Up to 220 minutes



CAT. NO.	DESCRIPTION
WT-PTORCH	Portable Heat-Shrink Torch

Thomas&Betts

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

www.tnb.com

Technical Information

Ocal® PVC Exterior Coating Chemical Resistance

SOLUTIONS	CONC.	TEMP.	RECOMMENDED EXPOSURE SPLASHING	LIQUID	FUMES
Acetic Acid	10%	120	no	no	no
Acid Copper Plating Solution		160	yes	yes	yes
Alkaline Cleaners		160	yes	yes	yes
Aluminum Chloride	Sat'd	160	yes	yes	yes
Aluminum Sulfate	Sat'd	160	yes	yes	yes
Alums	Sat'd	160	yes	yes	yes
Ammonium Chloride	Sat'd	160	yes	yes	yes
Ammonium Hydroxide	28%	120	yes	yes	yes
Ammonium Hydroxide	10%	120	yes	yes	yes
Ammonium Sulfate	Sat'd	160	yes	yes	yes
Ammonium Thiocyanate	Sat'd	160	yes	yes	yes
Amyl Alcohol	Any	90	yes	yes	yes
Arsenic Acids	Any	150	yes	yes	yes
Barium Sulfide	Sat'd	120	yes	yes	yes
Black Liquor	Sat'd	90	yes	yes	yes
Benzoic Acid	Sat'd	160	yes	yes	yes
Brass Plating Solution	Any	160	yes	yes	yes
Bromine Water	Sat'd	120	yes	yes	yes
Butyl Alcohol	Any	90	yes	yes	yes
Cadmium Plating Solution	Any	150	yes	yes	yes
Calcium Bisulfite	Any	150	yes	yes	yes
Calcium Chloride	Sat'd	160	yes	yes	yes
Calcium Hypochlorite	Sat'd	120	yes	yes	yes
Carbonic Acid	Sat'd	160	yes	yes	yes
Casein	Sat'd	90	yes	yes	yes
Castor Oil	Any	90	yes	yes	yes
Caustic Soda	35%	120	yes	yes	yes
Caustic Soda	10%	150	yes	yes	yes
Caustic Potash	35%	120	yes	yes	yes
Caustic Potash	10%	150	yes	yes	yes
Chlorine Water	Sat'd	90	yes	yes	yes
Chromium Plating Solution	Any	150	yes	yes	yes
Citric Acid	Sat'd	160	yes	yes	yes
Copper Chloride (Cupric)	Sat'd	160	yes	yes	yes
Copper Cyanide Plating Sol	Any	160	yes	yes	yes
(High Speed)	Any	180	yes	yes	yes
(with Alkali Cyanides)	Sat'd	160	yes	yes	yes
Copper Sulfate	Sat'd	160	yes	yes	yes
Coconut Oil	Sat'd	90	yes	yes	yes
Cottonseed Oil	Sat'd	90	yes	yes	yes
Disodium Phosphate	Sat'd	160	yes	yes	yes
Ethyl Alcohol	Any	90	yes	yes	yes
Ethylene Glycol	Any	90	yes	no	yes
Ferric Chloride	45%	120	yes	yes	yes
Ferrous Sulfate	Sat'd	150	yes	yes	yes
Fluoboric Acid	Any	150	yes	yes	yes
Formaldehyde	37%	120	yes	yes	yes
Formic Acid	85%	100	no	no	no
Gallic Acid	Sat'd	150	no	no	yes
Glucose	Any	150	yes	yes	yes
Glue	Any	150	yes	yes	yes
Glycerine	Any	90	yes	yes	yes
Gold Plating Solution	Any	150	yes	yes	yes
Hydrochloric Acid	10%	120	yes	no	yes
Hydrochloric Acid	21.5%	120	yes	no	yes
Hydrochloric Acid	37.5%	120	yes	no	yes
Hydrochloric Acid	37.5%	90	yes	no	yes
Hydrofluoric Acid	4%	140	yes	no	yes
Hydrofluoric Acid	10%	120	yes	no	yes
Hydrofluoric Acid	48%	120	yes	no	yes
Hydrogen Peroxide	30%	120	yes	yes	yes
Hydrogen Sulfide	Sat'd	120	yes	yes	yes
Hydroquinone	Any	90	yes	yes	yes
Indium Plating Solution	Any	150	yes	yes	yes
Lactic Acid	50%	120	yes	yes	yes
Lactic Acid	Any	90	yes	yes	yes

SOLUTIONS	CONC.	TEMP.	RECOMMENDED EXPOSURE SPLASHING	LIQUID	FUMES
Lead Plating Solution	Any	150	yes	yes	yes
Malic Acid	Any	90	yes	yes	yes
Methyl Alcohol	Any	90	yes	yes	yes
Mineral Oils	Any	90	yes	yes	yes
Nickel Acetate	Sat'd	160	yes	yes	yes
Nickel Plating Solution		160	yes	yes	yes
Nickel Salts	Sat'd	160	yes	yes	yes
Nitric Acid	35%	120	yes	no	yes
Nitric Acid	40%	90	yes	no	yes
Nitric Acid	60%	120	yes	no	yes
Nitric Acid/	15%				
Hydrofluoric Acid	4%	140	yes	yes	yes
Nitric Acid/	16%				
Sodium Dichromate	13%	130	yes	yes	yes
Water	71%				
Oleic Acid	Any	90	yes	yes	yes
Oxalic Acid	Sat'd	120	yes	yes	yes
	Any	90	yes	yes	yes
Phenol	Sat'd	120	no	no	no
Phosphoric Acid	75%	150	yes	yes	yes
Phosphoric Acid	85%	120	yes	yes	yes
Phosphoric Acid	85%	160	yes	yes	yes
Potassium Acid Sulfate	Sat'd	150	yes	yes	yes
Potassium Antimonate	Sat'd	150	yes	yes	yes
Potassium Bisulfite	Sat'd	90	yes	yes	yes
Potassium Chloride	Sat'd	160	yes	yes	yes
Potassium Cuprocyanide	Sat'd	150	yes	yes	yes
Potassium Cyanide	Sat'd	160	yes	yes	yes
Potassium Diachromate	Sat'd	160	yes	yes	yes
Potassium Hypochlorite	Sat'd	90	yes	no	yes
Potassium Sulfide	Sat'd	150	yes	yes	yes
Potassium Thiosulfate	Sat'd	150	yes	yes	yes
Propyl Alcohol	Sat'd	150	yes	yes	yes
Rhodium Plating Solution	Sat'd	150	yes	yes	yes
Silver Plating Solution	Sat'd	150	yes	yes	yes
Soaps	Any	90	yes	yes	yes
Sodium Acid Sulfate	Sat'd	160	yes	yes	yes
Sodium Antimonate	Sat'd	150	yes	yes	yes
Sodium Bicarbonate	Sat'd	160	yes	yes	yes
Sodium Bisulfite	Sat'd	90	yes	yes	yes
Sodium Chloride	Sat'd	160	yes	yes	yes
Sodium Cyanide	Sat'd	160	yes	yes	yes
Sodium Dichromate	Sat'd	160	yes	yes	yes
Sodium Hydroxide	10%	150	yes	no	yes
Sodium Hydroxide	35%	120	yes	no	yes
Sodium Hydroxide	73%	160	no	no	no
Sodium Hypochlorite	Sat'd	90	yes	no	yes
Sodium Hypochlorite	15%	120	yes	no	yes
Sodium Sulfide	Sat'd	150	yes	yes	yes
Sodium Thiosulfate	Sat'd	150	yes	yes	yes
Sulfuric Acid	15%	120	yes	yes	yes
Sulfuric Acid	15%	160	yes	yes	yes
Sulfuric Acid	50%	120	yes	yes	yes
Sulfuric Acid	70%	90	yes	no	yes
Sulfuric Acid	98%	100	no	no	yes
Sulfurous Acid	2%	120	yes	no	yes
Sulfurous Acid	6%	120	yes	no	yes
Tannic Acid	Sat'd	90	yes	yes	yes
Tartaric Acid	Sat'd	90	yes	yes	yes
Tin Chloride Aqueous	Sat'd	150	yes	yes	yes
Tin Plating Solution	Sat'd	150	yes	yes	yes
Triethaneolamine	Sat'd	150	yes	yes	yes
Trisodium Phosphate	Sat'd	150	yes	yes	yes
Water	Sat'd	160	yes	yes	yes
White Liquor		90	yes	yes	yes
Zinc Plating Solution		160	yes	yes	yes
Zinc Sulfate	Sat'd	160	yes	yes	yes

Technical Information

Ocal® Urethane Interior Coating Chemical Resistance

SOLUTIONS	CONC.	TEMP.	RECOMMENDED EXPOSURE		
			SPLASHING	LIQUID	FUMES
Acetic Acid	10%	75	yes	no	yes
Acid Copper Plating Solution	Any	75	yes	no	yes
Alkaline Cleaners	Any	75	yes	no	yes
Aluminum Chloride	Sat'd	75	yes	no	yes
Aluminum Sulfate	Sat'd	75	yes	no	yes
Alums	Sat'd	75	yes	no	yes
Ammonium Chloride	Sat'd	75	yes	no	yes
Ammonium Hydroxide	28%	75	yes	no	yes
Ammonium Hydroxide	10%	75	yes	no	yes
Ammonium Sulfate	Sat'd	75	yes	no	yes
Ammonium Thiocyanate	Sat'd	75	yes	no	yes
Amyl Alcohol	Any	75	yes	yes	yes
Arsenic Acids	Any	75	yes	no	yes
Barium Sulfide	Sat'd	75	yes	no	yes
Black Liquor	Sat'd	75	yes	no	yes
Benzoic Acid	Sat'd	75	yes	no	yes
Brass Plating Solution	Any	75	yes	no	yes
Bromine Water	Sat'd	75	yes	no	yes
Butyl Alcohol	Any	75	yes	no	yes
Cadmium Plating Solution	Any	75	yes	no	yes
Calcium Bisulfite	Any	75	yes	no	yes
Calcium Chloride	Sat'd	75	yes	no	yes
Calcium Hypochlorite	Sat'd	75	yes	no	yes
Carbonic Acid	Sat'd	75	yes	no	yes
Casein	Sat'd	75	yes	no	yes
Castor Oil	Any	75	yes	yes	yes
Caustic Soda	35%	75	yes	no	yes
Caustic Soda	10%	75	yes	no	yes
Caustic Potash	35%	75	yes	no	yes
Caustic Potash	10%	75	yes	no	yes
Chlorine Water	Sat'd	75	yes	no	yes
Chromium Plating Solution	Any	75	yes	no	yes
Citric Acid	Sat'd	75	yes	no	yes
Copper Chloride (Cupric)	Sat'd	75	yes	no	yes
Copper Cyanide Plating Sol	Any	75	yes	no	yes
(High Speed)	Any	75	yes	no	yes
(with Alkali Cyanides)	Sat'd	75	yes	no	yes
Copper Sulfate	Sat'd	75	yes	no	yes
Coconut Oil	Sat'd	75	yes	yes	yes
Cottonseed Oil	Sat'd	75	yes	yes	yes
Disodium Phosphate	Sat'd	75	yes	no	yes
Ethyl Alcohol	Any	75	yes	no	yes
Ethylene Glycol	Any	75	yes	yes	yes
Ferric Chloride	45%	75	yes	no	yes
Ferrous Sulfate	Sat'd	75	yes	no	yes
Fluoboric Acid	Any	75	yes	no	yes
Formaldehyde	37%	75	yes	no	yes
Formic Acid	85%	75	yes	no	yes
Gallic Acid	Sat'd	75	yes	no	yes
Glucose	Any	75	yes	yes	yes
Glue	Any	75	yes	no	yes
Glycerine	Any	75	yes	yes	yes
Gold Plating Solution	Any	75	yes	no	yes
Hydrochloric Acid	10%	75	yes	no	yes
Hydrochloric Acid	21.5%	75	yes	no	yes
Hydrochloric Acid	37.5%	75	yes	no	yes
Hydrofluoric Acid	4%	75	yes	no	yes
Hydrofluoric Acid	10%	75	yes	no	yes
Hydrofluoric Acid	48%	75	yes	no	yes
Hydrogen Peroxide	30%	75	yes	no	yes
Hydrogen Sulfide	Sat'd	75	yes	no	yes
Hydroquinone	Any	75	yes	no	yes
Indium Plating Solution	Any	75	yes	no	yes
Lactic Acid	50%	75	yes	no	yes
Lactic Acid	Any	75	yes	no	yes

SOLUTIONS	CONC.	TEMP.	RECOMMENDED EXPOSURE		
			SPLASHING	LIQUID	FUMES
Lead Plating Solution	Any	75	yes	no	yes
Malic Acid	Any	75	yes	no	yes
Methyl Alcohol	Any	75	yes	no	yes
Mineral Oils	Any	75	yes	yes	yes
Nickel Acetate	Sat'd	75	yes	no	yes
Nickel Plating Solution		75	yes	no	yes
Nickel Salts	Sat'd	75	yes	no	yes
Nitric Acid	35%	75	yes	no	yes
Nitric Acid	40%	75	yes	no	yes
Nitric Acid	60%	75	yes	no	yes
Nitric Acid/	15%				
Hydrofluoric Acid	4%	75	yes	no	yes
Nitric Acid/	16%				
Sodium Dichromate	13%	75	yes	no	yes
Water	71%				
Oleic Acid	Any	75	yes	no	yes
Oxalic Acid	Sat'd	75	yes	no	yes
	Any	75	yes	no	yes
Phenol	Sat'd	75	yes	no	yes
Phosphoric Acid	75%	75	yes	no	yes
Phosphoric Acid	85%	75	yes	no	yes
Potassium Acid Sulfate	Sat'd	75	yes	no	yes
Potassium Antimonate	Sat'd	75	yes	no	yes
Potassium Bisulfite	Sat'd	75	yes	no	yes
Potassium Chloride	Sat'd	75	yes	no	yes
Potassium Cuprocyanide	Sat'd	75	yes	no	yes
Potassium Cyanide	Sat'd	75	yes	no	yes
Potassium Diachromate	Sat'd	75	yes	no	yes
Potassium Hypochlorite	Sat'd	75	yes	no	yes
Potassium Sulfide	Sat'd	75	yes	no	yes
Potassium Thiosulfate	Sat'd	75	yes	no	yes
Propyl Alcohol	Sat'd	75	yes	no	yes
Rhodium Plating Solution	Sat'd	75	yes	no	yes
Silver Plating Solution	Sat'd	75	yes	no	yes
Soaps	Any	75	yes	no	yes
Sodium Acid Sulfate	Sat'd	75	yes	no	yes
Sodium Antimonate	Sat'd	75	yes	no	yes
Sodium Bicarbonate	Sat'd	75	yes	no	yes
Sodium Bisulfite	Sat'd	75	yes	no	yes
Sodium Chloride	Sat'd	75	yes	no	yes
Sodium Cyanide	Sat'd	75	yes	no	yes
Sodium Dichromate	Sat'd	75	yes	no	yes
Sodium Hydroxide	10%	75	yes	no	yes
Sodium Hydroxide	35%	75	yes	no	yes
Sodium Hydroxide	73%	75	yes	no	yes
Sodium Hypochlorite	Sat'd	75	yes	no	yes
Sodium Hypochlorite	15%	75	yes	no	yes
Sodium Sulfide	Sat'd	75	yes	no	yes
Sodium Thiosulfate	Sat'd	75	yes	no	yes
Sulfuric Acid	15%	75	yes	no	yes
Sulfuric Acid	50%	75	yes	no	yes
Sulfuric Acid	70%	75	yes	no	yes
Sulfuric Acid	98%	75	yes	no	yes
Sulfurous Acid	2%	75	yes	no	yes
Sulfurous Acid	6%	75	yes	no	yes
Tannic Acid	Sat'd	75	yes	no	yes
Tartaric Acid	Sat'd	75	yes	no	yes
Tin Chloride Aqueous	Sat'd	75	yes	no	yes
Tin Plating Solution	Sat'd	75	yes	no	yes
Triethaneolamine	Sat'd	75	yes	no	yes
Trisodium Phosphate	Sat'd	75	yes	no	yes
Water	Sat'd	75	yes	no	yes
White Liquor		75	yes	no	yes
Zinc Plating Solution		75	yes	no	yes
Zinc Sulfate	Sat'd	75	yes	no	yes

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Technical Information

Ocal® Guide Specification: Section 26 05 33 — Underground Ducts and Raceways for Electrical Systems: Conduit Systems for Use in Corrosive Environments

Part 1 - General

1.1 Summary

A. Section Includes: Furnishing, installation and assembly of PVC-coated electrical rigid metal conduit (ERMC) systems and stainless steel fittings.

B. Related Sections

1. Section 26 05 29 – Hangers and Supports for Electrical Systems

1.2 References

A. National Electrical Manufacturers Association (NEMA)

1. NEMA RN 1: Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit

B. National Fire Protection Association (NFPA)

1. NFPA 70: National Electrical Code® (NEC®)

C. American Society for Testing and Materials (ASTM):

1. ASTM A 239: Standard Practice for Locating the Thinnest Spot in a Zinc (Galvanized) Coating on Iron or Steel Articles

D. Underwriters Laboratories, Inc. (UL)

1. UL 6: Safety Standard for Rigid Metal Conduit
2. UL 514B: Safety Standard for Fittings for Conduit and Outlet Boxes

E. American National Standards Institute (ANSI)

1. ANSI C80.1: American National Standard for Rigid Steel Conduit – Zinc Coated

G. Steel Tube Institute of North America

1. Guidelines for Installing Steel Conduit/Tubing

1.3 Submittals

A. General: Submit in accordance with Section 01 33 00.

B. Product Data

1. Manufacturer's descriptive literature and product specifications for each product.
2. Manufacturer's installation literature and training guide.
3. Manufacturer's product drawings, when applicable.

1.4 Quality Assurance

A. Manufacturer Qualifications: Products shall be free of defects in material and workmanship.

B. Installer Qualifications: Installer shall be trained and certified based on the acceptable manufacturer's listed requirements.

Part 2 - Products

2.1 General

A. Furnish PVC-coated ERMC of size as indicated. If not indicated, the smallest trade size shall be ¾ in. The PVC-coated ERMC system shall include necessary PVC-coated fittings, boxes and covers to form a complete encapsulated system.

2.2 Manufacturers

A. Acceptable Manufacturers: Thomas & Betts Corporation; 8155 T & B Blvd., Memphis, TN 38125. Tel: 901-252-5000. Web: www.tnb.com.

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01 25 00.

2.3 Materials/Components

A. PVC-COATED RIGID STEEL CONDUIT

The PVC-coated rigid steel conduit shall be hot-dip galvanized inside and out with hot-dip galvanized threads. The interior galvanizing shall be listed per UL 6. The exterior galvanizing shall be listed per UL 6 as primary corrosion protection. Thread protectors shall be used on the exposed threads of the PVC-coated conduit. PVC-coated ERMC steel conduit shall comply with UL 6, ANSI C80.1 and NEMA RN 1 standards without exception.

The PVC coating, in compliance with NEMA RN 1, shall be nominal 40 mils in thickness continuous over the entire length of the conduit except at the threads and be free of blisters, bubbles or pinholes. PVC shall be UL listed as a primary corrosion protection.

A blue urethane coating shall be uniformly and consistently applied to the interior of conduit. This internal coating shall be a nominal 2 mils thickness. All male threads on elbows and nipples shall be protected by this same application of urethane coating.

Coated couplings shall be used with coated conduit. The thickness of the coating on couplings shall be at least equal to the thickness of the coating on the conduit. Each coated coupling shall have a flexible PVC sleeve which extends from each end of the coupling and which will overlap the PVC coating on the conduit when the coupling has been installed on the conduit. The length of the sleeve extension(s) shall be at least equivalent to the nominal conduit size for sizes up through 2 in. For sizes 2–6 in., the length of the sleeve extension(s) shall be at least 2 in. The PVC sleeve shall be a nominal thickness of 40 mils in thickness. The inside diameter of the overlapping sleeve shall be less than the outside diameter of the PVC-coated conduit.

B. PVC-COATED RIGID ALUMINUM CONDUIT

The PVC-coated ERMC aluminum conduit prior to coating shall be UL listed. The exterior of the conduit shall have a PVC coating of a minimum thickness of nominal 40 mils.

Ocal® Guide Specification *(continued)*:

A blue urethane coating shall be uniformly and consistently applied to the interior of conduit. This internal coating shall be a nominal 2 mils thickness. All male threads on elbows and nipples shall be protected by this same application of urethane coating.

Coated couplings shall be used with coated conduit. The thickness of the coating on couplings shall be at least equal to the thickness of the coating on the conduit. Each coated coupling shall have a flexible PVC sleeve which extends from each end of the coupling and which will overlap the PVC coating on the conduit when the coupling has been installed on the conduit. The length of the sleeve extension(s) shall be at least equivalent to the nominal conduit size for sizes up through 2 in. For sizes 2–6 in., the length of the sleeve extension(s) shall be at least 2 in.
The PVC sleeve shall be a nominal thickness of 40 mils in thickness. The inside diameter of the overlapping sleeve shall be less than the outside diameter of the PVC-coated conduit.

C. PVC-COATED ORDINARY LOCATION FITTINGS

PVC-coated ferrous and aluminum fittings for general service and corrosive locations must be UL listed. The PVC coating shall be minimum 40 mils in thickness and be free of blisters, bubbles or pinholes. Female threads on fittings shall be protected by application of urethane coating.

All female ends of PVC-coated conduit fittings shall have a flexible PVC sleeve which extends from the female ends of the fitting and which will overlap the PVC coating on the conduit when the fitting has been installed on the conduit. The length of the sleeve extension(s) shall be at least equivalent to the nominal conduit size for sizes up through 2 in. For sizes 2–6 in., the length of the sleeve extension(s) shall be at least 2 in. The PVC sleeve shall be a nominal thickness of 40 mils in thickness. The inside diameter of the overlapping sleeve shall be less than the outside diameter of the PVC-coated conduit.

1. The PVC coating on all form 8 covers shall form a gasket-like flange of at least 5⁄16 in. wide and minimum 40 mils covering the top of the fitting around the opening and the bottom of the cover/matting with the flange of the fitting. A blue urethane coating shall be uniformly and consistently applied to the interior, exterior and threads of all conduit bodies, including but not limited to form 8 and form 7 conduit bodies. This coating shall be a nominal 2 mils thickness. Stainless steel encapsulated screws shall be supplied with all form 7 and form 8 fittings.
2. Rigid hubs shall have a nominal 40 mils PVC coating thickness with a nominal 2 mils of blue urethane on interior and threads. The male threads and locknut shall remain uncoated.
3. Liquidtight fittings shall have an exterior PVC coating of a minimum thickness of nominal 40 mils.

D. PVC-COATED HAZARDOUS LOCATION FITTINGS

Hazardous location fittings prior to PVC coating must be UL listed. All female ends of PVC-coated conduit fittings shall have a flexible PVC sleeve which extends from the female ends of the fitting and which will overlap the PVC coating on the conduit when the fitting has been installed on the conduit. The length of the sleeve extension(s) shall be at least equivalent to the nominal conduit size for sizes up through 2 in. For sizes 2–6 in., the length of the sleeve extension(s) shall be at least 2 in. The PVC sleeve shall be a nominal thickness of 40 mils in thickness. The inside diameter of the overlapping sleeve shall be less than the outside diameter of the PVC-coated conduit.

E. PVC-COATED STRUT, HANGERS AND CLAMPS

Right-angle beam clamps and U-bolts shall be specially formed and sized to fit snugly the outside diameter of the PVC-coated conduit. Support products such as ferrous strut, beam clamps, pipe straps, clamp back spacers, conduit clamp hangers and all-thread rods shall have a minimum 15-mil PVC coating by the manufacturer of the ERMC conduit and system components.

F. STAINLESS STEEL FITTINGS

Stainless steel liquid-tight fittings shall be made of 304-grade stainless steel or better.

G. STAINLESS STEEL STRUT, HANGERS, ETC.

Stainless steel strut, beam clamps, pipe straps, clamp back spacers, conduit clamp hangers and all-thread rods shall be made of 304-grade stainless steel or better.

Part 3 – Execution

3.1 Examination

A. The PVC-coated ERMC and system components have been selected for use in an atmosphere considered to be corrosive for this project. The corrosive atmosphere is considered to be more damaging than merely the presence of moisture. Accordingly, conduit and the corresponding fittings for it must have PVC protection as described under Part 2 – Products. Conduit and fittings that are merely galvanized for this purpose are insufficient.

3.2 Preparation

A. Preparation shall be done in accordance with manufacturer's printed instructions.

3.3 Installation

A. Install in accordance with manufacturer's printed instructions and manufacturer's installation training.

3.4 Quality Control

A. General: Comply with requirements of Section 01 45 13.

3.5 Manufacturer's Field Services

A. Free on-site installation training course by company representative. This representative must conduct the on-site training course in order to qualify for the installation certificate. The time required for this training is estimated to be two (2) hours.

B. After the on-site training installation, the representative shall then register the installer in his database and provide certification for installation.

END OF SECTION

Notes

1. *Ocal PVC-coated conduit and fittings are not recommended for use in areas where they will be exposed to sustained temperatures above 200 degrees Fahrenheit or exposed to fire. Prolonged exposure to heat greater than 200 degrees Fahrenheit or exposure to fire may cause the plastic coatings to release harmful emissions, posing a potential health hazard to persons subjected to such emissions.*
2. *If subjected to sustained flame or sustained heat above 400 degrees Fahrenheit, PVC will burn. PVC is self-extinguishing at room temperature.*

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Ocal® Recommended Installation Procedures

PVC-coated conduit is installed in much the same manner as conventional rigid galvanized steel conduit; however, certain precautions must be taken to protect the exterior coating and ensure satisfactory results. By following these guidelines and using the proper tooling, a damage-free installation can be achieved.

When an engineer has specified Ocal® PVC-coated conduit, the intent is for the total run to be PVC coated. There are no exceptions to this rule. This means from the beginning of the run to its completion and all in between, no exposed metal shall be allowed.

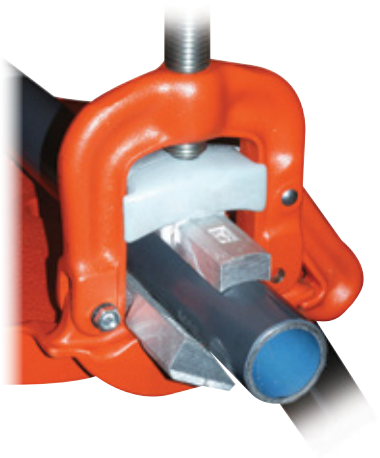
Clamping in a Yoke-Style Vise

The first step is the correct clamping of the PVC-coated conduit.

When you use a yoke-style vise, you should replace both the upper and lower jaw inserts with the specially designed Ocal® jaw vise adapters. These adapters provide greater clamping force and prevent the pipe from spinning during the threading process. (See Catalog No. JAWS23 on **page E-437).**



Ocal Jaw Vise Adapters
JAWS23
See ***page E-437***



Clamping in a Chain-Style Vise

If a chain-style vise is used, the chain — as well as the jaw inserts — will tear the PVC coating when the threading force is applied.

To prevent this from happening, installers sometimes make “shells” from PVC pipe or standard rigid steel conduit that fit over the PVC-coated conduit. To save time and obtain more consistency, longer life and better protection, you can use the Ocal half-shell clamps featured on **page E-436**.

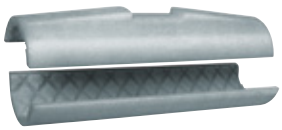
Available in trade sizes ½" to 6", Ocal half-shell clamps are made from ductile iron for superior strength and durability. They feature a cross-hatched interior surface designed to safeguard the PVC coating while holding the conduit securely in a chain-style vise.



Chain-Style Vise
ROTH00076
See ***page E-436***



Half-Shell Clamp Sets
HLF-SHL-CLP-SET1
See ***page E-436***



Half-Shell Clamps
for conduit sizes ½" to 6"
HLF-SHL-CLP-_
See ***page E-436***

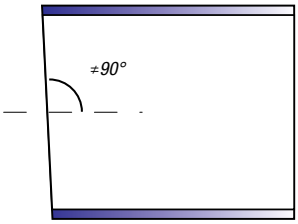
Technical Information

Cutting with a Band Saw Cutter

A band saw cutter will cut the PVC coating flush with the end of the conduit. PVC material cut flush to the end of the conduit will not allow the die teeth to bite into the steel to start the threading process.

Therefore, before threading, you must remove approximately ¼" of the PVC coating from the end of the conduit. Using a knife, whittle in a pencil-sharpening style, cutting the coating from the conduit. A wire brush may also be used to remove PVC coating.

A band saw cutter usually will not cut the conduit at a "perfect" 90° angle (the accuracy of this cut depends heavily on the skill of the operator).









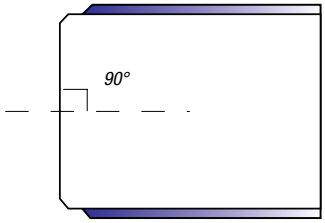




Cutting with a Roller-Style Cutter

Although most personnel in the field prefer a band saw cutter, a roller-style cutter is the recommended tool for cutting Ocal PVC-coated conduit.

A roller-style cutter cuts the edge of the conduit at a bevel and removes ¼" of the coating at the same time. In addition, a roller-style cutter provides an exact 90° cut in relation to the conduit. No additional removal of PVC coating is necessary.





Steel Pipe Cutters
P70045C,
P70060C
See ***page E-437***







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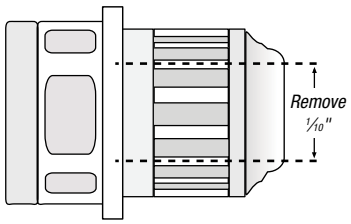
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Manual and Hand-Held Threading

PVC-coated conduit has a larger O.D. than uncoated conduit. Standard dies will not clear the additional thickness. Hand-held as well as power threading devices require a die head for the correct size conduit. The standard die head is factory set for rigid conduit and will not fit over PVC coating. These die heads are available from Ocal, machined for use with PVC-coated conduit. You can have standard dies machined as well.

If you have dies machined, you will need to adhere to the following procedure:

1. Remove the cover plate and the four die teeth.
2. Have the machinist remove 100 thousandths of an inch (1/10") from the throat and collar diameter of the die head.
3. Replace the dies and cover.





SUPER CUT Die Head Set
P70905C
See ***page E-435***





Throat & Collar Shown





Cover Plate Shown



The die teeth are cutting tapered threads and will become clogged with PVC and metal shavings.





To prevent clogging, use a knife and score the conduit lengthwise from the point where the threads will end to where they begin. This will allow the PVC and metal shavings to fall into the throat of the die head.

Threading

Manual Hand-Held Threading

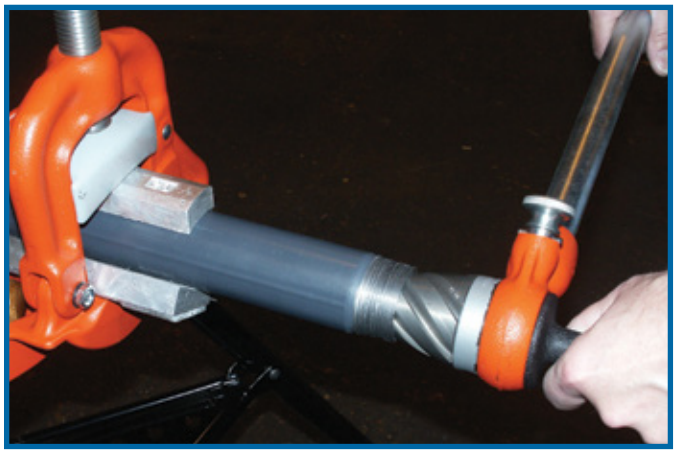
Manual, ratchet-style threaders, such as the Rothenberger SUPER CUT ratchet threader, are typically used for smaller size conduit. The ratchet knob indicates forward and reverse. Die heads snap in from both sides and lock in place.

Hand-Held Powered Threading

The Rothenberger MINI-COLLINS® is a heavy-duty hand-held power tool typically used for conduit up to 2" in diameter. Hand-held power threaders such as the Rothenberger SUPERTRONIC® 2000 are available with die heads for PVC-coated conduit. The Rothenberge MINI-COLLINS® uses Rothenberger SUPER CUT dies. Optional tool cases are available.



Rothenberger SUPERTRONIC® 2000
P71259C
See ***page E-434***



Ream the conduit with approved reamers. Spiral and straight-style reamers are both acceptable.



Rothenberger MINI-COLLINS®
ROTH00074
See ***page E-435***

The threads must be dressed per NEC® Article 300.6 [a]: "Where unusually corrosive elements require additional protection, it is recommended that threads be zinc coated with a hot dipped process or equivalent."

Use a good quality degreaser and apply Ocal interior touch-up compound or T&B KOPR-SHIELD®.



Ocal Urethane Patching Compound
See ***page E-439***



KOPR-SHIELD®
See ***page E-439***



Rothenberger Reamer
70289
See ***page E-437***

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Geared Threading

Geared threaders will thread 2½" through 6" PVC coated conduit. However, geared threaders are typically only used for 5" and 6" conduit. The cutting dies are adjustable and will not require pencil cutting the conduit.

The geared threader requires a clamp screw to secure the conduit, and the clamp screw will penetrate the PVC coating. Make certain the clamp screw is tight; otherwise, it will slip around the conduit and tear the coating. After the threading process is complete, touch up the penetrated area with Ocal exterior PVC patching compound (see **pages E-439–E-440**).

Ream the conduit and dress the threads as previously described.



Ridgid Geared Threader ("Hog Head")



Rothenberger MINI-COLLINS®
ROTH00074
*See **page E-435***

Stationary Power Threading

Rothenberger RHINO®

The Rothenberger RHINO® threading machine featured on **page E-434**, Catalog No. P00551C, which comes equipped with jaws for PVC-coated conduit up to 4", is the recommended choice for threading Ocal® PVC-coated conduit.

With the Rothenberger RHINO®, you won't need to pencil cut or score the PVC, because this machine uses a roller cutter and will remove ¼" of the PVC coating. Cuttings will fall onto the screen on the lower portion of the machine.

Machines that use centrifugal force (slap chucks) — other than the Rothenberger RHINO®, Catalog No. P00551C — to tighten the jaws around the conduit can be used, but only with shell clamps attached. These types of threaders will damage the PVC coating without the use of shell clamps.



Rothenberger RHINO®
P00551C
*See **page E-434***

Technical Information

Bending

Never use any type of lubricant on the shoes. Use rubbing alcohol to clean the shoe prior to bending.

Hand Bending

A standard hand bender can be used for saddles, offsets and conventional bending. For PVC-coated conduit, the next larger shoe size from the EMT size should be used. The chart below shows the catalog numbers of the hand benders on **page E-433** and the corresponding size of PVC-coated conduit on which they should be used.

CAT. NO.	PVC-COATED CONDUIT SIZE
35220	½"
35225	¾"
2424A8	1"



Hand Bender
*See **page E-433***



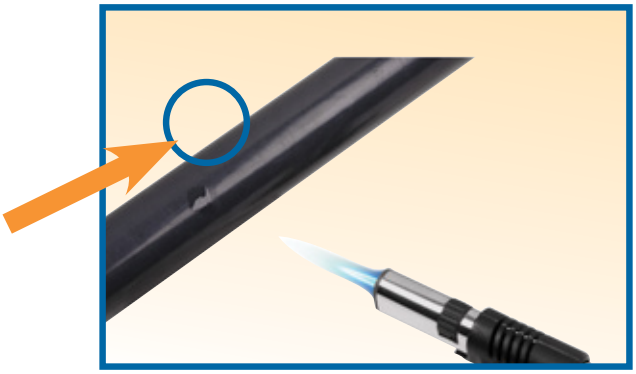
Chicago Bender



Ocal® Air-Cure Patching Compounds
*See **page E-439***



Ocal® Heat-Cure Patch
*See **page E-440***



Ocal® Heat-Cure Patch offers a thicker consistency at higher ambient temperatures than standard air-cure compounds, ensuring better coverage and a more effective patch in warm weather applications.

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Technical Information

Electric Bending

These machines are designed for bending ½" through 2" conduit. The shoes as well as the roller assembly should be of the design for use with PVC-coated conduit. Listed along with the Greenlee® electric bender on **page E-433** are the bending accessories to equip the machine for PVC-coated conduit.

If you use conventional shoes on an electric bender, the shoes and each of the rollers in the roller assembly must be machined 60 thousandths. Some manufacturers use slide bars instead of a roller assembly, and these, too, must be machined 60 thousandths. Be sure to compensate for "spring back," since PVC coating often requires the setting to be off as much as 5°.



*Greenlee® Model 555 Bender (left) and bending accessories for PVC-coated conduit (below) See **page E-433***

Hydraulic Bending

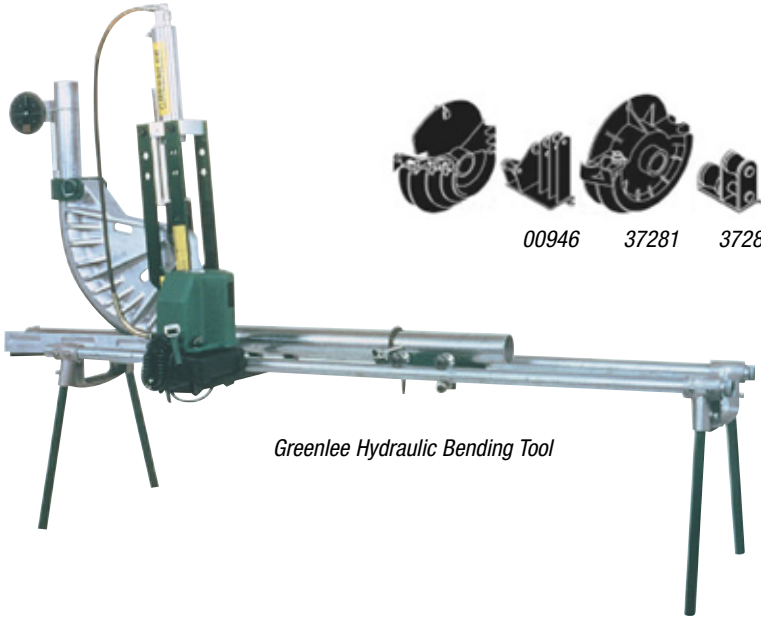
This is the preferred style of bending for 2½" and larger size conduit. The shoe assembly should be of the design for PVC-coated conduit. The roller wheel and/or slide bar will accommodate PVC-coated conduit without the need for machining.

CAT. NO.	PVC-COATED CONDUIT SIZE
35220	½"
35225	¾"
2424A8	1"



Shoe for Greenlee Hydraulic Bending Tool

Note: *Sequential bends can be manufactured by Ocal upon request. 5" and 6" conduit must be bent at the factory.*



Greenlee Hydraulic Bending Tool

00946 37281 37282

NEMA Standards Publication No. RN 1–2005

Underwriter Laboratories, Inc. (UL®)

333 Pfingsten Road, Northbrook, IL 60062

UL® 6-2007 Safety Standard for Electrical Rigid Metal Conduit – Steel

Section 3 — External Coatings

3.1 Thickness

The thickness of polyvinyl chloride (PVC) coatings shall be a nominal .040 in. (1.02mm). The tolerance on the coating thickness shall be +.010 in. (.25mm) or -.005 in. (.13mm).

3.2 Coating Material

The PVC coating shall have the properties specified in **Table 3-1**.

Properties of PVC Coatings — Table 3.1

PROPERTY	MINIMUM REQUIREMENT	ASTM TEST METHOD
Hardness:		
Shore A	75	D 2240
Shore D	25	D 2240
Tensile Strength	2,000 psi	D 638
Elongation	200%	D 638
Dielectric strength	325 volts per mil	D 149
Brittleness temperature	5° F	D 1790

3.3 Application of Coating

3.3.1 Cleaning

The exterior surface that is to receive the coating shall be free of grease, oil, dirt and other extraneous matter. **The surface shall be cleaned in such a manner that the galvanized surface of the conduit is not harmed or eroded.**

3.3.2 Priming

The cleaned exterior surface shall be primed with an adhesive suitable for use with the PVC coating material to be applied.

3.3.3 Coating

The PVC material shall be applied in powder, plastisol or pellet form by a manufacturing method which will produce a finished product conforming to these standards.

3.4 Elbows

Coated elbows shall be used with coated conduit. The thickness of the coating on elbows shall be in accordance with Section 3.1.

3.5 Couplings

Coated couplings shall be used with coated conduit. The thickness of the coating on couplings shall be at least equal to the thickness of the coating on the conduit.

Each coated coupling shall have a flexible PVC sleeve which extends from each end of the coupling and which will overlap the PVC coating on the conduit when the coupling has been installed on the conduit.

The length of the sleeve extension(s) shall be at least equivalent to the nominal conduit size for sizes up through NPS 2 (53). For sizes NPS 2½ (63) through NPS 6 (155), the length of the sleeve extension(s) shall be at least 2 in. (50.8mm).

The PVC sleeve shall be a nominal thickness of .040 in. (1.02mm). The inside diameter (I.D.) of the overlapping sleeve shall be less than the outside diameter (O.D.) of the PVC-coated conduit.

3.6 Workmanship and Appearance

The PVC coating shall be free of blisters, bubbles and pinholes. The PVC coating shall be continuous over the entire length of the conduit except at the threads and shall be holiday-free at the time of manufacture.

A holiday is herein defined as an electrical discontinuity of less than 80,000 ohms equivalent resistance sensed with a cellulose sponge wet with a suitable electrolyte and measured with an appropriate low voltage direct-current instrument. A suitable electrolyte is a solution containing tap water, 3.0% salt (sodium chloride) and .5% liquid detergent.

The inside of the PVE-coated conduit, couplings and elbows shall be free of the PVC coating material.

All sleeve extensions shall be square cut.

3.7 Performance Requirements

Typical physical requirements for PVC-coated conduit are given in **Table 3-2**.

Typical Physical Properties of PVC-Coated Rigid Conduit and IMC — Table 3.2

PROPERTY	REQUIREMENT*	TEST METHOD
Abrasion resistance	200 hours, no failure	ASTM G6
Bendability, radius ***(at 73.4° ± 1.8° F)***	9 in. (228.6mm)	ASTM G10
Artificial weathering	Minimum 1,000 hours, no adverse effect	ASTM G153

** The above requirements are based on testing a .040 in. (1.02mm) PVC coating applied over NPS ¾ inch galvanized rigid steel conduit. See Section 1 for information on the ASTM test methods.*

3.8 Adhesion

The adhesion of the PVC coating to the conduit shall be greater than the strength of the coating itself. This shall be determined by making two circumferential cuts, above ½ in. (12.7mm) apart, through the plastic to the substrate. A third cut shall be made perpendicular to and crossing the circumferential cuts. The edge of the plastic shall be carefully lifted with a knife to form a plastic tab. This tab shall be pulled perpendicular to the conduit with a pair of pliers. The plastic tab shall tear rather than any additional coating film separating from the substrate.

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Carlon®

Carlon® PVC Elbows, Conduit & Fittings

In this section...



Carlon® PVC Elbows, Conduit & Fittings

Elbows, Sweeps and Accessories E-454–E-481
Conduit Bodies (for use with Schedule 40 and 80 Conduit) E-482–E-487
Switch and Junction Boxes E-488–E-492
Straps, Clamps and Accessories E-493–E-496
Spacers E-497–E-502
P&C Flex® Conduit and Fittings E-503–E-507
Carflex® Liquidtight Flexible Conduit and Fittings E-508–E-515
Technical Information E-516–E-518

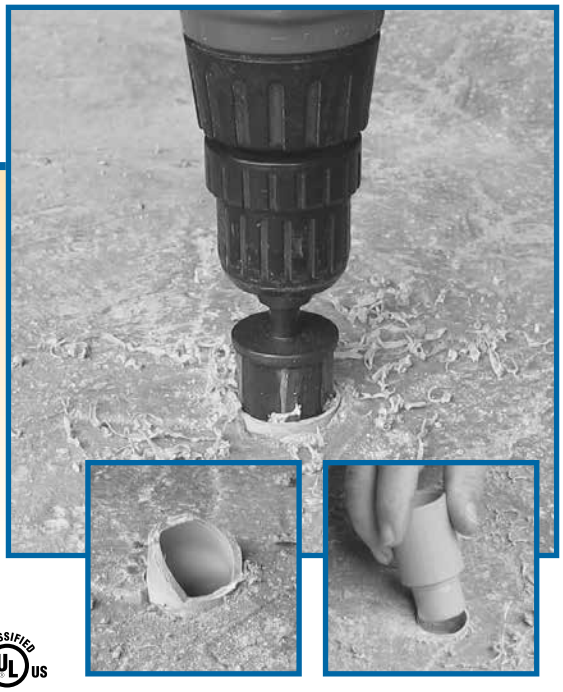
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Elbows, Sweeps and Accessories

A job that normally takes 20 minutes — DONE in two minutes or less!

Carlon® PVC Conduit Repair System



The new, revolutionary design Carlon® PVC Conduit Repair System significantly reduces the time and money associated with repairing broken PVC conduits, a.k.a. "stub-ups", in concrete slabs.

The system includes a line of couplings, adapters, reamers and plugs designed to enable contractors to quickly and easily repair broken PVC conduits without having to chip away and repour concrete, while still maintaining the inside diameter of the conduit. Simply cut off the broken conduit, ream the I.D. of the conduit and insert a coupling or adapter. It's that easy. A job that normally takes 20 minutes can now be done in two minutes or less!

Features:

- cULus Listed
- PVC repair fittings are listed in accordance with the NEC® and Section 352.6
- Non-metallic couplings, adapters and plugs won't rust or corrode
- Available in sizes ½" through 2"

Benefits:

- Saves time and money
- Maintains inside diameter of conduit
- Metallic reamers for extra strength, durability and longer life
- Quickly and easily repair broken PVC conduits

E2969

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Male Threaded Adapter



Reamer



Reamer Kit



Coupling



Plug

Reamers

CAT. NO.	TRADE SIZE (IN.)	STD. CTN.
E910REAMD	½	12
E910REAME	¾	12
E910REAMF	1	10
E910REAMG	1¼	10
E910REAMH	1½	10
E910REAMJ	2	10
E910REAMKIT	All Sizes	5

Male Threaded Adapters

CAT. NO.	TRADE SIZE (IN.)	STD. CTN.
E920D	½	25
E920E	¾	25
E920F	1	15
E920G	1¼	10
E920H	1½	10
E920J	2	10

Couplings

CAT. NO.	TRADE SIZE (IN.)	STD. CTN.
E910D	½	25
E910E	¾	25
E910F	1	15
E910G	1¼	10
E910H	1½	10
E910J	2	10

Schedule 40 Plugs

CAT. NO.	SIZE (IN.)	COLOR	CAT. NO.	SIZE (IN.)	COLOR	CAT. NO.	SIZE (IN.)	COLOR	STD. CTN.
HL-6XR	½	Red	HL-6XB	½	Blue	HL-6XY	½	Yellow	1 Bag of 50
HL-10R	¾	Red	HL-10B	¾	Blue	HL-10Y	¾	Yellow	1 Bag of 50
HL-13AR	1	Red	HL-13AB	1	Blue	HL-13AY	1	Yellow	1 Bag of 50
HL-16R	1¼	Red	HL-16B	1¼	Blue	HL-16Y	1¼	Yellow	1 Bag of 50
HL-18R	1½	Red	HL-18B	1½	Blue	HL-18Y	1½	Yellow	1 Bag of 50
HL-21R	2	Red	HL-21B	2	Blue	HL-21Y	2	Yellow	1 Bag of 50

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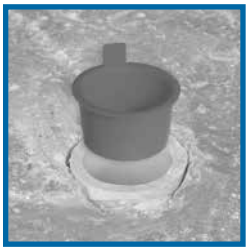
PVC Conduit Repair System Instructions

1 Cut broken conduit off flush.





2 Insert plug to keep conduit clean/dry through balance of rough-in. Once rough-in is complete, remove plug and **continue with Step 3**.



Alternative to Conduit Repairs:
Prior to concrete pour, measure and saw cut all conduit stub-ups to the thickness of the concrete pour. Insert plugs. Pour concrete flush to the conduit. When pour is complete, remove plugs and **proceed with Step 3**. This alternative method saves time/money by eliminating the need for transitions or use of metal elbows.

3 With reamer tool and standard ½" drill, ream I.D. of conduit. It is recommended to use a variable speed drill. Use slower speed to avoid overheating the conduit.



4 The guide will direct the cutter; the stop will touch when completed.



5 Insert the coupling and cement into place using the cement manufacturer's instructions.

Cementing Instructions:

A. Clean socket I.D. and spigot O.D. of dirt and moisture.

B. Apply a uniform coat of cement to spigot end and push onto socket bottom, rotating ¼ turn.

C. Allow time to set before disturbing. This will depend upon temperature.



Apply a uniform coat of cement.



Insert fitting.



Rotate quarter turn.

Carlon® Rigid Non-Metallic Conduit (RNC) Fittings & Accessories

Carlon® Schedule 40 and Schedule 80 fittings are designed for use aboveground and underground as described in the National Electrical Code®.

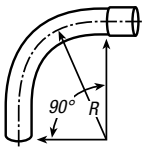
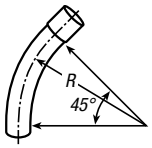
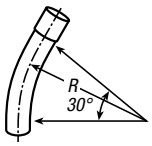
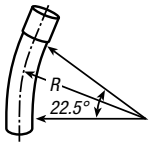
- **Ease of installation** — Non-metallic fittings are ¼ to ⅕ the weight of metallic systems, can be installed in less than half the time and are easily fabricated on the job.
- **Safety** — Non-metallic fittings are nonconductive, assuring a safe system.
- **Impact Resistant** — Schedule 40 and Schedule 80 non-metallic fittings are resistant to sunlight and are listed for exposed for outdoor usage. The use of expansion fittings allows the system to expand and contract with temperature variations.
- **Corrosion Resistant** — Carlon® fittings are non-metallic and will not rust or corrode. Carlon® non-metallic Schedule 40 and Schedule 80 elbows are manufactured to NEMA TC-2, Federal specification WC1094A and UL 651 specifications. Fittings are manufactured to NEMA TC-3, Federal specification WC1094A and UL514B. Both conduit and fittings carry respective UL or ETL Listings and UL or ETL labels.

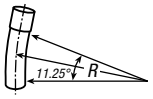
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Elbows, Sweeps and Accessories

Schedule 40 Elbows — Standard Radius

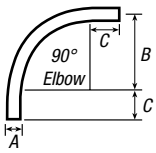
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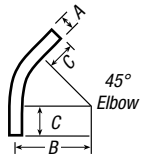
ITEM	PLAIN END CAT. NO.	BELLED END CAT. NO.	SIZE	PLAIN END STD. CTN.	BELLED END STD. CTN.
90° ELBOW	UA9AD	UA9ADB	½	50	50
	UA9ADR-CAR	UA9ADB	½	25	50
	UA9AE	UA9AEB	¾	25	25
	UA9AFR-CTN	UA9AFB-CTN	1	25	25
	UA9AG	UA9AGB	1¼	20	20
	UA9AH	UA9AHB	1½	25	25
	UA9AJ	UA9AJB	2	20	20
	UA9AK-CAR	UA9AKB-CAR	2½	10	10
	UA9AL	UA9ALB	3	1	5
	UA9AM	UA9AMB	3½	1	20
	UA9AN	UA9ANB	4	1	1
	UA9AP	UA9APB	5	1	1
	UA9AR	UA9ARB	6	1	1
45° ELBOW	UA7AD	UA7ADB	½	50	50
	UA7AE	UA7AEB	¾	25	25
	UA7AF	UA7AFB	1	20	20
	UA7AF-CAR	UA7AFB	1	15	20
	UA7AG	UA7AGB	1¼	20	20
	UA7AH	UA7AHB	1½	20	20
	UA7AJ	UA7AJB	2	20	20
	UA7AJ-CAR	—	2	4	—
	UA7AK	UA7AKB	2½	20	20
	UA7AL	UA7ALB	3	5	25
	UA7AM	UA7AMB	3½	1	20
	UA7AN	UA7ANB	4	1	20
	UA7AP	UA7APB	5	1	1
	UA7AR	UA7ARB	6	1	1
30° ELBOW	UA6AD	UA6ADB	½	50	50
	UA6AE	UA6AEB	¾	25	25
	UA6AF	UA6AFB	1	25	1
	UA6AG	UA6AGB	1¼	20	20
	UA6AH	UA6AHB	1½	25	1
	UA6AJ	UA6AJB	2	20	20
	UA6AK	UA6AKB	2½	10	20
	UA6AL	UA6ALB	3	1	1
	UA6AM	UA6AMB	3½	1	1
	UA6AN	UA6ANB	4	1	1
	UA6AP	UA6APB	5	1	1
	UA6AR	UA6ARB	6	1	1
22½° ELBOW	UA5AD	—	½	1	—
	UA5AE	—	¾	1	—
	UA5AF	—	1	1	—
	UA5AG	—	1¼	1	—
	UA5AH	—	1½	1	—
	UA5AJ	UA5AJB	2	25	1
	UA5AK	—	2½	20	—
	UA5AL	UA5ALB	3	5	1
	UA5AM	—	3½	1	—
	UA5AN	UA5ANB	4	1	1
	UA5AP	UA5APB	5	1	1
	UA5AR	UA5ARB	6	1	1

ITEM	PLAIN END CAT. NO.	BELLED END CAT. NO.	SIZE	PLAIN END STD. CTN.	BELLED END STD. CTN.
11¼° ELBOW	UA3AD	—	½	1	—
	UA3AE	—	¾	1	—
	UA3AF	—	1	1	—
	UA3AG	—	1¼	1	—
	UA3AH	—	1½	1	—
	UA3AJ	—	2	1	—
	UA3AK	—	2½	1	—
	UA3AL	—	3	1	—
	UA3AM	—	3½	1	—
	UA3AN	UA3ANB	4	1	1
	UA3AP	—	5	1	—
	UA3AR	—	6	1	—

Available in plain and integral belled end for use with non-metallic solvent weld fittings.

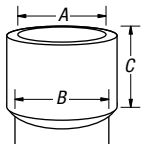
Standard Radius Elbow Dimensions (per NEC®)





SIZE (IN.)	A (IN.)	B MINUS (RADIUS) (IN.)	C MIN. (IN.)
½	.840	4	1½
¾	1.050	4½	1½
1	1.315	5¾	1⅞
1¼	1.660	7¼	2
1½	1.900	8¼	2
2	2.375	9½	2
2½	2.875	10½	3
3	3.500	13	3⅛
3½	4.000	15	3¼
4	4.500	16	3⅜
5	5.563	24	3⅝
6	6.625	30	3¾

Integral Belled End Dimensions



TRADE SIZE (IN.)	A (IN.) AT ENTRANCE MAX.	A (IN.) AT ENTRANCE MIN.	B (IN.) AT BOTTOM MAX.	B (IN.) AT BOTTOM MIN.	C (IN.) SOCKET DEPTH MAX.	C (IN.) SOCKET DEPTH MIN.
½	.860	.844	.844	.828	1.500	.652
¾	1.074	1.054	1.056	1.036	1.500	.719
1	1.340	1.320	1.320	1.300	1.875	.875
1¼	1.689	1.665	1.667	1.643	2.000	.938
1½	1.930	1.906	1.906	1.882	2.000	1.062
2	2.405	2.381	2.381	2.357	2.000	1.125
2½	2.905	2.875	2.883	2.853	3.000	1.469
3	3.530	3.500	3.507	3.477	3.125	1.594
3½	4.065	3.965	4.007	3.977	3.250	1.687
4	4.565	4.465	4.506	4.476	3.375	1.750
5	5.643	5.543	5.583	5.523	3.625	1.937
6	6.708	6.608	6.644	6.584	3.750	2.125

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Fax: 901.252.1354

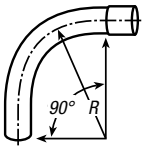
Technical Services
Tel: 888.862.3289

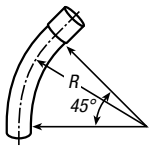
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Elbows, Sweeps and Accessories

Schedule 40 Elbows — Special Radius

UL LISTED E23018

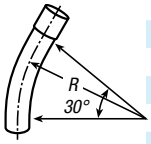
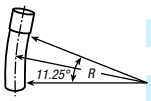
SEGMENT	PLAIN END CAT. NO.	BELLED END CAT. NO.	NOM. DIAM. (IN.)	RADIUS (IN.)	PLAIN END STD. CTN.	BELLED END STD. CTN.
90° ELBOW	UA9CF	UA9CFB	1	18	1	1
	UA9DF	UA9DFB	1	24	1	1
	UA9EF	UA9EFB	1	30	1	1
	UA9FF	—	1	36	1	—
	UA9HF	—	1	48	1	—
	UA9CG	UA9CGB	1¼	18	1	1
	UA9DG	UA9DGB	1¼	24	1	1
	UA9EG	UA9EGB	1¼	30	1	1
	UA9FG	UA9FGB	1¼	36	1	1
	UA9HG	—	1¼	48	1	—
	UA9CH	UA9CHB	1½	18	1	1
	UA9DH	UA9DHB	1½	24	1	1
	UA9EH	UA9EHB	1½	30	1	1
	UA9FH	UA9FHB	1½	36	1	1
	UA9HH	—	1½	48	1	—
	UA9CJ	UA9CJB	2	18	1	1
	UA9DJ	UA9DJB-UPC	2	24	1	1
	UA9EJ	UA9EJB	2	30	1	1
	UA9FJ-UPC	UA9FJB	2	36	1	1
	UA9HJ	UA9HJB	2	48	1	1
	UA9JJ	—	2	72	1	—
	UA9CK	UA9CKB	2½	18	1	1
	UA9DK	UA9DKB-UPC	2½	24	1	1
	UA9EK	UA9EKB	2½	30	1	1
	UA9FK-UPC	UA9FKB	2½	36	1	1
	UA9HK	UA9HKB	2½	48	1	1
	UA9CL	UA9CLB	3	18	1	1
	UA9DL	UA9DLB-UPC	3	24	1	1
	UA9EL	UA9ELB	3	30	1	1
	UA9FL	UA9FLB	3	36	1	1
	UA9HL	UA9HLB	3	48	1	1
	UA9IL	—	3	60	1	—
	UA9DM	UA9DMB	3½	24	1	1
	UA9EM	UA9EMB	3½	30	1	1
	UA9FM	UA9FMB	3½	36	1	1
	UA9HM	UA9HMB	3½	48	1	1
	—	UA9CNB	4	18	—	1
	UA9DN	UA9DNB	4	24	1	1
	UA9EN	UA9ENB	4	30	1	1
	UA9FN	UA9FNB	4	36	1	1
	UA9HN	UA9HNB	4	48	1	1
	UA9IN	UA9INB	4	60	1	1
	UA9JN	—	4	72	1	—
	UA9EP	UA9EPB	5	30	1	1
	UA9FP	UA9FPB	5	36	1	1
	UA9HP	UA9HPB	5	48	1	1
	UA9IP	UA9IPB	5	60	1	1
	UA9FR	UA9FRB	6	36	1	1
	UA9HR	UA9HRB	6	48	1	1
	UA9IR	UA9IRB	6	60	1	1
	—	UA9TRB	6	180	—	1
	UA9HT*	—	8	48	1	—

SEGMENT	PLAIN END CAT. NO.	BELLED END CAT. NO.	NOM. DIAM. (IN.)	RADIUS (IN.)	PLAIN END STD. CTN.	BELLED END STD. CTN.
45° ELBOW	UA7CF	—	1	18	1	—
	UA7DF	—	1	24	1	—
	UA7EF	—	1	30	1	—
	UA7FF	—	1	36	1	—
	UA7HF	—	1	48	1	—
	UA7CG	—	1¼	18	1	—
	UA7DG	—	1¼	24	1	—
	UA7EG	—	1¼	30	1	—
	UA7FG	—	1¼	36	1	—
	UA7HG	—	1¼	48	1	—
	UA7CH	—	1½	18	1	—
	UA7DH	—	1½	24	1	—
	UA7EH	—	1½	30	1	—
	UA7FH	UA7FHB	1½	36	1	1
	UA7HH	—	1½	48	1	—
	—	UA7BJB	2	12	—	1
	UA7CJ	UA7CJB	2	18	1	1
	UA7DJ	UA7DJB	2	24	1	1
	UA7EJ	UA7EJB	2	30	1	1
	UA7FJ	UA7FJB	2	36	1	1
	UA7HJ	UA7HJB	2	48	1	1
	UA7SJ	—	2	150	1	—
	UA7CK	—	2½	18	1	—
	UA7DK	UA7DKB	2½	24	1	1
	UA7EK	—	2½	30	1	—
	UA7FK	UA7FKB	2½	36	1	1
	UA7HK	—	2½	48	1	—
	UA7CL	UA7CLB	3	18	1	1
	UA7DL	UA7DLB	3	24	1	1
	UA7EL	UA7ELB	3	30	1	1
	UA7FL	UA7FLB	3	36	1	1
	UA7HL	UA7HLB	3	48	1	1
	UA7DM	—	3½	24	1	—
	UA7EM	—	3½	30	1	—
	UA7FM	—	3½	36	1	—
	UA7DN	UA7DNB	4	24	1	1
	UA7EN	UA7ENB	4	30	1	1
	UA7FN	UA7FNB	4	36	1	1
	UA7HN	UA7HNB	4	48	1	1
	—	UA7NNB	4	120	—	1
	UA7SN	UA7SNB	4	150	1	1
	UA7EP	UA7EPB	5	30	1	1
	UA7FP	UA7FPB	5	36	1	1
	UA7HP	UA7HPB	5	48	1	1
	—	UA7IPB	5	60	—	1
	—	UA7NPB	5	120	—	1
	—	UA7SPB	5	150	—	1
	UA7FR	UA7FRB	6	36	1	1
	UA7HR	UA7HRB	6	48	1	1
	UA7FT*	—	8	36	1	—
	UA7HT*	—	8	48	1	—

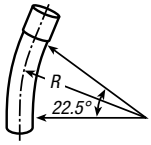
***Note**: Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*
** 8" elbows are not UL Listed.*

Schedule 40 Elbows — Special Radius *(continued)*

UL LISTED E23018

SEGMENT	PLAIN END CAT. NO.	BELLED END CAT. NO.	NOM. DIAM. (IN.)	RADIUS (IN.)	PLAIN END STD. CTN.	BELLED END STD. CTN.
30° ELBOW	UA6CJ	—	2	18	1	—
	UA6DJ	UA6DJB	2	24	1	1
	UA6FJ	UA6FJB	2	36	1	1
	UA6HJ	UA6HJB	2	48	1	1
	UA6CK	—	2½	18	1	—
	UA6DK	—	2½	24	1	—
	UA6CL	—	3	18	1	—
	UA6DL	UA6DLB	3	24	1	1
	UA6FL	UA6FLB	3	36	1	1
	UA6HL	UA6HLB	3	48	1	1
	UA6DM	—	3½	24	1	—
	UA6FM	—	3½	36	1	—
	UA6HM	—	3½	48	1	—
	UA6DN	—	4	24	1	—
	UA6FN	UA6FNB	4	36	1	1
	UA6HN	UA6HNB	4	48	1	1
	UA6FP	UA6FPB	5	36	1	1
	UA6HP	UA6HPB	5	48	1	1
	UA6FR	UA6FRB	6	36	1	1
	UA6HR	UA6HRB	6	48	1	1
11¼° ELBOW	UA3DJ	UA3DJB	2	24	1	25
	UA3FJ	UA3FJB	2	36	1	1
	UA3HJ	—	2	48	1	—
	UA3HK	—	2½	48	1	—
	UA3DL	UA3DLB	3	24	1	1
	UA3FL	UA3FLB	3	36	1	1
	UA3HL	—	3	48	1	—
	UA3DM	—	3½	24	1	—
	UA3HM	—	3½	48	1	—
	UA3DN	UA3DNB	4	24	1	1
	UA3FN	UA3FNB	4	36	1	1
	—	UA3SNB	4	150	—	1
	UA3HN	UA3HNB	4	48	1	1
	UA3FP	UA3FPB	5	36	1	1
	UA3HP	—	5	48	1	—
	—	UA3UPB	5	240	—	1
	UA3FR	UA3FRB	6	36	1	1
	UA3HR	—	6	48	1	—
	UA3FT*	—	8	36	1	—

Consult factory for additional sizes/configurations.

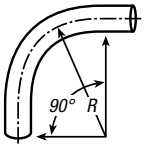
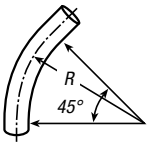
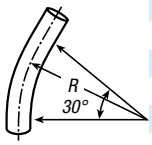
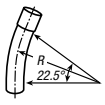
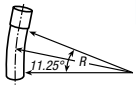
SEGMENT	PLAIN END CAT. NO.	BELLED END CAT. NO.	NOM. DIAM. (IN.)	RADIUS (IN.)	PLAIN END STD. CTN.	BELLED END STD. CTN.
22½° ELBOW	UA5FF	—	1	36	1	—
	UA5FG	—	1¼	36	1	—
	UA5FH	UA5FHB	1½	36	1	1
	UA5CJ	UA5CJB	2	18	1	1
	UA5DJ	UA5DJB	2	24	1	25
	UA5EJ	UA5EJB	2	30	1	1
	UA5FJ	UA5FJB	2	36	1	1
	UA5HJ	—	2	48	1	—
	UA5VJ	—	2	300	1	—
	UA5CK	—	2½	18	1	—
	UA5DK	—	2½	24	1	—
	UA5EK	—	2½	30	1	—
	UA5FK	—	2½	36	1	—
	UA5HK	—	2½	48	1	—
	—	UA5CLB	3	18	—	1
	UA5DL	UA5DLB	3	24	1	1
	UA5EL	UA5ELB	3	30	1	1
	UA5FL	UA5FLB	3	36	1	1
	UA5HL	—	3	48	1	—
	UA5VL	—	3	300	1	—
	UA5DM	—	3½	24	1	—
	UA5EM	—	3½	30	1	—
	UA5FM	—	3½	36	1	—
	UA5HM	—	3½	48	1	—
	UA5DN	UA5DNB	4	24	1	1
	UA5EN	UA5ENB	4	30	1	1
	UA5FN	UA5FNB	4	36	1	1
	UA5HN	UA5HNB	4	48	1	1
	UA5IN	—	4	60	1	—
	UA5JN	—	4	72	1	—
	UA5SN	UA5SNB	4	150	1	1
	—	UA5UNB	4	240	—	1
	—	UA5VNB	4	300	—	1
	—	UA5DPB	5	24	—	1
	UA5EP	UA5EPB	5	30	1	1
	UA5FP	UA5FPB	5	36	1	1
	UA5HP	UA5HPB	5	48	1	1
	UA5IP	—	5	60	1	—
	UA5SP	—	5	150	1	—
	—	UA5UPB	5	240	—	1
	—	UA5VPB	5	300	—	1
	UA5FR	UA5FRB	6	36	1	1
	UA5HR	UA5HRB	6	48	1	1
	UA5IR	—	6	60	1	—
	UA5RR	—	6	144	1	—
	UA5SR	—	6	150	1	—
	UA5VR	—	6	300	1	—
	UA5FT*	—	8	36	1	—
	UA5HT*	—	8	48	1	—

***Note**: Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*
** 8" elbows are not UL Listed.*

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Schedule 80 Elbows

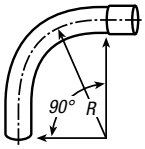
Standard Radius

ITEM	PLAIN END CAT. NO.	BELLED END CAT. NO.	SIZE (IN.)	PLAIN END STD. CTN.	BELLED END STD. CTN.
90° ELBOW 	UB9AD	—	½	50	—
	UB9AE	—	¾	25	—
	UB9AF	—	1	25	—
	UB9AG	—	1¼	20	—
	UB9AH	—	1½	25	—
	UB9AJ	—	2	20	—
	UB9AK	—	2½	10	—
	UB9AL	—	3	5	—
	UB9AN	—	4	1	—
	UB9AP	UB9APB	5	1	1
	UB9AR	—	6	1	—
45° ELBOW 	UB7AD	—	½	50	—
	UB7AE-UPC	—	¾	25	—
	UB7AF-UPC	—	1	20	—
	UB7AG	—	1¼	20	—
	UB7AH	—	1½	20	—
	UB7AH-CAR	—	1½	5	—
	UB7AJ-UPC	—	2	20	—
	UB7AK	—	2½	20	—
	UB7AL	—	3	1	—
	UB7AN	—	4	1	—
	UB7AP	UB7APB	5	1	1
	UB7AR	—	6	1	—
30° ELBOW 	UB6AD	—	½	50	—
	UB6AE	—	¾	25	—
	UB6AF	—	1	25	—
	UB6AG	—	1¼	5	—
	UB6AH	—	1½	25	—
	UB6AJ	—	2	20	—
	UB6AK	—	2½	1	—
	UB6AL	—	3	1	—
	UB6AN	—	4	1	—
	UB6AP	—	5	1	—
	UB6AR	—	6	1	—
22½° ELBOW 	UB5AL	—	3	5	—
	UB5AN	—	4	1	—
	UB5AP	UB5APB	5	1	1
11¼° ELBOW 	UB3AL	—	3	1	—
	UB3AR	—	6	1	—

For use with non-metallic solvent weld fittings.

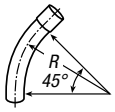
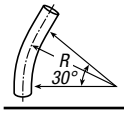
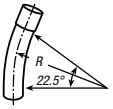
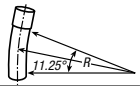
Special Radius

LISTED E23018

SEGMENT	PLAIN END CAT. NO.	BELLED END CAT. NO.	NOM. DIAM. (IN.)	RADIUS (IN.)	PLAIN END STD. CTN.	BELLED END STD. CTN.
90° ELBOW 	UB9CF	—	1	18	1	—
	UB9DF	—	1	24	1	—
	UB9FF	—	1	36	1	—
	UB9HF	—	1	48	1	—
	UB9CG	—	1¼	18	1	—
	UB9DG	—	1¼	24	1	—
	UB9FG	—	1¼	36	1	—
	UB9HG	—	1¼	48	1	—
	UB9CH	—	1½	18	1	—
	UB9DH-UPC	UB9DHB	1½	24	1	1
	UB9FH	—	1½	36	1	—
	UB9HH	—	1½	48	1	—
	UB9CJ	—	2	18	1	—
	UB9DJ-UPC	UB9DJB	2	24	1	1
	UB9FJ	UB9FJB	2	36	1	1
	UB9HJ	—	2	48	1	—
	UB9CK	—	2½	18	1	—
	UB9DK-UPC	UB9DKB	2½	24	1	1
	UB9FK	UB9FKB	2½	36	1	1
	UB9HK	—	2½	48	1	—
	UB9CL	—	3	18	1	—
	UB9DL	UB9DLB	3	24	1	1
	UB9FL	UB9FLB	3	36	1	1
	UB9HL	—	3	48	1	—
	UB9DN	UB9DNB	4	24	1	1
	UB9FN	UB9FNB	4	36	1	1
	UB9HN	UB9HNB	4	48	1	1
	UB9NN	—	4	120	1	—
	UB9FP	—	5	36	1	—
	UB9HP	—	5	48	1	—
	UB9IP	—	5	60	1	—
	UB9FR	—	6	36	1	—
	UB9HR	—	6	48	1	—
	UB9IR	—	6	60	1	—

***Note**: Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

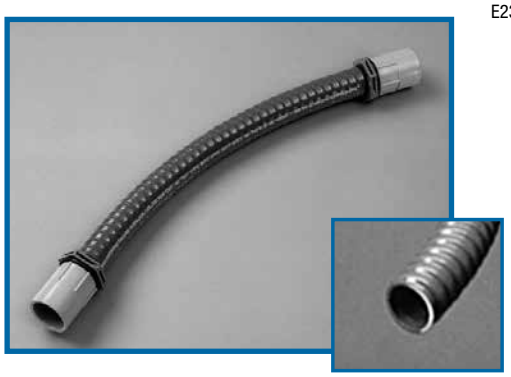
Schedule 80 Elbows — Special Radius *(continued)*

SEGMENT	PLAIN END CAT. NO.	BELLED END CAT. NO.	NOM. DIAM. (IN.)	RADIUS (IN.)	PLAIN END STD. CTN.	BELLED END STD. CTN.
45° ELBOW 	UB7CF	—	1	18	1	—
	UB7DF	—	1	24	1	—
	UB7FF	—	1	36	1	—
	UB7HF	—	1	48	1	—
	UB7DG	—	1¼	24	1	—
	UB7FG	—	1¼	36	1	—
	UB7HG	—	1¼	48	1	—
	UB7CH	—	1½	18	1	—
	UB7DH	UB7DHB	1½	24	1	1
	UB7FH	—	1½	36	1	—
	UB7HH	—	1½	48	1	—
	UB7CJ	—	2	18	1	—
	UB7DJ	UB7DJB	2	24	1	1
	UB7FJ	UB7FJB	2	36	1	1
	UB7HJ	—	2	48	1	—
	UB7DK	UB7DKB	2½	24	1	1
	UB7FK	—	2½	36	1	—
	UB7HK	—	2½	48	1	—
	UB7CL	—	3	18	1	—
	UB7DL	UB7DLB	3	24	1	1
	UB7FL	UB7FLB	3	36	1	1
	UB7HL	—	3	48	1	—
	UB7DN	UB7DNB	4	24	1	1
	UB7FN	UB7FNB	4	36	1	1
	UB7HN	—	4	48	1	—
	UB7FP	—	5	36	1	—
	UB7HP	—	5	48	1	—
	UB7FR	—	6	36	1	—
	UB7HR	—	6	48	1	—
	UB7IR	—	6	60	1	—
30° ELBOW 	UB6FN	—	4	36	1	—
	UB6FR	—	6	36	1	—
22½° ELBOW 	—	UB5DHB	1½	24	—	20
	—	UB5DJB	2	24	—	20
	—	UB5FJB	2	36	—	25
	—	UB5DKB	2½	24	—	15
	UB5DL	UB5DLB	3	24	1	10
	—	UB5FLB	3	36	—	1
	UB5DN	UB5DNB	4	24	1	5
	—	UB5FNB	4	36	—	1
	UB5FP	—	5	36	1	—
11¼° ELBOW 	UB3FP	—	5	36	1	—

Note: *Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

Flexible PVC Elbows

UL LISTED E23018



- UL Listed for exposed and direct-burial applications in accordance with Article 356 of the NEC®
- 0°–90° bending and offset applications
- O-ring seal for moisture-tight connections
- Maintains round shape throughout bend
- Sunlight resistant
- Non-corrosive — all PVC and Neoprene material
- Fully assembled and ready to use

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)	LENGTH FULLY ASSEMBLED (IN.)
UAFAD	½	8	1.6	8.5
UAFAE	¾	6	1.9	9.6
UAFAF	1	6	2.4	11.9

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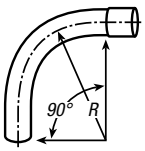
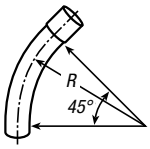
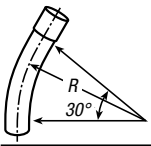
United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

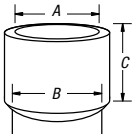
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Canadian Schedule 40 Elbows — Standard Radius

LR90813

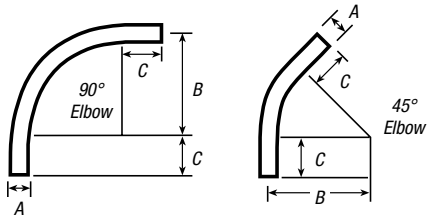
ITEM	BELLED END CAT. NO.	BELLED END SIZE (IN.)	STD. CTN.
90° ELBOW	UA9ADCB-CTN	½	40
	UA9AECB-CTN	¾	25
	UA9AFCB-CTN	1	25
	UA9AGCB-UPC	1¼	20
	UA9AHCB-UPC	1½	25
	UA9AJCB-UPC	2	20
	UA9AKCB-CTN	2½	10
	UA9ALCB-UPC	3	25
	UA9AMCB	3½	1
	UA9ANCB	4	1
	UA9APCB	5	1
	UA9ARCB	6	1
45° ELBOW	UA7AGCB	1¼	1
	UA7AHCB	1½	20
	UA7AJCB	2	20
	UA7AKCB	2½	1
	UA7ALCB	3	5
	UA7AMCB	3½	1
	UA7ANCB	4	1
	UA7APCB	5	1
	UA7ARCB	6	1
30° ELBOW	UA6AJCB	2	20
	UA6ANCB	4	1
	UA6ARCB	6	1

Available in plain and integral belled end for use with non-metallic solvent weld fittings.



Integral Belled End Dimensions

TRADE SIZE (IN.)	A AT ENTRANCE MAX.	A AT ENTRANCE MIN.	B AT BOTTOM MAX.	B AT BOTTOM MIN.	C SOCKET DEPTH MAX.	C SOCKET DEPTH MIN.
½	.860	.844	.844	.828	1.500	.652
¾	1.074	1.054	1.056	1.036	1.500	.719
1	1.340	1.320	1.320	1.300	1.875	.875
1¼	1.689	1.665	1.667	1.643	2.000	.938
1½	1.930	1.906	1.906	1.882	2.000	1.062
2	2.405	2.381	2.381	2.357	2.000	1.125
2½	2.905	2.875	2.883	2.853	3.000	1.469
3	3.530	3.500	3.507	3.477	3.125	1.594
3½	4.065	3.965	4.007	3.977	3.250	1.687
4	4.565	4.465	4.506	4.476	3.375	1.750
5	5.643	5.543	5.583	5.523	3.625	1.937
6	6.708	6.608	6.644	6.584	3.750	2.125



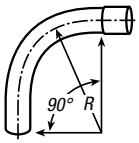
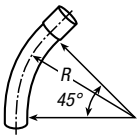
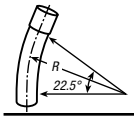
Standard Radius Elbow Dimensions (per NEC®)

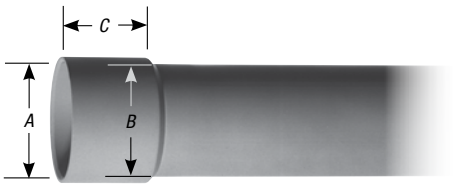
SIZE (IN.)	A (IN.)	B MIN. (RADIUS) (IN.)	C MIN. (IN.)
½	.840	4	1½
¾	1.050	4½	1½
1	1.315	5¾	1⅞
1¼	1.660	7¼	2
1½	1.900	8¼	2
2	2.375	9½	2
2½	2.875	10½	3
3	3.500	13	3⅛
3½	4.000	15	3¼
4	4.500	16	3⅜
5	5.563	24	3⅝
6	6.625	30	3¾

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Deep-Socket Schedule 40 Utility Elbows with Integral Belled Ends

Non-UL Listed

SEGMENT	CAT. NO. METAL, STANDARD	NOM. DIA. (IN.)	RADIUS (IN.)	STD. CTN.	STD. WT. (LBS.)
90° SWEEP	UC9BHB	1½	12	20	25.00
	UC9DHB	1½	24	1	2.13
	UC9FHB	1½	36	1	3.05
	UC9BJB	2	12	1	1.44
	UC9DJB	2	24	1	2.82
	UC9FJB	2	36	1	4.14
	UC9HJB	2	48	1	5.15
	UC9DKB	2½	24	1	5.00
	UC9FKB	2½	36	1	7.15
	UC9DLB	3	24	1	6.57
	UC9FLB	3	36	1	9.15
	UC9DNB	4	24	1	10.59
	UC9FNB	4	36	1	13.64
	UC9HNB	4	48	1	17.72
	UC9FRB	6	36	1	25.80
45° ELBOW	UC7FHB	1½	36	1	1.74
	UC7FJB	2	36	1	2.07
	UC7CKB	2½	18	1	2.27
	UC7FKB	2½	36	1	4.12
	UC7FLB	3	36	1	5.00
	UC7FNB	4	36	1	8.15
	UC7HNB	4	48	1	9.36
	UC7HRB	6	48	1	17.19
	UC7ITB	8	60	1	33.00
22½° ELBOW	UC5CKB	2½	18	1	1.45
	UC5FKB	2½	36	1	2.49
	UC5FNB	4	36	1	5.18
	UC5FRB	6	36	1	11.82
	UC5HNB	4	48	1	5.57

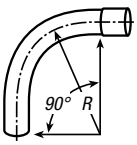
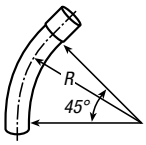
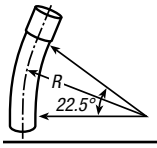


Utility Elbow Bells (Dimensions in Inches)

TRADE SIZE	A AT ENTRANCE	B AT ENTRANCE	C NORMAL CELL
1½	1.921 ± .005	1.894 ± .006	2⅝ ± ⅛
2	2.400 ± .005	2.369 ± .012	2¾ ± ⅛
2½	2.906 ± .005	2.868 ± .007	3 ± ⅛
3	3.538 ± .005	3.492 ± .008	3 ± ⅛
4	4.544 ± .005	4.491 ± .009	3⅝ ± ⅛
5	5.614 ± .005	5.553 ± .010	4⅛ ± ⅛
6	6.687 ± .005	6.614 ± .011	5⅛ ± ⅛
8	8.687 ± .005	8.636 ± .005	6⅛ ± ⅛

Long-Belled Utility Elbows

Non-UL Listed

SEGMENT	CAT. NO.	NOM. DIA. (IN.)	RADIUS (IN.)	STD. CTN.	STD. WT. (LBS.)
90° ELBOW	UC9CJBLB	2	18	1	1.3
	UC9DJBLB	2	24	1	1.4
	UC9DLBLB	3	24	1	5.0
	UC9DNBLB	4	24	1	5.8
	UC9DPBLB	5	24	1	8.5
	UC9FJBLB	2	36	1	2.2
	UC9FLBLB	3	36	1	5.2
	UC9FNBLB	4	36	1	7.8
	UC9FPBLB	5	36	1	11.1
	UC9FRBLB	6	36	1	9.6
	UC9HJBLB	2	48	1	2.8
	UC9HLBLB	3	48	1	12.0
	UC9HNBLB	4	48	1	9.7
	UC9HPBLB	5	48	1	13.7
	UC9HRBLB	6	48	1	18.1
45° ELBOW	UC7CJBLB	2	18	1	1.3
	UC7DJBLB	2	24	1	1.4
	UC7DLBLB	3	24	1	5.0
	UC7DNBLB	4	24	1	5.8
	UC7DPBLB	5	24	1	8.5
	UC7FJBLB	2	36	1	2.2
	UC7FLBLB	3	36	1	5.2
	UC7FNBLB	4	36	1	7.8
	UC7FPBLB	5	36	1	11.1
	UC7FRBLB	6	36	1	9.6
	UC7HJBLB	2	48	1	2.8
	UC7HLBLB	3	48	1	6.6
	UC7HNBLB	4	48	1	9.7
	UC7HPBLB	5	48	1	13.7
	UC7HRBLB	6	48	1	18.1
22½° ELBOW	UC5FRBLB	6	36	1	9.6
					

Long-Belled Utility Elbow Bells (Dimensions in Inches)

TRADE SIZE	A AT ENTRANCE	B AT ENTRANCE	C NOMINAL BELL
1½	1.918 ± .006	1.894 ± .006	2¾ ± ⅛
2	2.393 ± .006	2.369 ± .012	3¼ ± ⅛
2½	2.890 ± .007	2.868 ± .007	3¼ ± ⅛
3	3.515 ± .008	3.492 ± .008	4 ± ⅛
4	4.515 ± .009	4.491 ± .009	4¾ ± ⅛
5	5.593 ± .010	5.553 ± .010	5¾ ± ⅛
6	6.658 ± .011	6.614 ± .011	6¼ ± ⅛

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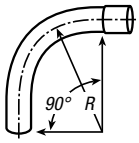
United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

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Tel: 888.862.3289

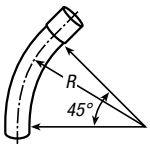
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P&C Duct Special California Type DB-100 Sweeps — Belled

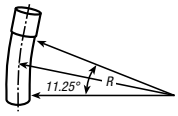
SEGMENT	CAT. NO.	SIZE (IN.)	STD. CTN.
90° SWEEP — 48" RADIUS	PE9HN	4	1
	PE9HP	5	1



SEGMENT	CAT. NO.	SIZE (IN.)	STD. CTN.
45° SWEEP — 150" RADIUS	PE7SP	5	1



SEGMENT	CAT. NO.	SIZE (IN.)	STD. CTN.
11¼° SWEEP — 150" RADIUS	PE3SP	5	1
	Segmented Sweeps		
	PE3SNS	4	1
	PE3SPS	5	1
	PE3SRS	6	1

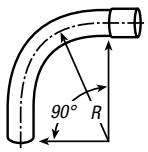


Note: *Consult your Thomas & Betts Sales Team for additional sizes*

P&C Duct DB-60 Sweeps

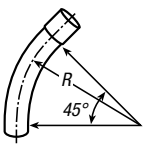
Note: *Consult your Thomas & Betts Sales Team for additional sizes*

SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
90° SWEEP	PF9CH	1½	18	1
	PF9CJ	2	18	1
	PF9CL	3	18	1
	PF9CN	4	18	1
	PF9DF	1	24	1
	PF9DH	1½	24	1
	PF9DJ	2	24	1
	PF9DL	3	24	1
	PF9DN	4	24	1
	PF9DP	5	24	1
	PF9FF	1	36	1
	PF9FJ	2	36	1
	PF9FL	3	36	1
	PF9FN	4	36	1
	PF9FP	5	36	1
	PF9FR	6	36	1
	PF9HL	3	48	1
	PF9HN	4	48	1
	PF9HP	5	48	1
	PF9HR	6	48	1
	PF9IL	3	60	1
	PF9IN	4	60	1
	PF9IP	5	60	1
	PF9IR	6	60	1
	PF9SH	1½	150	1
	PF9SJ	2	150	1
	PF9SL	3	150	1
	PF9SR	6	150	1
	PF9VL	3	300	1
	PF9VN	4	300	1
	PF9VP	5	300	1



Note: *Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

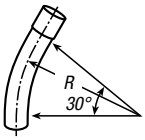
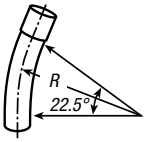
SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
45° SWEEP	PF7CF	1	18	1
	PF7CH	1½	18	1
	PF7CJ	2	18	1
	PF7CL	3	18	1
	PF7DF	1	24	1
	PF7DH	1½	24	1
	PF7DJ	2	24	1
	PF7DL	3	24	1
	PF7DN	4	24	1
	PF7FF	1	36	1
	PF7FH	1½	36	1
	PF7FJ	2	36	1
	PF7FL	3	36	1
	PF7FN	4	36	1
	PF7FP	5	36	1
	PF7FR	6	36	1
	PF7HJ	2	48	1
	PF7HL	3	48	1
	PF7HN	4	48	1
	PF7HP	5	48	1
	PF7HR	6	48	1
	PF7IL	3	60	1
	PF7IP	5	60	1
	PF7NN	4	120	1
	PF7SH	1½	150	1
	PF7SJ	2	150	1
	PF7SL	3	150	1
	PF7SN	4	150	1
	PF7SP	5	150	1
	PF7SR	6	150	1
	PF7VN	4	300	1
	PF7VP	5	300	1
	PF7VR	6	300	1



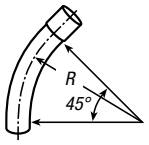
Note: *Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

P&C Duct DB-60 Sweeps *(continued)*

Note: *Consult your Thomas & Betts Sales Team for additional sizes*

SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
30° SWEEP 	PF6CJ	2	18	1
	PF6CL	3	18	1
	PF6DL	3	24	1
	PF6DN	4	24	1
	PF6DP	5	24	1
	PF6CH	1½	30	1
	PF6FJ	2	36	1
	PF6FL	3	36	1
	PF6FN	4	36	1
	PF6FR	6	36	1
	PF6HJ	2	48	1
	PF6HN	4	48	1
	PF6HP	5	48	1
	PF6HR	6	48	1
	PF6IN	4	60	1
	PF6IP	5	60	1
	PF6SJ	2	150	1
	PF6SN	4	150	1
	PF6SP	5	150	1
	PF6VJ	2	300	1
	PF6VN	4	300	1
	PF6VR	6	300	1
22½° SWEEP 	PH5DL	3	24	1
	PF5DN	4	24	1
	PF5DP	5	24	1
	PF5FF	1	36	1
	PF5FL	3	36	1
	PF5FN	4	36	1
	PF5FP	5	36	1
	PF5FR	6	36	1
	PF5HL	3	48	1
	PF5HN	4	48	1
	PF5HR	6	48	1
	PF5IJ	2	60	1
	PF5IL	3	60	1
	PF5IP	5	60	1
	PF5IR	6	60	1
	PF5SL	3	150	1
	PF5SN	4	150	1
	PF5SP	5	150	1
	PF5SR	6	150	1
	PF5VN	4	300	1
	PF5VP	5	300	1
	PF5VR	6	300	1

Note: *Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
11¼° SWEEP 	PF3CJ	2	18	1
	PF3CL	3	18	1
	PF3DF	1	24	1
	PF3DH	1½	24	1
	PF3DP	5	24	1
	PF3FJ	2	36	1
	PF3FL	3	36	1
	PF3FN	4	36	1
	PF3FP	5	36	1
	PF3FR	6	36	1
	PF3HL	3	48	1
	PF3HN	4	48	1
	PF3HP	5	48	1
	PF3HR	6	48	1
	PF3IJ	2	60	1
	PF3IR	6	60	1
	PF3SJ	2	150	1
	PF3SN	4	150	1
	PF3SP	5	150	1
	PF3SR	6	150	1
	PF3VJ	2	300	1
	PF3VL	3	300	1
	PF3VN	4	300	1
	PF3VP	5	300	1

Note: *Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

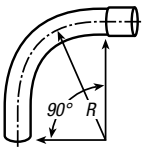
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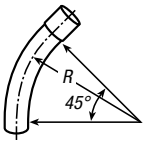
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P&C Duct DB-120 Sweeps

SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
90° SWEEP 	PH9CJ	2	18	1
	PH9CL	3	18	1
	PH9CN	4	18	1
	PH9DJ	2	24	1
	PH9DL	3	24	1
	PH9DN	4	24	1
	PH9DP	5	24	1
	PH9FJ	2	36	1
	PH9FL	3	36	1
	PH9FN	4	36	1
	PH9FP	5	36	1
	PH9FR	6	36	1
	PH9HJ	2	48	1
	PH9HL	3	48	1
	PH9HN	4	48	1
	PH9HP	5	48	1
	PH9HR	6	48	1
	PH9IJ	2	60	1
	PH9IL	3	60	1
	PH9IN	4	60	1
	PH9IR	6	60	1
	PH9OJ	2	66	1
	PH9SJ	2	150	1
	PH9SL	3	150	1
	PH9SN	4	150	1
	PH9SP	5	150	1
	PH9SR	6	150	1
	PH9VN	4	300	1
	PH9VP	5	300	1
	PH9VR	6	300	1

Note: *Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

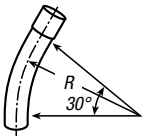
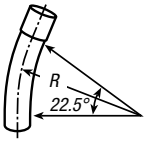
Note: *Consult your Thomas & Betts Sales Team for additional sizes*

SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
45° SWEEP 	PH7CJ	2	18	1
	PH7CL	3	18	1
	PH7CN	4	18	1
	PH7DJ	2	24	1
	PH7DL	3	24	1
	PH7DN	4	24	1
	PH7DP	5	24	1
	PH7FJ	2	36	1
	PH7FL	3	36	1
	PH7FN	4	36	1
	PH7FP	5	36	1
	PH7FR	6	36	1
	PH7HJ	2	48	1
	PH7HL	3	48	1
	PH7HN	4	48	1
	PH7HP	5	48	1
	PH7HR	6	48	1
	PH7IJ	2	60	1
	PH7IL	3	60	1
	PH7IP	5	60	1
	PH7IR	6	60	1
	PH7SJ	2	150	1
	PH7SN	4	150	1
	PH7SP	5	150	1
	PH7SR	6	150	1

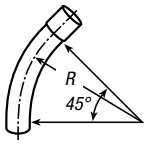
Note: *Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

P&C Duct DB-60 Sweeps *(continued)*

Note: *Consult your Thomas & Betts Sales Team for additional sizes*

SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
30° SWEEP 	PF6CJ	2	18	1
	PF6CL	3	18	1
	PF6DL	3	24	1
	PF6DN	4	24	1
	PF6DP	5	24	1
	PF6CH	1½	30	1
	PF6FJ	2	36	1
	PF6FL	3	36	1
	PF6FN	4	36	1
	PF6FR	6	36	1
	PF6HJ	2	48	1
	PF6HN	4	48	1
	PF6HP	5	48	1
	PF6HR	6	48	1
	PF6IN	4	60	1
	PF6IP	5	60	1
	PF6SJ	2	150	1
	PF6SN	4	150	1
	PF6SP	5	150	1
	PF6VJ	2	300	1
	PF6VN	4	300	1
	PF6VR	6	300	1
22½° SWEEP 	PH5DL	3	24	1
	PF5DN	4	24	1
	PF5DP	5	24	1
	PF5FF	1	36	1
	PF5FL	3	36	1
	PF5FN	4	36	1
	PF5FP	5	36	1
	PF5FR	6	36	1
	PF5HL	3	48	1
	PF5HN	4	48	1
	PF5HR	6	48	1
	PF5IJ	2	60	1
	PF5IL	3	60	1
	PF5IP	5	60	1
	PF5IR	6	60	1
	PF5SL	3	150	1
	PF5SN	4	150	1
	PF5SP	5	150	1
	PF5SR	6	150	1
	PF5VN	4	300	1
	PF5VP	5	300	1
	PF5VR	6	300	1

Note: *Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
11¼° SWEEP 	PF3CJ	2	18	1
	PF3CL	3	18	1
	PF3DF	1	24	1
	PF3DH	1½	24	1
	PF3DP	5	24	1
	PF3FJ	2	36	1
	PF3FL	3	36	1
	PF3FN	4	36	1
	PF3FP	5	36	1
	PF3FR	6	36	1
	PF3HL	3	48	1
	PF3HN	4	48	1
	PF3HP	5	48	1
	PF3HR	6	48	1
	PF3IJ	2	60	1
	PF3IR	6	60	1
	PF3SJ	2	150	1
	PF3SN	4	150	1
	PF3SP	5	150	1
	PF3SR	6	150	1
	PF3VJ	2	300	1
	PF3VL	3	300	1
	PF3VN	4	300	1
	PF3VP	5	300	1

Note: *Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

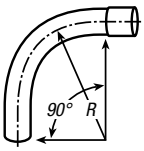
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Technical Services
Tel: 888.862.3289

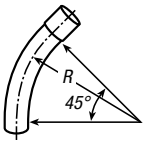
www.tnb.com

P&C Duct DB-120 Sweeps

SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
90° SWEEP 	PH9CJ	2	18	1
	PH9CL	3	18	1
	PH9CN	4	18	1
	PH9DJ	2	24	1
	PH9DL	3	24	1
	PH9DN	4	24	1
	PH9DP	5	24	1
	PH9FJ	2	36	1
	PH9FL	3	36	1
	PH9FN	4	36	1
	PH9FP	5	36	1
	PH9FR	6	36	1
	PH9HJ	2	48	1
	PH9HL	3	48	1
	PH9HN	4	48	1
	PH9HP	5	48	1
	PH9HR	6	48	1
	PH9IJ	2	60	1
	PH9IL	3	60	1
	PH9IN	4	60	1
	PH9IR	6	60	1
	PH9OJ	2	66	1
	PH9SJ	2	150	1
	PH9SL	3	150	1
	PH9SN	4	150	1
	PH9SP	5	150	1
	PH9SR	6	150	1
	PH9VN	4	300	1
	PH9VP	5	300	1
	PH9VR	6	300	1

Note: *Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

Note: *Consult your Thomas & Betts Sales Team for additional sizes*

SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
45° SWEEP 	PH7CJ	2	18	1
	PH7CL	3	18	1
	PH7CN	4	18	1
	PH7DJ	2	24	1
	PH7DL	3	24	1
	PH7DN	4	24	1
	PH7DP	5	24	1
	PH7FJ	2	36	1
	PH7FL	3	36	1
	PH7FN	4	36	1
	PH7FP	5	36	1
	PH7FR	6	36	1
	PH7HJ	2	48	1
	PH7HL	3	48	1
	PH7HN	4	48	1
	PH7HP	5	48	1
	PH7HR	6	48	1
	PH7IJ	2	60	1
	PH7IL	3	60	1
	PH7IP	5	60	1
	PH7IR	6	60	1
	PH7SJ	2	150	1
	PH7SN	4	150	1
	PH7SP	5	150	1
	PH7SR	6	150	1

Note: *Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

Elbows, Sweeps and Accessories

P&C Duct Adapters

Male Adapter

CAT. NO.	SIZE (IN.)	STD. CTN.
E943F	1	50
E943H	1½	25
E943J	2	50
E943L	3	50
E943N	4	20
E943P	5	5
E943R	6	10



Female Adapter

CAT. NO.	SIZE (IN.)	STD. CTN.
E942F	1	50
E942H	1½	25
E942J	2	30
E942L	3	25
E942N	4	15
E942P	5	8
E942R	6	6



P&C Duct Swedge Reducer (Male x Male)

CAT. NO.	SIZE (IN.)	STD. CTN.
E252LJ	3 x 2	50
E252NJS	4 x 2	25
E252NL	4 x 3	25
E252PN	5 x 4	20
E252RNS	6 x 4	6
E252RP	6 x 5	10



P&C Duct Cable Marker

CAT. NO.	SIZE (IN.)	STD. CTN.
E299JM	2 x 42	1
E299JP	2 x 56	1
E299JR	2 x 78	1
E299LF	3 x 36	1
E299LR	3 x 60	1
E299NX7	4 x 84	1



P&C Duct End Bells

End Bell

CAT. NO.	SIZE (IN.)	STD. CTN.
E997F	1	50
E997H	1½	30
E997J	2	40
E997L	3	50
E997N	4	30
E997P	5	15
E997R	6	10



Molded End Bell

CAT. NO.	SIZE (IN.)	STD. CTN.
E297J	2	40
E297L	3	50
E297N	4	30
E297P	5	15



Fabricated End Bell

CAT. NO.	SIZE (IN.)	STD. CTN.
E297JN	2 x 4	25
E297LR	3 x 6	20
E297NT	4 x 10	15
E297PS	5 x 8	10
E297PT	5 x 10	10
E297RF	6 x 5	10
E297RT	6 x 10	6



Long-Length End Bell P&C Duct

CAT. NO.	SIZE (IN.)	STD. CTN.
E297RR	6 (6 long)	10



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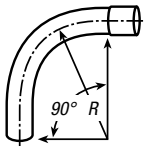
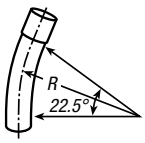
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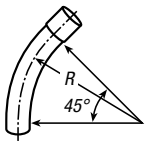
P&C Duct Canadian DB/2 Sweeps

LR90813

SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
90° SWEEP	CPF9DJ	2	24	1
	CPF9DL	3	24	1
	CPF9DM*	3½	24	1
	CPF9DN	4	24	1
	CPF9DP*	5	24	1
	CPF9FJ	2	36	1
	CPF9FL	3	36	1
	CPF9FM*	3½	36	1
	CPF9FN	4	36	1
	CPF9FP*	5	36	1
	CPF9FR*	6	36	1
	CPF9GJ*	2	42	1
	CPF9GL*	3	42	1
	CPF9GM*	3½	42	1
	CPF9GN*	4	42	1
	CPF9GP	5	42	1
	CPF9GR*	6	42	1
	CPF9IJ	2	60	1
	CPF9IL	3	60	1
	CPF9IM*	3½	60	1
	CPF9IN	4	60	1
	CPF9IP	5	60	1
	CPF9IR	6	60	1
22½° SWEEP	CPF5DJ*	2	24	1
	CPF5DL*	3	24	1
	CPF5DM*	3½	24	1
	CPF5DN*	4	24	1
	CPF5DP*	5	24	1
	CPF5FJ*	2	36	1
	CPF5FL*	3	36	1
	CPF5FM*	3½	36	1
	CPF5FN	4	36	1
	CPF5FP*	5	36	1
	CPF5GJ*	2	42	1
	CPF5GL*	3	42	1
	CPF5GM*	3½	42	1
	CPF5GN*	4	42	1
	CPF5GP	5	42	1
	CPF5IJ*	2	60	1
	CPF5IL*	3	60	1
	CPF5IM*	3½	60	1
	CPF5IN*	4	60	1
	CPF5IP*	5	60	1

** Non-stock special radius sweeps are available on request — quote only.*

***Note:** Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

SEGMENT	CAT. NO.	SIZE (IN.)	RADIUS (IN.)	STD. CTN.
45° SWEEP	CPF7DJ	2	24	1
	CPF7DL	3	24	1
	CPF7DM*	3½	24	1
	CPF7DN	4	24	1
	CPF7DP*	5	24	1
	CPF7FJ	2	36	1
	CPF7FL	3	36	1
	CPF7FM*	3½	36	1
	CPF7FN	4	36	1
	CPF7FP*	5	36	1
	CPF7FR*	6	36	1
	CPF7GJ*	2	42	1
	CPF7GL*	3	42	1
	CPF7GM*	3½	42	1
	CPF7GN*	4	42	1
	CPF7GP	5	42	1
	CPF7GR*	6	42	1
	CPF7IJ*	2	60	1
	CPF7IL*	3	60	1
	CPF7IM*	3½	60	1
	CPF7IN	4	60	1
	CPF7IP*	5	60	1
	CPF7IR	6	60	1

** Non-stock special radius sweeps are available on request — quote only.*

***Note:** Elbows 72" and larger may be shipped in segments. Consult factory for specifics.*

Elbows, Sweeps and Accessories

P&C Duct Canadian DB/2 Duct Fittings

PVC 5° Coupling B x B — Solvent Weld

CAT. NO.	SIZE (IN.)	STD. CTN.
CE245J	2	30
CE245L	3	15
CE245N	4	10
CE245P	5	20



PE 5° Coupling — Push Fit

CAT. NO.	SIZE (IN.)	STD. CTN.
CE2440L	3	100
CE2440N	4	90



PE Coupling — Push Fit

CAT. NO.	SIZE (IN.)	STD. CTN.
CE242J	2	213
CE242L	3	100
CE242N	4	100
CE242P	5	12



PVC Coupling — Solvent Weld

CAT. NO.	SIZE (IN.)	STD. CTN.
CE240J	2	30
CE240L	3	30
CE240N	4	15
CE240P	5	20
CE240R	6	1



P&C Duct Plug with Pull Tab

CAT. NO.	SIZE (IN.)	STD. CTN.
P258JT	2	60
P258LT	3	30
P258NT	4	48
P258PT	5	30
P258RT	6	30



P&C Duct End Bell (For use with DB/2 Duct only)

CAT. NO.	SIZE (IN.)	STD. CTN.
CE297J	2	40
CE297L	3	50
CE297N	4	30
CE297P	5	15



P&C Duct Adapters

PVC Female Adapter — I.P.S. Solvent Weld Duct

CAT. NO.	SIZE (IN.)	STD. CTN.
CE942DJ	2	25
CE942DL	3	30
CE942DN	4	50
CE942DP	5	15



PVC Conduit to DB/2 Duct Adapter

CAT. NO.	SIZE (IN.)	STD. CTN.
CE942RJ	2	24
CE942RL	3	1
CE942RN	4	1



P&C Duct Cap — Solvent Weld

CAT. NO.	SIZE (IN.)	STD. CTN.
CE935J	2	25
CE935L	3	25
CE935N	4	50
CE935P	5	25



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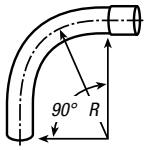
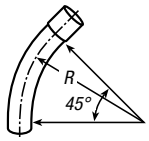
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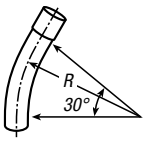
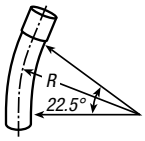
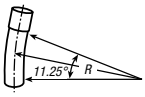
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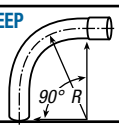
Manufactured from Heavy Wall "C" Duct **Telephone Duct Sweeps**

- Size: 4"
- Each sweep is furnished with a belled end
- Straight-end length 3"

SEGMENT		CAT. NO.	BEND RADIUS	STD. CTN.
90° SWEEP	GRAY			
		TP9CN	1'6"	1
		TP9DN	2'	1
		TP9FN	3'	1
		TP9HN	4'	1
		TP9IN	5'	1
		TP9JN	6'	1
		TP9MN	9'	1
		TP9NN	10'	1
		TP9SN	12'6"	1
		TP9TN	15'	1
		TP9UN	20'	1
	WHITE			
		TW9DN	2'	1
		TW9FN	3'	1
		TW9HN	4'	1
		TW9IN	5'	1
		TW9JN	6'	1
		TW9MN	9'	1
		TW9NN	10'	1
		TW9SN	12'6"	1
		TW9TN	15'	1
45° SWEEP	GRAY			
		TP7DN	2'	1
		TP7FN	3'	1
		TP7HN	4'	1
		TP7ON	4'6"	1
		TP7IN	5'	1
		TP7JN	6'	1
		TP7MN	9'	1
		TP7NN	10'	1
		TP7RN	12'	1
		TP7SN	12'6"	1
		TP7TN	15'	1
		TP7UN	20'	1
	WHITE			
		TW7DN	2'	1
		TW7FN	3'	1
		TW7HN	4'	1
		TW7ON	4'6"	1
		TW7IN	5'	1
		TW7JN	6'	1
		TW7MN	9'	1
		TW7NN	10'	1
		TW7RN	12'	1
		TW7SN	12'6"	1
		TW7TN	15'	1

SEGMENT		CAT. NO.	BEND RADIUS	STD. CTN.
30° SWEEP	GRAY			
		TP6FN	3'	1
		TP6HN	4'	1
		TP6JN	6'	1
		TP6NN	10'	1
		TP6RN	12'	1
		TP6SN	12'6"	1
		TP6TN	15'	1
	WHITE			
		TW6FN	3'	1
		TW6HN	4'	1
		TW6JN	6'	1
		TW6MN	9'	1
		TW6NN	10'	1
		TW6RN	12'	1
		TW6SN	12'6"	1
		TW6TN	15'	1
22½° SWEEP	GRAY			
		TP5DN	2'	1
		TP5FN	3'	1
		TP5HN	4'	1
		TP5IN	5'	1
		TP5JN	6'	1
		TP5MN	9'	1
		TP5RN	12'	1
		TP5SN	12'6"	1
		TP5TN	15'	1
		TP5UN	20'	1
		TP5VN	25'	1
	WHITE			
		TW5DN	2'	1
		TW5FN	3'	1
		TW5HN	4'	1
		TW5JN	6'	1
		TW5MN	9'	1
		TW5SN	12'6"	1
		TP3DN	2'	1
11¼° SWEEP	GRAY			
		TP3FN	3'	1
		TP3HN	4'	1
		TP3IN	5'	1
		TP3JN	6'	1
		TP3SN	12'6"	1
	WHITE			
		TW3DN	2'	1
		TW3FN	3'	1
		TW3HN	4'	1

E-Bends — Riser Ells

SEGMENT	CAT. NO.	BEND RADIUS	STD. CTN.
90° SWEEP	TA9ENT (BELLED END)	2'6"	1
	TA9FN (PLAIN END)	3'	1
	TA9FNT (BELLED END)	3'	1
	TA9FNTL (BELLED END-LONG)	3'	1

Gray only

Elbows, Sweeps and Accessories

Telephone Duct Couplings

Sleeve Coupling

CAT. NO.	SIZE (IN.)	STD. CTN.
For Repair Work		
E900N	4 x 6	25
E900NU	4 x 12	10
E900NW (WHITE)	4 x 6	25
Split-Sleeve Couplings		
E900NS	4	25
E900NS8 (WHITE)	4 x 8	15
E900NSW (WHITE)	4	25
E900PS	5	15
For Type D Duct Applications Only		
E900DN (WHITE)	4	25



No internal stop

Molded Coupling

CAT. NO.	SIZE (IN.)	STD. CTN.
Internal Stop		
E908N	4	25



5° Angle Coupling

CAT. NO.	SIZE (IN.)	STD. CTN.
E914N	4	15



Telephone Duct Plug with Pull Tab

CAT. NO.	SIZE (IN.)	STD. CTN.
P258NTB	4	50



Telephone Duct End Bells

Square to Round

CAT. NO.	SIZE (IN.)	STD. CTN.
E903N	4 (Sq.)	4



Molded End Bell

CAT. NO.	SIZE (IN.)	STD. CTN.
E971N	4	10



Flare and Straight End Bell

CAT. NO.	SIZE (IN.)	STD. CTN.
E907N	4 (5 long, 5.5 flare)	10
E907NY	4 (9 long, 5.75 flare)	1



Split End Bell (PVC)

CAT. NO.	SIZE (IN.)	STD. CTN.
E9098NS	4	1
E9098PS	5	1



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Elbows, Sweeps and Accessories

Telephone Duct Adapters

Adapts telephone duct to fiber transite MCD

Internal Adapter

CAT. NO.	SIZE (IN.)	STD. CTN.
E901N	4	24
Split		
E901NS	4	24



Adapts Threaded Metal Pipe to Telephone Duct

Female Adapter

CAT. NO.	SIZE (IN.)	STD. CTN.
E902N	4	10



Square Clay Tile Adapter

CAT. NO.	SIZE (IN.)	STD. CTN.
Adapts Clay to Telephone Duct		
E904M	3¼ – 4 x 18	10
E904M12	3¼ – 4 x 12	10
E904M8	3¼ – 4 x 8½	12
E904MM	3½ – 3½ x 18	12
E904MX	3 – 4 x 18	10
E904N	3½ – 4 x 18	10
E904N12	3½ – 4 x 12	12
E904N24	3½ – 4 x 24	10
E904N8	3½ – 4 x 8	10
Split Square Adapter		
E904MS	3¼ x 4	10
E904NS	3½ – 4 x 18	10



Adapts Telephone Duct to Cast Iron Bends

Cast Iron Adapter

CAT. NO.	SIZE (IN.)	STD. CTN.
E906N	4	1



Round Clay Tile Adapter

CAT. NO.	SIZE (IN.)	STD. CTN.
E923NM	4 – 3¼	10



Adapts Telephone Duct to P&C Duct and Rigid Non-Metallic Conduit

P&C Duct Adapter

CAT. NO.	SIZE (IN.)	STD. CTN.
E913N	4	15
E913NF	4	15



Telephone Duct Reducers

Adapts Telephone Duct to P&C Duct and Rigid Non-Metallic Conduit



P&C Duct Adapter

CAT. NO.	SIZE (IN.)	STD. CTN.
E908NM	4–3½	15

Telephone Duct Expansion Fittings



Expansion Fitting — Type D

CAT. NO.	SIZE (IN.)	STD. CTN.
E905N	4	5
E905NL (LONG)	4	1

Telephone Duct Wyes

For starting lateral runs



P&C Duct Adapter

CAT. NO.	SIZE (IN.)	STD. CTN.
E916N	4	1
E916NW (WHITE)	4	1
Split		
E916NS	4	1
E916NSW (WHITE)	4	5

Elbows, Sweeps and Accessories

Split Sleeve Coupling

CAT. NO.	SIZE IN.	DESCRIPTION	LENGTH IN.	SPLIT	STD. CTN.	STD. WT. (LBS.)
Schedule 40 and 80						
E200JS6	2	Split Coupling	6	1	25	6.1
E200KS7	2½	Split Coupling	7	1	25	21
E200LS7	3	Split Coupling	7	1	25	15.5
E200LSS*	3	Split Coupling	6.5	1	25	10
E200MS8	3½	Split Coupling	8	1	25	41.2
E200NS8	4	Split Coupling	8	1	15	16
E200NSS*	4	Split Coupling	6	2	25	17
E200PS8	5	Split Coupling	8	1	15	25
E200PS9	5	Split Coupling	9	1	8	16.4
E200RS1	6	Split Coupling	10	1	6	24.2
C Duct						
E900NS8 (WHITE)	4	C Duct Split Coupling	8	1	15	19
E900NSW (WHITE)	4	C Duct Split Coupling	6	1	25	22

**Two-piece design*



Split Sleeve Coupling
For joining Split Duct to existing duct.

Split Sleeve Sweeps

SEGMENT	CAT. NO.	NOM. SIZE (IN.)	RADIUS (IN.)	STD. CTN.	STD. WT. (LBS.)
45° SWEEP	**UA7DJSD**	2	24	1	1.4
	UA7FJSD	2	36	1	2.1
	UA7FLSD	3	36	1	4.7
	UA7HJSD	2	48	1	2.7
	UA7HLSD	3	48	1	6.1
	UA7IJSD	2	60	1	3.2
	UA7ILSD	3	60	1	7.2
	UA7INSD	4	60	1	10.2
22½° SWEEP	**UA5INSD**	4	60	1	6.1
11¼° SWEEP	**UA3IJSD**	2	60	1	1
	UA3ILSD	3	60	1	3.6
	UA3INSD	4	60	1	5.1

Two 45° elbows may be segmented for 90°.



Split Duct Sweeps

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Elbows, Sweeps and Accessories

No waste • Sprays on in seconds • Fast setting

Multi-Purpose Spray-On Low-VOC PVC Cements

- Equivalent to a medium-bodied low-VOC, quick-setting clear cement
- No more spills
- Reuse can until empty
- Installation: 50° to 80° F; Storage: 35° to 120° F
- Meets ASTM D-2564
- Three-year shelf life
- One 4-oz. can is equivalent to 4 oz. of non-aerosol PVC cement*
- All cements are low VOC

*Equivalence is subject to usage and will vary.

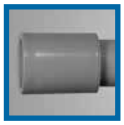
Applications:

- For use up to 4" diameter Schedule 40 or 80 PVC electrical conduit
- For use with PVC raceways only. Not recommended for use on water, sewer, natural gas, compressed gas or air connections









TEMPERATURE RANGE	RECOMMENDED SET TIME		
	PIPE SIZES ½" TO 1¼"	PIPE SIZES 1½" TO 2"	PIPE SIZES 2½" TO 4"
60°–100° F	2 min.	5 min.	30 min.
40°–60° F	5 min.	10 min.	2 hrs.
0°–40° F	10 min.	15 min.	12 hrs.

CAT. NO.	SIZE	DESCRIPTION	STD. CTN.	STD. WT. (LBS.)
VC9AC5	4 oz.	PVC Spray-On Medium Clear	12	5.6
VC9AC5C	4 oz.	PVC Spray-On Medium Clear	12	5.6
VC9AC16	11 oz.	PVC Spray-On Medium Clear	12	12.3
VC9AC16C	11 oz.	PVC Spray-On Medium Clear	12	12.3

Recommended set time may vary depending on humidity.

Canada only

RECOMMENDED PIPE APPLICATION AND SIZES	SET-UP TIME (EVAPORATION RATE)		RECOMMENDED INSTALLATION TEMP	LAP SHEAR @ 73° F	VISCOSITY AT 75° F AS MANUFACTURED
Recommended for all grades and types of Carlon® wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Non-Metallic Tubing).	10°–30° F	Not recommended	40° to 100° F	2 hrs. 350 psi	500–900 cps
	30°–50° F	5–6 minutes		16 hrs. 800 psi	
	50°–70° F	3–4 minutes		72 hrs. 1,500 psi	
	70°–90° F	1–2 minutes			

Up through 6" diameter.

VOC emission of 490 grams/liter per the Bay and South Coast test method.

Low VOC — Gray

CAT. NO.	SIZE	APPLICATOR	DESCRIPTION	STD. CTN.	STD. WT. (LBS.)
VC9LV4-24	Half Pint	Dauber	Low VOC Gray	24	15.5
VC9LV3	Pint	Dauber	Low VOC Gray	24	27.0
VC9LV2	Quart	Dauber	Low VOC Gray	12	26.0



Meets ASTM D-2564

Elbows, Sweeps and Accessories

RECOMMENDED PIPE APPLICATION AND SIZES	VISCOSITY AT 75° F AS MANUFACTURED	SET-UP TIME (EVAPORATION RATE)	RECOMMENDED INSTALLATION TEMP.	LAP SHEAR @ 73° F	VISCOSITY AT 75° F AS MANUFACTURED
Recommended for all grades and types of Carlon® wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Non-Metallic Tubing).	10°–30° F	Not recommended	40° to 100° F	2 hrs. 350 psi	500–900 cps
	30°–50° F	5–6 minutes		16 hrs. 800 psi	
	50°–70° F	3–4 minutes		72 hrs. 1,500 psi	
	70°–90° F	1–2 minutes			

Up through 6" diameter.

Low-VOC Medium — Clear



CAT. NO.	SIZE	APPLICATOR	DESCRIPTION	STD. CTN.	STD. WT. (LBS.)
VC9963	Pint	Dauber	PVC Medium Clear	24	29.0
VC9962	Quart	Dauber	PVC Medium Clear	12	27.5
VC9961P	Gallon	—	PVC Medium Clear	6	53.5

Meets ASTM D-2564.

Low-VOC Medium — Gray



CAT. NO.	SIZE	APPLICATOR	DESCRIPTION	STD. CTN.	STD. WT. (LBS.)
VC9923	Pint	Dauber	PVC Medium Gray	24	29.0
VC9922	Quart	Dauber	PVC Medium Gray	12	27.5
VC9941P	Gallon	—	PVC Medium Gray	6	53.5

Meets ASTM D-2564.

Low-VOC Regular — Clear



CAT. NO.	SIZE	APPLICATOR	DESCRIPTION	STD. CTN.	STD. WT. (LBS.)
VC9964	Half Pint	Dauber	PVC Regular Clear	10	29.0

Meets ASTM D-2564.

Note: *Rated for Schedule 40 through 4" and Schedule 80 through 2".*

Low-VOC Regular — Gray



CAT. NO.	SIZE	APPLICATOR	DESCRIPTION	STD. CTN.	STD. WT. (LBS.)
VC9924-24	Half Pint	Dauber	PVC Regular Gray	24	15.0

Meets ASTM D-2564.

Clear Primer



CAT. NO.	SIZE	APPLICATOR	STD. CTN.	STD. WT. (LBS.)
VC9903	Pint	Dauber	24	27.0
VC9902	Quart	Dauber	12	25.0

Meets ASTM F-686.

RECOMMENDED PIPE APPLICATION AND SIZES	RECOMMENDED INSTALLATION TEMPERATURE
Recommended for use with Carlon® cement	5° to 100° F

Purple Primer



CAT. NO.	SIZE	APPLICATOR	STD. CTN.	STD. WT. (LBS.)
VC9932	Quart	Dauber	12	25.0

Meets ASTM F-686.

RECOMMENDED PIPE APPLICATION AND SIZES	RECOMMENDED INSTALLATION TEMPERATURE
Recommended for use with Carlon® cement	5° to 100° F

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RECOMMENDED PIPE VISCOSITY AT 75° F APPLICATION AND SIZES	SET-UP TIME (EVAPORATION RATE)		RECOMMENDED INSTALLATION TEMP.	LAP SHEAR @ 73° F	VISCOSITY AT 75° F AS MANUFACTURED
Recommended for all grades and types of Carlon® wireway and fittings, except Flex-Plus® Blue™ ENT (Electrical Non-Metallic Tubing).	-5°–10° F	6–8 minutes	-5° to 100° F	2 hrs. 350 psi	400–700 cps
	10°–30° F	4–5 minutes		16 hrs. 800 psi	
	30°–50° F	3–4 minutes		72 hrs. 1,500 psi	
	50°–70° F	1–2 minutes			
Up through 6" diameter.	70°–90° F	½–1½ minutes			

Low-VOC All Weather — Clear

CAT. NO.	SIZE	APPLICATOR	DESCRIPTION	STD. CTN.	STD. WT. (LBS.)
VC9984	Half Pint	Dauber	All Weather "Quick-Set" Cement	10	7.0
VC9983	Pint	Dauber	All Weather "Quick-Set" Cement	24	30.0
VC9982	Quart	Dauber	All Weather "Quick-Set" Cement	12	29.0
VC9981P	Gallon	—	All Weather "Quick-Set" Cement	6	54.0

Meets ASTM D-2564.



RECOMMENDED PIPE VISCOSITY AT 75° F APPLICATION AND SIZES	SET-UP TIME (EVAPORATION RATE)		RECOMMENDED INSTALLATION TEMP.	LAP SHEAR @ 73° F	VISCOSITY AT 75° F AS MANUFACTURED
Required for use with Flex-Plus® Blue™ ENT (Electrical Non-Metallic Tubing), Riser-Gard®, P&C Flex™ and Carlon® PVC fittings.	-5°–10° F	6–8 minutes	-5° to 100° F	2 hrs. 350 psi	400–700 cps
	10°–30° F	4–5 minutes		16 hrs. 800 psi	
	30°–50° F	3–4 minutes		72 hrs. 1,500 psi	
	50°–70° F	1–2 minutes			
Up through 6" diameter.	70°–90° F	½–1½ minutes			

Low-VOC All Weather — ENT Blue

CAT. NO.	SIZE	APPLICATOR	DESCRIPTION	STD. CTN.	STD. WT. (LBS.)
VC9992	Quart	Dauber	All Weather "Quick-Set" Blue	12	29.0

Meets ASTM D-2564.



RECOMMENDED PIPE VISCOSITY AT 75° F APPLICATION AND SIZES	SET-UP TIME (EVAPORATION RATE)		RECOMMENDED INSTALLATION TEMP.	LAP SHEAR @ 73° F	VISCOSITY AT 75° F AS MANUFACTURED
For use with Resi-Gard®, Riser-Gard®, P&C Flex™ and Carlon® PVC fittings.	10°–30° F	4–5 minutes	40° to 100° F	2 hrs. 350 psi	500–900 cps
	30°–50° F	3–4 minutes		16 hrs. 800 psi	
Up through 6" diameter.	50°–70° F	1–2 minutes		72 hrs. 1,500 psi	
	70°–90° F	½–1½ minutes			
	70°–90° F	½–1½ minutes			

Low-VOC Resi-Gard® — Clear

CAT. NO.	SIZE	APPLICATOR	DESCRIPTION	STD. CTN.	STD. WT. (LBS.)
VC9963SC	Pint	Brush	Resi-Gard® Solvent Cement Clear	24	28.0

Meets ASTM D-2564.



Elbows, Sweeps and Accessories

No waste • Sprays on in seconds • Fast setting

Multi-Purpose Weather Gard Spray-On Rubber Film





- Weatherproof
- Forms a protective weatherproof seal on electrical connections
- Dries in minutes to crystal clear rubber film
- Prevents corrosion on electrical connections
- Recommended installation temperatures: 50° to 80° F
- Can be used on wood and plastic
- Two-year shelf life

Applications:

- Electrical connections
- Outdoor lighting
- Panel boxes
- Pool motors and timers
- Water valves and connections
- Sprinkler connections and control box
- Marine applications

CAT. NO.	SIZE	DESCRIPTION	STD. CTN.	STD. WT. (LBS.)
VC9WG5	4 oz.	Multi-Purpose Weather-Gard Spray-On Rubber Film	12	5.6
VC9WG5C	4 oz.	Multi-Purpose Weather-Gard Spray-On Rubber Film	12	5.6
VC9WG16	11 oz.	Multi-Purpose Weather-Gard Spray-On Rubber Film	12	12.3
VC9WG16C	11 oz.	Multi-Purpose Weather-Gard Spray-On Rubber Film	12	12.3

Canada only

Multi-Purpose Spray-On Rubber Thread Gasket







- Dries to rubber gasket to seal pipe threads
- Seals out leaks
- Protects against rust and corrosion
- UV resistant
- Weatherproof
- Two-year shelf life

Applications:

- PVC
- Copper
- Iron
- Brass

CAT. NO.	SIZE	DESCRIPTION	STD. CTN.	STD. WT. (LBS.)
VC9TS5	4 oz.	Multi-Purpose Rubber Thread Sealer	12	5.6
VC9TS5C	4 oz.	Multi-Purpose Rubber Thread Sealer	12	5.6

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Installation Instructions — Cement Joints



Carlon® non-metallic products are joined by means of solvent cement joints. Sizes ½" through 1½" should be cut square (using a fine-tooth handsaw) and deburred. For sizes 2" through 6", a miter box or similar saw guide should be utilized to keep the material steady. After cutting and deburring, wipe ends clean of dust, dirt and shavings.

Joining process as follows:

- Be sure that conduit end is clean and dry.
- Apply coat of Carlon® Solvent Cement (use dauber) to end of conduit for the length of the socket to be attached.
- Push conduit firmly into fitting while rotating conduit slightly, about one-quarter turn to spread cement evenly.
- Allow joint to set approximately 10 minutes.

Carlon® recommends the use of Carlon® cement for proper solvent cement joints. Because this cement is prepared particularly for our product compounds and tolerances, we cannot guarantee joints assembled with cement materials supplied by other manufacturers. Regular-grade gray solvent cement will accommodate most application situations being of a general-purpose nature. In situations requiring an extremely fast-setting joint (low temperature or difficult installation conditions), Carlon® All Weather Quick-Set Cement is recommended. Standard-grade clear cement is recommended for non-critical utility applications where gap filling and leak testing are not required.

Average Number of Joints per Can

TRADE SIZE (IN.)	½ PINT 8 OZ.	PINT 16 OZ.	QUART 32 OZ.	GALLON 128 OZ.	SPRAY 4 OZ.	SPRAY 16 OZ.
½	140	275	550	2,200	70	275
¾	90	180	360	1,440	45	180
1	70	140	280	1,120	35	140
1¼	50	100	200	800	25	100
1½	37	75	150	600	18.5	75
2	20	40	80	320	10	40
2½	17	35	70	280	8.5	35
3	15	30	60	240	7.5	30
3½	13	27	54	216	6.5	27
4	12	25	50	200	6	25
5	9	19	38	150	N/A	N/A
6	6	12	24	95	N/A	N/A

Can: Average shelf life of all Carlon® cement is 24 months (unopened cans stored below 80° F).

Spray: Average shelf life of all Carlon® spray PVC cement is three years.

All Carlon® cements are specially formulated to be used with Carlon® PVC products, and do not require primers when parts are clean of dirt and moisture.

MSDS available at ***www.carlon.com****.*

Cementing PVC Conduit:



1. Make square saw cut with fine-tooth saw.
2. Deburr and round inside edge of the cut end.
3. Clean socket I.D. and spigot O.D. of dirt and moisture.
4. Apply a uniform coat of cement to spigot end and push onto socket bottom, rotating ¼ turn.
5. Allow time to set before disturbing. Setting time will depend upon temperature.

Cementing PVC Conduit for Submerged Areas Requiring Air or Water Tightness:



1. Follow the procedure above for cementing conduit.
2. Test workmanship by conducting a low-pressure air (3.0–5.0 psi) test after system is installed and cemented joints are set.
3. Plug and block ends to prevent movement prior to pressurization.
4. Check for leaks with soap solution.
5. Even low-pressure air can cause high-thrust loads and caution must be observed.

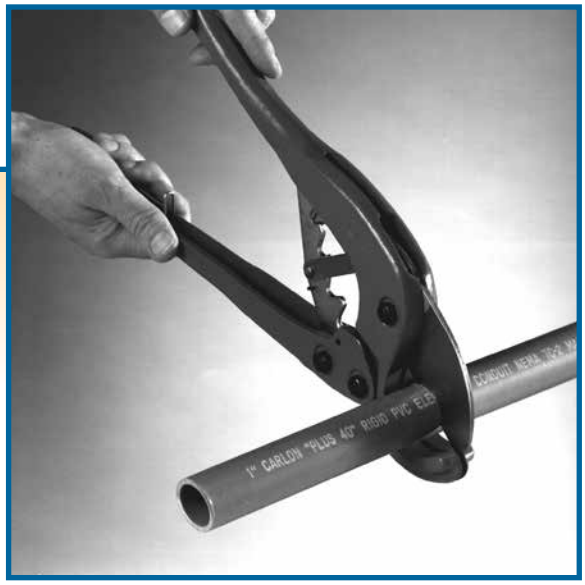
Cementing ENT for Concrete-Tight Applications:



1. Use Carlon® Socket tight fittings or couplings.
2. Do not use chemical primer or cleaner.
3. Apply a light uniform coat of cement labeled for use with ENT.
4. Use a brush to apply the cement.
5. Brush excess cement out of ENT grooves.
6. Promptly insert ENT into fitting while cement is wet until the fitting stop is reached and give ¼ turn.
7. Do not disturb until the joint is set.

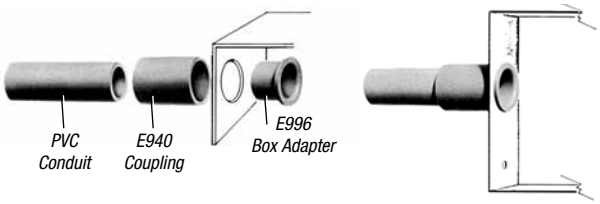
Installation Instructions — Fittings and Adapters for Terminating Non-Metallic Rigid Conduit

Terminating Non-Metallic Rigid Conduit is quick and easy utilizing either of the methods indicated **below**. Terminations may be made in any electrical box or enclosure using standard size knockouts or drilled holes.



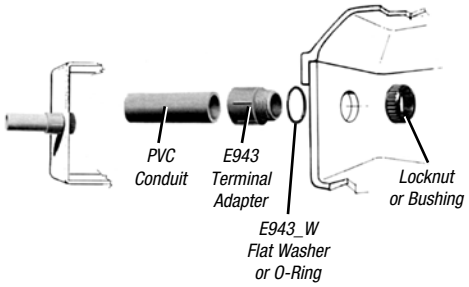
Method 1. Permanent Termination

Apply solvent cement to shoulder and shank of box adapter and insert through knockout from inside the enclosure. Push coupling over the shank of the box adapter, tight against the enclosure wall. Rotate the coupling about one-half turn while installing, and hold in position for a few seconds to permit setting of solvent cement. The coupling is now ready for the conduit to be installed. Only the shoulder of the box adapter extends inside the enclosure.



Method 2. Separable Termination

If a "wet location" as defined in Article 100 of the NEC® construction is required, place a flat washer or O-ring over the threads of the terminal adapter, securely against the shoulder. Insert the adapter threads through knockout and secure using either a standard locknut or threaded bushing. If watertight construction is not required, eliminate flat washer.



PVC Conduit Cutters

Small Cutter

For fast, smooth field cuts of ½" through 1" Non-Metallic Rigid Conduit, Flex-Plus® Blue™ ENT and Carflex® liquidtight flexible non-metallic conduit.



CAT. NO.	SIZE (IN.)	STD. CTN.
CC120B	8	10

Medium Cutter

Hand-held cutter makes fast, square, smooth field cuts on Non-Metallic Rigid Conduit from ½" through 1¼". Produces burr-free cut with no shavings. Fits into pocket or pouch.



CAT. NO.	SIZE (IN.)	STD. CTN.
CC125	9	12

Large Cutter

For clean cuts of conduit ½" through 2".



CAT. NO.	SIZE (IN.)	STD. CTN.
CC122	17½	1

Thomas&Betts

United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

www.tnb.com

Conduit Pulling Lines for Conductors or Fiber Optics

White Diamond Braid Rope

This rope is constructed of polyethylene over polyester, designed specifically for fiber optic pulling. The polyethylene jacket has a "slippery" feel that gives less drag in pulling through conduit.

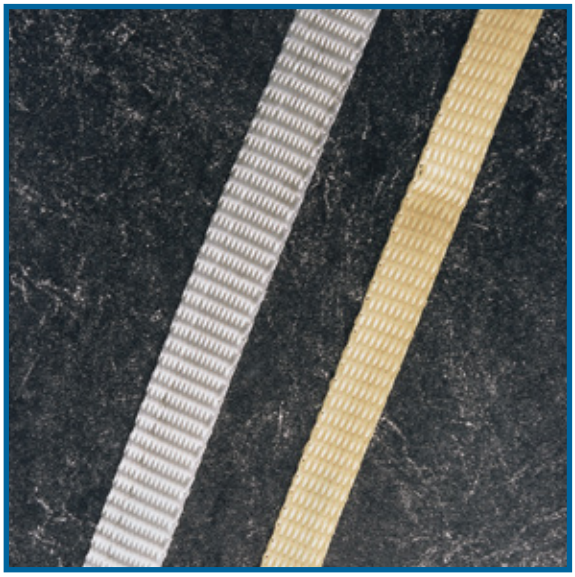
CAT. NO.	REEL LENGTHS (FT.)	DIAMETER (IN.)	RECOMMENDED WORKING LOAD (LBS.)	APPROXIMATE AVG. TENSILE (LBS.)	APPROXIMATE STD. WT. (LBS.)
SB14105	5,000	¼	260	1,700	1,000



Tape

Pre-lubricated, woven polyester tape made from low-friction, high abrasion-resistant yarns, provides a low coefficient of friction. Tape is printed with sequential footage markings for accurate measurements.

CAT. NO.	SIZE (IN.)	TENSILE STRENGTH (LBS.)	REEL LENGTHS (FT.)
TL14203	½	1,130	3,000
TL14505	½	1,250	5,000
TL14510	½	1,250	10,000
TL38203	⅝	1,800	3,000
TL38265	⅝	1,800	6,500
TL38210	⅝	1,800	10,000



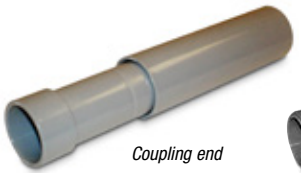
Conduit Bodies and Fittings (for use with Schedule 40 and 80 Conduit)

Expansion Fittings

E945 series expansion fittings are designed to compensate for length changes due to temperature variations in exposed conduit runs.

c UL us LISTED E23018

- Exclusive molded-in mid-point indicator on the piston
- Exclusive 2" expansion fitting with an 8" travel distance
- Two-piece molded design with lubricated seals for easier movement for the life of the product
- Ridges on the fitting for easier installation (sizes 2"–6" only)
- Male terminal adapter end design (½"–2" NPT Threads, and 2½"–6" NPSC threads)
- Two O-rings to prevent leakage
- Can be installed vertically or horizontally



Coupling end



Male terminal adapter end

COUPLING END CAT. NO.	MALE TERMINAL ADAPTER END CAT. NO.	SIZE (IN.)	STD. CTN.	TRAVEL LENGTH (IN.)
E945D	E945DX	½	20	4
E945E	E945EX	¾	15	4
E945F	E945FX	1	10	4
E945G	E945GX	1¼	5	4
E945H	E945HX	1½	5	4
E945J	E945JX	2	15	8
E945K	E945KX	2½	10	8
E945L	E945LX	3	10	8
E945M	E945MX	3½	5	8
E945N	E945NX	4	5	8
E945P	E945PX	5	1	8
E945R	E945RX	6	1	8

Short Expansion Couplings

Expand to a maximum of 2".

c UL us LISTED E23018

CAT. NO.	SIZE (IN.)	STD. CTN.
E955D	½	40
E955E	¾	40
E955F	1	25
E955G	1¼	15
E955H	1½	10
E955J	2	6



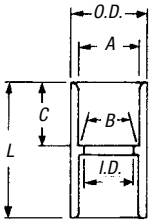
Standard Couplings

All socket fittings should be attached using Carlon® solvent cement.

LR33856 UL LISTED E23018 Except where noted by ▶



Socket type for joining non-metallic conduit.



CAT. NO.	SIZE (IN.)	STD. CTN.	TYPICAL (IN.) A	TYPICAL (IN.) B	I.D. (IN.)	O.D. (IN.)	TYPICAL (IN.) C	TYPICAL (IN.) L
E940D	½	150	.852	.836	.728	1 7/64	1 1/16	1½
CE940DR-CTN	½	75	.852	.836	.728	1 7/64	1 1/16	1½
E940E	¾	100	1.064	1.046	.840	1 5/16	¾	1⅝
CE940ER-CTN	¾	45	1.064	1.046	.840	1 5/16	¾	1⅝
E940F	1	50	1.330	1.310	1.210	1⅝	1 5/16	2
CE940F-UPC	1	50	1.330	1.310	1.210	1⅝	1 5/16	2
E940G	1¼	30	1.677	1.655	1.535	1 63/64	1	2⅛
E940H	1½	25	1.918	1.894	1.755	2 15/64	1⅛	2⅜
E940J	2	30	2.393	2.369	2.190	2 47/64	1 3/16	2½
E940K	2½	20	2.890	2.868	2.688	3 5/16	1 33/64	3 3/16
E940L	3	25	3.515	3.492	3.375	3 31/32	1¾	3 13/32
E940M	3½	20	4.015	3.992	3.780	4 9/16	1¾	3⅝
E940N	4	15	4.515	4.491	4.265	5 3/32	1 25/32	3¾
E940P	5	8	5.593	5.553	5.097	6¼	15/16	4 1/16
E940R	6	5	6.658	6.614	6.115	7½	2 3/16	4⅝

Canada only

Special Long-Line Couplings (with Conduit Stop)



Long-Line Couplings

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)	LENGTH (IN.)
E941H	1½	40	9	3.19
E941J	2	25	8	3.59
E941K	2½	15	8	4.29
E941L	3	15	14	6.44
E941N	4	10	15	6.96
E941PF	5	4	12	9.63
▶ E941RF	6	5	21	11.75

Fabricated Expansion Couplings



UL LISTED E23018

CAT. NO.	SIZE (IN.)	STD. CTN.	TRAVEL LENGTH (IN.)
E945KXL	2½	10	12

Thomas&Betts

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Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

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Conduit Bodies and Fittings (for use with Schedule 40 and 80 Conduit)

Special Long-Line Sleeve Couplings



Sleeve Coupling (For Repair Work) No Internal Stop

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)	LENGTH (IN.)
▶ E948H	1½	25	6	4
▶ E948J	2	25	5	3
▶ E948K	2½	25	16	6
▶ E948L	3	25	13	4
▶ E948N	4	10	8	6.5
▶ E948P	5	14	33	7
▶ E948R	6	6	16	6
▶ E948JR	2	15	8	6
▶ E948JS	2 (Sch. 40 Split Duct)	25	6	—
▶ E948KS7	2½ (Sch. 40 Split Duct)	25	19	7
▶ E948L12	3	1	1	12
▶ E948L6	3	15	15	6
▶ E948LS	3 (Sch. 40 Split Duct)	25	17	—
▶ E948N12	4	10	28	12
▶ E948N7	4	15	25	7
▶ E948NS	4 (Sch. 40 Split Duct)	10	15	—
▶ E948PS	5 (Sch. 40 Split Duct)	1	2	—
▶ E948R10	6	6	25	10
▶ E948R12	6	6	25	12
▶ E948RS	6 (Sch. 40 Split Duct)	1	2	—

Special Schedule 40 Swedge Couplings

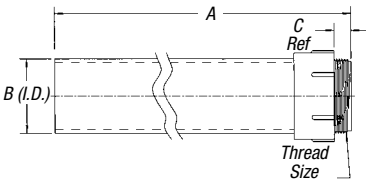
CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
▶ E442K	2½	20	13
▶ E442R	6	6	27
▶ E442T	8	2	17

*Consult factory for additional sizes



Schedule 40 Risers

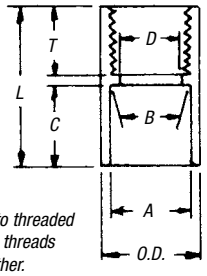




CAT. NO.	SIZE (IN.)	A (IN.) (LENGTH)	B (IN.)	C (IN.)	THREAD SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
▶ E954HX	1½	80.00	1.567	.950	1½ NPT	1	3.8
▶ E954J	2	60.00	2.024	.825	2 NPT	1	3.7
▶ E954JX	2	80.00	2.024	.825	2 NPT	1	5.0
▶ E954K	2½	60.00	2.418	.812	2½ NPSC	1	6.0
▶ E954KX	2½	80.00	2.418	.812	2½ NPSC	1	8.4
▶ E954L	3	60.00	3.616	.798	3 NPSC	1	8.7
▶ E954LX	3	80.00	3.616	.798	3 NPSC	1	11.0

Female Adapters





LR31146

LISTED E23018

Except where noted by ▶

For adapting non-metallic conduits to threaded fittings, metallic systems. Female threads on one end, socket end on other.

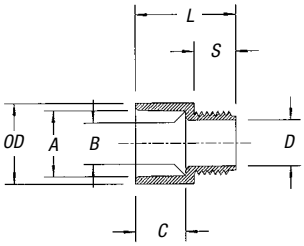
CAT. NO.	SIZE (IN.)	STD. CTN.	TYPICAL (IN.) A	TYPICAL (IN.) B	MIN. D (IN.)	MAX. O.D. (IN.)	TYPICAL (IN.) C	TYPICAL (IN.) S	TYPICAL (IN.) L
E942D	½	150	.852	.836	.620	1 7/64	11/16	¾	1 9/16
E942E	¾	100	1.064	1.046	.822	1 5/16	13/16	¾	1 5/8
E942F	1	50	1.330	1.310	1.046	1 5/8	15/16	⅞	1 15/16
E942G	1¼	30	1.677	1.655	1.377	1 63/64	1	⅞	2
E942H	1½	25	1.918	1.894	1.607	2 5/32	1 1/8	⅞	2 7/32
E942J	2	30	2.393	2.369	2.064	2 47/64	1 3/16	1	2 5/16
E942K	2½	20	2.890	2.868	2.450	3 1/32	1 5/8	1 1/8	2 15/16
E942L	3	25	3.515	3.492	3.000	3 31/32	1 3/4	1 1/8	3 1/16
E942M	3½	20	4.015	3.992	3.500	4½	1 7/8	1 1/8	3¼
E942N	4	15	4.515	4.491	4.000	5 1/64	1 3/4	1 1/16	3 13/64
▶ E942NX9*	4	15	(Call for information)						
E942P	5	8	5.593	5.553	5.047	6¼	1 15/16	1 1/16	3 3/16
E942R	6	6	6.658	6.614	6.055	7¼	2 1/8	1 1/16	3⅜
▶ E942RX*	6	6	(Call for information)						

*Long-Line Adapter

Male Terminal Adapters



For adapting non-metallic conduits to boxes, threaded fittings, metallic systems. Male threads on one end, socket end on other.



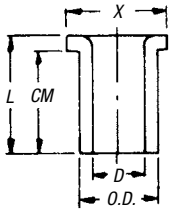
CAT. NO.	SIZE (IN.)	STD. CTN.	TYPICAL (IN.) A	TYPICAL (IN.) B	MIN. D (IN.)	MAX. O.D. (IN.)	TYPICAL (IN.) C	TYPICAL (IN.) S	TYPICAL (IN.) L
E943D	½	150	.852	.836	.594	1.042	.652	.545	1.310
E943E	¾	125	1.064	1.046	.793	1.290	.809	.553	1.470
E943F	1	50	1.330	1.310	1.025	1.580	.965	.812	1.902
E943G	1¼	50	1.677	1.655	1.345	1.973	1.208	.816	1.986
E943H	1½	25	1.918	1.894	1.574	2.188	1.155	.802	2.105
E943J	2	50	2.393	2.369	1.998	2.713	1.145	.825	2.093
E943K	2½	25	2.890	2.868	2.400	3.290	1.490	.812	2.480
E943L	3	45	3.515	3.492	2.989	3.965	1.643	.797	2.660
E943M	3½	30	4.015	3.992	3.405	4.515	1.720	.802	2.740
E943N	4	20	4.515	4.491	3.895	5.065	1.788	.733	2.830
E943P	5	5	5.593	5.553	4.900	6.104	1.935	.990	3.200
E943R	6	10	6.658	6.614	5.900	7.288	2.128	.985	3.410

Conduit Bodies and Fittings (for use with Schedule 40 and 80 Conduit)

Adapters



Adapts non-metallic conduit to all electrical enclosures by inserting adapter through knockout and cementing into Carlon couplings.



Box Adapters for Enclosures

CAT. NO.	SIZE (IN.)	STD. CTN.	MIN D (IN.)	OD (IN.) TYPICAL	MAX X (IN.)	CM (IN.) TYPICAL	L (IN.) TYPICAL
E996D	½	100	.662	.840	1 7/64	2 3/32	2 3/32
E996E	¾	100	.824	1.050	1 21/64	2 5/32	2 9/32
E996F	1	100	1.049	1.315	1 5/8	6 1/64	1 3/32
E996G	1¼	50	1.380	1.660	1 31/32	1 1/16	1¼
E996H	1½	50	1.610	1.900	2 13/64	1 3/16	1 3/8
E996J	2	25	2.067	2.375	2 29/32	1¼	1 7/16
E996K	2½	15	2.469	2.875	3 7/16	1 7/8	1 15/16
E996L	3	20	3.068	3.500	4 1/8	2	2 1/16
E996N	4	10	4.026	4.500	5 1/8	2½	2¼

Threaded Adapters

CAT. NO.	SIZE (IN.)	STD. CTN.
E9842D [1]	½	25
E9842E [2]	¾	25

[1] *Fits ¾" sockets*
[2] *Fits 1" sockets*



Plugs

LR31146
LISTED E23018
Except where noted by ▶

Reducer Plugs

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
▶ E971C	¾ x ½	100	2
▶ E971D	1 x ¾	100	3



Plugs (Polyethylene)

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
▶ P258H	1½	50	2
▶ P258K	2½	25	1.5



Plugs with Pull Tabs (Polyethylene)

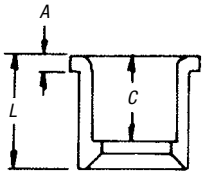
CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
▶ P258JT	2	60	3
▶ P258LT	3	30	3
▶ P258NT	4	48	8
▶ P258PT	5	30	6
▶ P258RT	6	30	9



Reducers



For connecting different sizes of conduit. Bell x Spigot.





Reducer Bushings

CAT. NO.	SIZE (IN.)	STD. CTN.	L (IN.) TYPICAL	A (IN.) TYPICAL	C (IN.) TYPICAL
E950ED	¾ x ½	100	1 5/32	1 3/64	1 1/32
E950FD-CAR	1 x ½	25	1 11/32	3/16	57/64
E950FE	1 x ¾	100	1 11/32	3/16	1 1/64
E950GE-CAR	1¼ x ¾	10	1 15/32	3/16	1 1/64
E950GF	1¼ x 1	50	1 15/32	3/16	1 9/64
E950HF-CAR	1½ x 1	10	1 19/32	3/16	1 9/64
E950HG-CAR	1½ x 1¼	10	1 19/32	3/16	1 17/64
E950JG-CAR	2 x 1¼	10	1¾	7/32	1 17/64
E950JH-CAR	2 x 1½	10	1¾	7/32	1 25/64
E950KJ-CAR	2½ x 2	10	2 5/32	3/8	1 27/64
E950LJ-CAR	3 x 2	10	2 1/8	¼	1 7/8
▶ E950LK	3 x 2½	25	1 15/16	¼	1 11/16
E950NL	4 x 3	25	2¾	5/16	1 15/16

Fabricated Reducers

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
Male x Male			
▶ E952JH	1½ x 2	48	20
▶ E952KJ	2½ x 2	48	26
▶ E952LJ	3 x 2	36	21
▶ E952LK	3 x 2½	36	32
▶ E952NL	4 x 3	15	21
▶ E952NM	4 x 3½	15	25
▶ E952PN	5 x 4	12	27
▶ E952RP	6 x 5	10	31
Male x Female			
▶ E952NJF	4 x 2	15	16
▶ E952RNF	6 x 4	10	28

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Conduit Bodies and Fittings *(for use with Schedule 40 and 80 Conduit)*

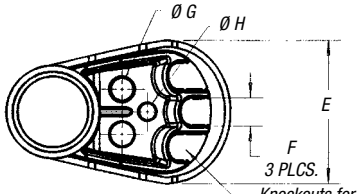
Caps

Note: *For vertical applications only.*

c UL us LISTED
E13938







Service Entrance Caps (Vertical Applications Only)

CAT. NO.	SIZE (IN.)	STD. CTN.	DIMENSIONS (IN.) E	F	G	H
E998D	½	5	1.76	.45	.45	—
E998E	¾	20	1.76	.45	.45	—
E998E-CAR	¾	5	1.76	.45	.45	—
E998F	1	15	2.26	.59	.58	—
E998F-CAR	1	5	2.26	.59	.58	—
E998G-CAR	1¼	5	3.52	.74	.71	.50
E998H-CAR	1½	5	3.52	.74	.71	.50
E998J-CAR	2	5	4.26	.83	.78	.56
E998K-UPC	2½	2	7.47	1.70	1.31	1.00
E998L	3	2	7.47	1.70	1.31	1.00
E998N	4	2	10.45	2.25	1.88	1.31

End Caps

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
▶ E958D	½	100	3
▶ E958E	¾	100	4
▶ E958F	1	75	5
▶ E958G	1¼	40	4
▶ E958H	1½	30	4
▶ E958J	2	25	5
▶ E958K	2½	10	4
▶ E958L	3	10	5
▶ E958N	4	5	17
▶ E958P	5	5	11
▶ E958R	6	5	13



PVC Riser Caps

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
▶ E935J	2	25	3
▶ E935L	3	25	5
▶ E935N	4	25	7
▶ E935P	5	25	35
▶ E935R	6	10	7



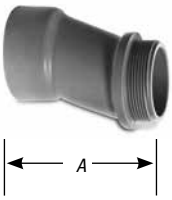
Offsets

LR31146

LISTED
E23018
Except where noted by ▶

Meter Offset

CAT. NO.	SIZE (IN.)	STD. CTN.	OFFSET (IN.)	A (IN.)
▶ E995G	1¼	15	.758	4.230
▶ E995J	2	8	.684	4.270



Offset

CAT. NO.	SIZE (IN.)	OFFSET (IN.)	STD. CTN.	STD. WT. (LBS.)
▶ E994D	½	.250	25	3
▶ E994E	¾	.250	25	3
▶ E994F	1	.500	50	12



End Bells

End Bells

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
E997F	1	50	2.6
E997G	1¼	35	2.5
E997H	1½	30	2.5
E997J	2	40	5.0
E997K	2½	30	2
E997L	3	50	10
E997M	3½	40	11
E997N	4	30	16
▶ E997P	5	15	8
▶ E997R	6	10	7
▶ E997T	8	3	15



Schedule 40 Fabricated End Bells

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
▶ E949J5	2 x 5	50	10
▶ E949J6	2 x 6	25	12
▶ E949JN	2 x 4	25	7
▶ E949JX	2 x 8	12	7
▶ E949LR	3 x 6	20	21
▶ E949N5	4 x 5	20	2
▶ E949NR	4 x 6	15	21
▶ E949R5	6 x 5	12	27
▶ E949RX	6 x 8	6	17



Conduit Bodies and Fittings *(for use with Schedule 40 and 80 Conduit)*

Flat Sealing Washers

Where a waterproof termination is required into any enclosure (metallic or non-metallic), install the neoprene washer over the threads of a terminal adapter before inserting into the enclosure. Use a standard locknut or threaded bushing to secure the assembly.

CAT. NO.	SIZE (IN.)	STD. CTN.
▶ E943DW	½	125
▶ E943EW	¾	125
▶ E943FW	1	100
▶ E943GW	1¼	50
▶ E943HW	1½	50
E943JW	2	25

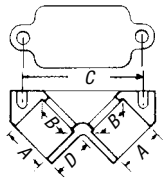


PVC Lock Nuts

CAT. NO.	SIZE (IN.)	STD. CTN.
▶ LT9LD	½	1200
▶ LT9LE	¾	700
▶ LT9LF	1	600



Access Pull Elbows





	CAT. NO.	SIZE (IN.)	STD. CTN.	A (IN.) TYPICAL	B (IN.) TYPICAL	C (IN.) TYPICAL	D (IN.) TYPICAL
†	E990D	½	75	.852	.836	2.187	.718
†	E990E	¾	50	1.064	1.046	2.531	.781

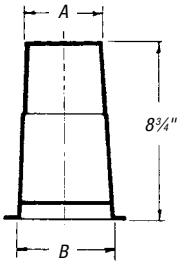
Gasket included.

HOLFORM™ Concrete Sleeves

LR31146 Except where noted by †

LISTED E23018 Except where noted by ▶

HOLFORM™ non-metallic concrete sleeve forms are the easy way to form holes in concrete. They install in seconds with nails, screws or staples and are easily removed. Concrete will not adhere to them. Sleeves are adjustable to any slab thickness.





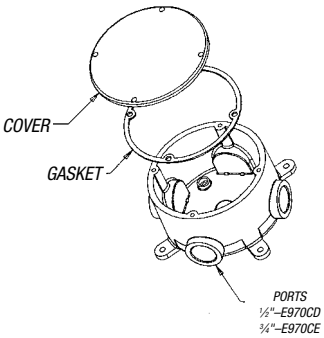
	CAT. NO.	MIN. O.D. A (IN.)	B (IN.)	STD. CTN.	STD. WT. (LBS.)
†▶	E92CSH	1½	1¾	20	3
†▶	E92CSJ	2	2 13/32	25	6
†▶	E92CSL	3	3 13/32	25	8
†▶	E92CSN	4	4 13/32	18	8
†▶	E92CSP	5	5 13/32	15	8
†▶	E92CSR	6	6 13/32	12	8

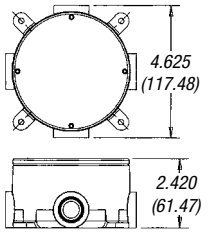
Conduit Bodies Type X with Cover

Four knock-out type socket openings, 90° spacing. Available with ½" or ¾" socket outlets. Includes cover and gasket.

Note: *Not fixture rated.*







CAT. NO.	SIZE (IN.)	VOL. CU. IN.	STD. CTN.
▶ E970CD	½	15.16	15
E970CE	¾	15.16	15

Supplied with four stainless steel cover screws. Diameter 4⅛", thickness ¼". Not designed for use with wiring devices or light fixtures.

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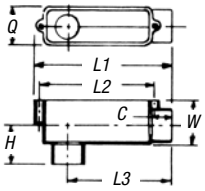
www.tnb.com

Conduit Bodies and Fittings *(for use with Schedule 40 and 80 Conduit)*

Feature unthreaded hubs and textured lids with foam-in-place gaskets.

Conduit Bodies Type LB



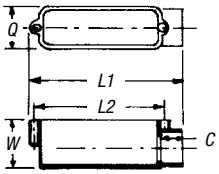


Note: *Covers are not sold as separate item.*

CAT. NO.	SIZE (IN.)	STD. CTN.	DIMENSIONS (IN.) TYPICAL C	MAX. L1	TYPICAL L2	L3	MAX. H	MAX. Q	MAX. W	VOL. CU. IN.
E986D	½	25	1 1/16	4 5/16	3 7/32	3 1/16	1 5/16	1 11/32	1 ½	4.0
E986E	¾	15	2 9/32	6 9/32	5 9/32	4 25/32	1 25/32	1 ¾	2 1/32	12.0
E986F	1	10	2 9/32	6 9/32	5 9/32	4 25/32	1 25/32	1 ¾	2 1/32	12.0
E986G	1 ¼	10	1 3/32	7 31/32	6 13/32	6	2 5/16	2 ½	2 ¾	32.0
E986H	1 ½	10	1 3/32	7 31/32	6 13/32	6	2 5/16	2 ½	2 ¾	32.0
E986J	2	10	1 5/32	9 31/32	8 13/32	7 ¼	2 9/16	3 5/32	3 15/32	63.0
▶ E986K	2 ½	4	1 ⅝	14 ⅞	13 ¼	11 31/32	3 ¾	4 11/32	4 ⅝	210
▶ E986L	3	4	1 ⅝	14 ⅞	13 ¼	11 31/32	3 ¾	4 11/32	4 ⅝	210
▶ E986M	3 ½	4	1 25/32	17 23/32	15 ⅝	14 17/64	4 7/16	5 11/32	5 21/32	390
▶ E986N	4	4	1 25/32	17 23/32	15 ⅝	14 17/64	4 7/16	5 11/32	5 21/32	390

Type E

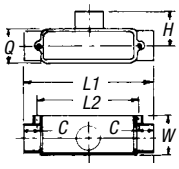




CAT. NO.	SIZE (IN.)	STD. CTN.	DIMENSIONS (IN.) TYPICAL C	MAX. L1	TYPICAL L2	MAX. Q	MAX. W	VOL. CU. IN.
988D	½	25	1 1/16	4 5/16	3 ½	1 11/32	1 ½	4.0
E988E	¾	20	2 9/32	6 11/32	5 9/32	1 ¾	2 1/32	12.0
E988F	1	10	2 9/32	6 11/32	5 9/32	1 ¾	2 1/32	12.0
E988G	1 ¼	10	1 3/32	8	6 13/32	2 ½	2 ¾	32.0
E988H	1 ½	10	1 3/32	8	6 13/32	2 ½	2 ¾	32.0
E988J	2	5	1 5/32	9 15/32	8 13/32	3 5/32	3 15/32	63.0

Type C

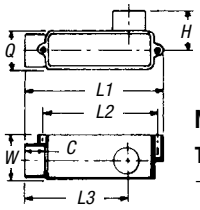




CAT. NO.	SIZE (IN.)	STD. CTN.	DIMENSIONS (IN.) TYPICAL C	MAX. L1	TYPICAL L2	MAX. Q	MAX. W	VOL. CU. IN.
E987D	½	25	1 1/16	4 11/16	3 ½	1 11/32	1 ½	4.0
E987E-CAR	¾	10	2 9/32	6 ⅞	5 32/64	1 ¾	2 1/32	12.0
E987F-CAR	1	10	2 9/32	6 ⅞	5 9/32	1 ¾	2 1/32	12.0
E987G	1 ¼	10	1 3/32	8 21/32	6 13/32	2 ½	2 ¾	32.0
E987H	1 ½	10	1 3/32	8 21/32	6 13/32	2 ½	2 ¾	32.0
E987J	2	15	1 5/32	10 5/16	8 13/32	3 5/32	3 15/32	63.0

Type LR





LR31146

E11461

Except where noted by ▶

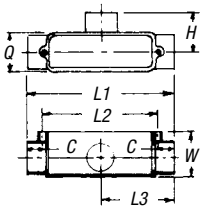
NEMA 4, 4X

Temperature range: -50° C to 120° C

CAT. NO.	SIZE (IN.)	STD. CTN.	DIMENSIONS (IN.) TYPICAL C	MAX. L1	TYPICAL L2	L3	MAX. H	MAX. Q	MAX. W	VOL. CU. IN.
E985D-CAR	½	10	1 1/16	4 5/16	3 7/32	3 1/16	1 5/16	1 11/32	1 ½	4.0
E985E-CAR	¾	10	2 9/32	6 9/32	5 9/32	4 25/32	1 25/32	1 ¾	2 1/32	12.0
E985F	1	10	2 9/32	6 9/32	5 9/32	4 25/32	1 25/32	1 ¾	2 1/32	12.0
E985G	1 ¼	10	1 3/32	7 31/32	6 13/32	6	2 5/16	2 ½	2 ¾	32.0
E985H-CAR	1 ½	5	1 3/32	7 31/32	6 13/32	6	2 5/16	2 ½	2 ¾	32.0
E985J	2	10	1 5/32	9 9/32	8 13/32	7 ¼	2 9/16	3 5/32	3 15/32	63.0

Type T

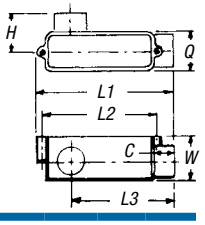




CAT. NO.	SIZE (IN.)	STD. CTN.	DIMENSIONS (IN.) TYPICAL C	MAX. L1	TYPICAL L2	L3	MAX. H	MAX. Q	MAX. W	VOL. CU. IN.
E983D-CAR	½	10	1 1/16	4 11/16	3 7/32	2 11/32	1 5/16	1 11/32	1 ½	4.0
E983E	¾	15	2 9/32	6 ⅞	5 9/32	4 7/16	1 25/32	1 ¾	2 1/32	12.0
E983F	1	20	2 9/32	6 ⅞	5 9/32	3 7/16	1 25/32	1 ¾	2 1/32	12.0
E983G	1 ¼	10	1 3/32	8 21/32	6 13/32	4 21/64	2 5/16	2 ½	2 ¾	32.0
E983H	1 ½	10	1 3/32	8 21/32	6 13/32	4 21/64	2 5/16	2 ½	2 ¾	32.0
E983J	2	10	1 5/32	10 5/16	8 13/32	5 5/32	2 9/16	3 5/32	3 15/16	63.0

Type LL





CAT. NO.	SIZE (IN.)	STD. CTN.	DIMENSIONS (IN.) TYPICAL C	MAX. L1	TYPICAL L2	L3	MAX. H	MAX. Q	MAX. W	VOL. CU. IN.
E984D-CAR	½	10	1 1/16	4 5/16	3 7/32	3 1/16	1 5/16	1 11/32	1 ½	4.0
E984E	¾	20	2 9/32	6 9/32	5 9/32	4 25/32	1 25/32	1 ¾	2 1/32	12.0
E984F-CAR	1	10	2 9/32	6 9/32	5 9/32	4 25/32	1 25/32	1 ¾	2 1/32	12.0
E984G-CAR	1 ¼	5	1 3/32	7 31/32	6 13/32	6	2 5/16	2 ½	2 ¾	32.0
E984H	1 ½	10	1 3/32	7 31/32	6 13/32	6	2 5/16	2 ½	2 ¾	32.0
E984J	2	10	1 5/32	9 9/32	8 13/32	7 ¼	2 9/16	3 5/32	3 15/32	63.0

Molded Non-Metallic Junction Boxes — 6P Rated

Non-metallic junction boxes are UL Listed with a NEMA 6P rating per Section 314.29, Exception of the National Electrical Code® and CSA Certified per Section 12 of the Canadian Electrical Code. Manufactured from PVC or PPO thermoplastic molding compound and featuring foam-in-place gasketed lids attached with stainless steel screws, these rugged enclosures offer all the corrosion resistance and physical properties you need for direct-burial applications.

Type 6P enclosures are intended for indoor or outdoor use, primarily to provide a degree of protection against contact with enclosed equipment, falling dirt, hose-directed water, entry of water during prolonged submersion at a limited depth and external ice formation.

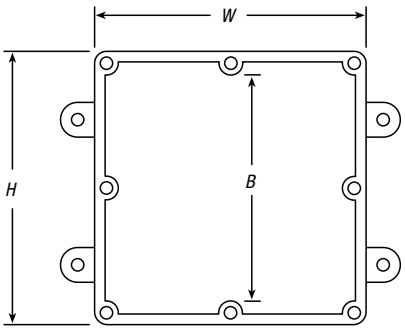


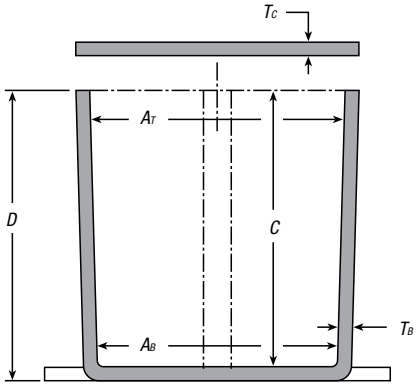
- All Carlon® Junction Boxes are UL Listed/CSA Certified and maintain a minimum of a NEMA Type 4/4X Rating
- Part numbers with an asterisk (*) are UL Listed and maintain a NEMA Type 6P Rating and Type 4/4X Rating
- Covers are not sold as separate item
- Temperature Range: -250° F to 125° F
- UL94V-2 flammability rating

Except where noted by †

LISTED E11461

Note: *Not rated for pedestrian traffic.*





CAT. NO.	SIZE (IN.) H X W X D	STD. CTN.	DIMENSIONS (IN.) MIN. AT	MIN. AB	MIN. B	MIN. C	T_B	T_C	MATERIAL PVC	MATERIAL THERMO-PLASTIC	STD. WT. (LBS.)
E989NNJ*	4 x 4 x 2	10	3 11/16	3 5/8	N/A	2	.160	.155	X		3
E987N*	4 x 4 x 4	10	3 11/16	3 1/2	N/A	4	.160	.155	X		4
E989NNR*†	4 x 4 x 6	10	3 11/16	3 3/8	N/A	6	.160	.200	X		5
E989PPJ*	5 x 5 x 2	10	4 11/16	4 1/2	N/A	2	.110	.150		X	3
E987R-CAR*	6 x 6 x 4	2	6	5 5/8	N/A	4	.190	.190		X	3
E989RRR-UPC*	6 x 6 x 6	8	5 5/8	5 3/8	N/A	6	.160	.150		X	14
E989N-CAR	8 x 8 x 4	1	8	8	N/A	4	.185	.190		X	2
E989SSX-UPC	8 x 8 x 7	2	7 21/32	7 5/16	N/A	7	.160	.150		X	6
E989UUN	12 x 12 x 4	3	11 5/8	11 1/2	11 1/8	4	.160	.150		X	12
E989R-UPC	12 x 12 x 6	2	11 15/16	11 7/8	11 7/16	6	.265	.185		X	10

**Gaskets are FIP (foam in place).*

Thomas&Betts

United States
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Tel: 888.862.3289

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Large PVC Junction Boxes — NEMA 4X

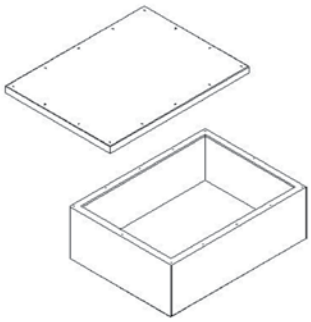
Large PVC Junction Boxes are fabricated from Type II PVC sheet using a unique technology. Reduce the use of steel boxes and keep your wiring connections clean, safe and dry using these high-quality, fully gasketed junction boxes.

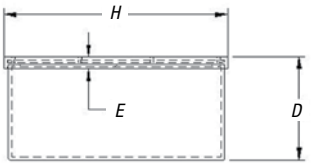


Features and Benefits:

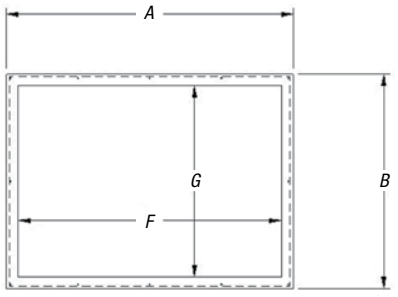
- PVC Type II material with "Uni-Body" construction and penetration welding providing a very strong, durable enclosure
- UL94V-0 flame rating
- Suitable for exposure of up to 90° C
- PVC material enables the use of standard solvent cements for fitting attachment
- Junction boxes are available with or without mounting flanges
- Individual mounting feet are available and provided in kits of four
- Custom features such as windows or panel mounts are available
- Custom sizes are also available upon request
- Made in the USA

Note: *Not rated for pedestrian traffic.*





CAT. NO.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	STD. WT. (LBS.)
EP12128	12	12	8	8.25	1.00	10.5	10.5	12.75	11
EP181812	18	18	12	12.25	1.00	16	16	18.75	21
EP201808	20	18	8	8.25	1.00	18	16	18.75	20
EP202008	20	20	8	8.25	1.00	18	18	20.75	22
EP241808	24	18	8	8.25	1.00	22	16	18.75	24
EP242008	24	20	8	8.25	1.00	21.5	17.5	20.75	25
EP242408	24	24	8	8.25	1.00	21.5	21.5	24.75	29
EP302408	30	24	8	8.25	1.00	27.5	21.5	24.75	34
EP362408	36	24	8	8.25	1.00	33.5	21.5	24.75	39



Accessories

CAT. NO.	DESCRIPTION	STD. WT. (LBS.)
ESMFK-1	"CleverMount" Mounting Feet (Four Feet and Fasteners)	5



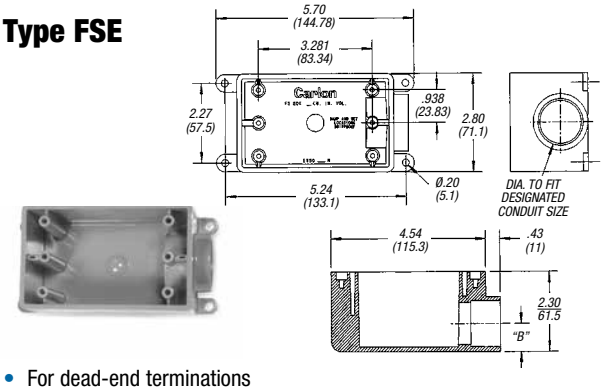
Switch and Junction Boxes

Single-Gang FS Boxes

LR31146 Where noted by

LISTED E11461

Type FSE

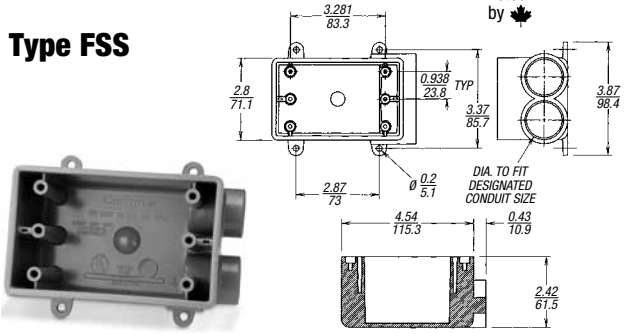


- For dead-end terminations
- All sizes take standard covers and accessories or devices
- Integral mounting feet provide easy mounting

CAT. NO.	SIZE (IN.)	VOL. CU. IN.	STD. CTN.
E980DFN	½	19	10
C980DFN-CTN	½	18	12
E980EFN	¾	19	10
C980EFN-CTN	¾	18	12
E980FFN	1	19	18
C980FFN-CTN	1	18	8
E980FFN-CAR	1	19	10

Canada Only

Type FSS

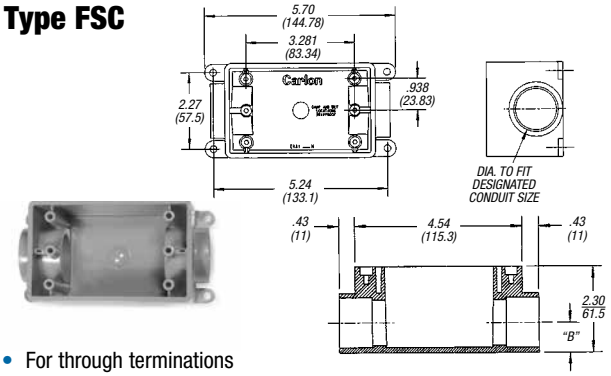


- For multiple dead-end circuit terminations or where additional support is required in stub-up applications
- All sizes take standard covers and accessories or devices
- Integral mounting feet provide easy mounting

CAT. NO.	SIZE (IN.)	VOL. CU. IN.	STD. CTN.
E982DFN	½	19	10
C982DFN-CTN	½	18	12
E982EFN	¾	19	10
C982EFN-CTN	¾	18	12
E982FFN	1	19	10
C982FFN-CTN	1	18	8

Canada Only

Type FSC

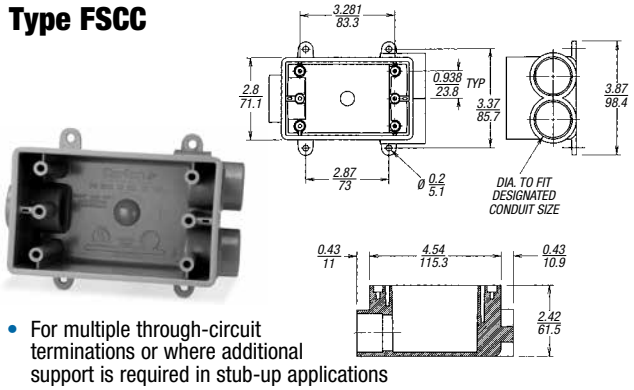


- For through terminations
- All sizes take standard covers and accessories or devices
- Integral mounting feet provide easy mounting

CAT. NO.	SIZE (IN.)	VOL. CU. IN.	STD. CTN.
E981DFN	½	19	15
C981DFN-CTN	½	18	12
E981EFN	¾	19	15
C981EFN-CTN	¾	18	12
E981FFN	1	19	18
E981FFN-CAR	1	19	10
C981FFN-CTN	1	18	8

Canada Only

Type FSCC



- For multiple through-circuit terminations or where additional support is required in stub-up applications
- All sizes take standard covers and accessories or devices
- Integral mounting feet provide easy mounting

CAT. NO.	SIZE (IN.)	VOL. CU. IN.	STD. CTN.
E979DFN-CAR	½	19	10
C979DFN	½	18	15
E979EFN-CAR	¾	19	10
C979EFN	¾	18	15
E979FFN	1	19	15
C979FFN	1	18	15

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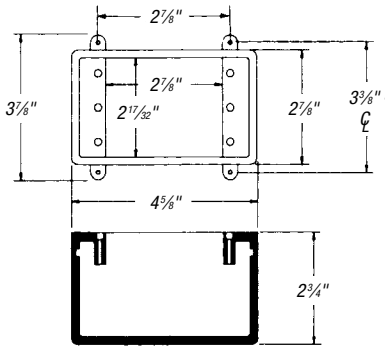
Single-Gang FD Deep Device Boxes

LR31146 Where noted by

LISTED E11461

Type FD





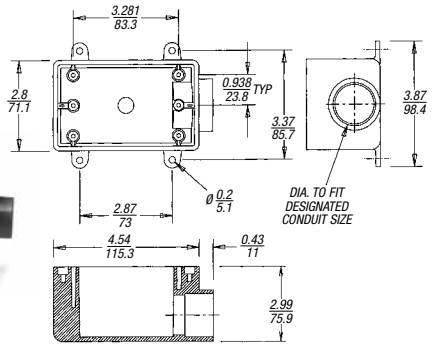
- For terminations where hub requirements vary according to application — hubs easily made with flared wood bit or hole saw
- All sizes take standard covers and accessories or devices
- Integral mounting feet provide easy mounting

CAT. NO.	SIZE (IN.)	VOL. CU. IN.	STD. CTN.
E9801	N/A	25	10
CE9801-CTN	N/A	25	10
C9801-347	N/A	25	10

Canada Only

Type FDE





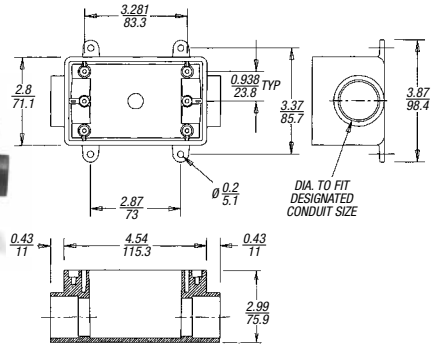
- For dead-end terminations where large devices or additional wiring capacity is required
- All sizes take standard covers and accessories or devices
- Integral mounting feet provide easy mounting

CAT. NO.	SIZE (IN.)	VOL. CU. IN.	STD. CTN.
E9801DN	½	25	10
C9801DN	½	25	10
E9801EN	¾	25	10
C9801EN	¾	25	10
E9801FN	1	25	10
C9801FN	1	25	10

Canada Only

Type FDC





- For through terminations where large devices or additional wiring capacity is required
- All sizes take standard covers and accessories or devices
- Integral mounting feet provide easy mounting

CAT. NO.	SIZE (IN.)	VOL. CU. IN.	STD. CTN.
E9811DN	½	25	10
C9811DN	½	25	10
E9811EN	¾	25	10
C9811EN	¾	25	10
E9811FN	1	25	10
C9811FN	1	25	10

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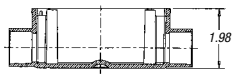
Switch and Junction Boxes

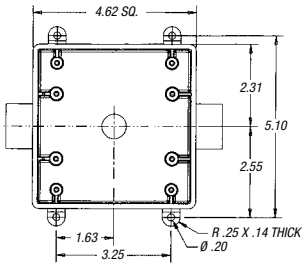
LR31146
Where noted by 🍁
LISTED E11461

Two-Gang FS Boxes

- For through terminations where two devices or additional wiring capacity is required
- All sizes take standard covers and accessories or devices
- Integral mounting feet provide easy mounting







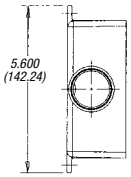
Type 2FSC

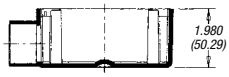
CAT. NO.	SIZE (IN.)	VOL. CU. IN.	STD. CTN.
E9812D	½	32	10
🍁 CE9812D-CTN	½	32	10
E9812E	¾	32	10
🍁 CE9812E-CTN	¾	32	10
E9812F	1	32	10
🍁 C9812F	1	32	10

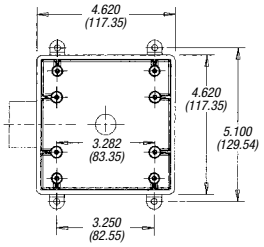
🍁 *Canada Only*

- For dead-end terminations where two devices or additional wiring capacity is required
- All sizes take standard covers and accessories or devices
- Integral mounting feet provide easy mounting









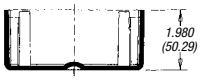
Type 2FSE

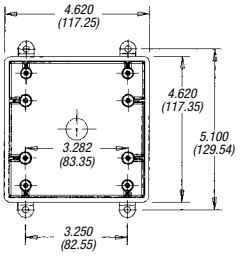
CAT. NO.	SIZE (IN.)	VOL. CU. IN.	STD. CTN.
E9802D	½	32	10
🍁 CE9802D-CTN	½	32	10
E9802E	¾	32	10
🍁 CE9802E-CTN	¾	32	10
E9802F	1	32	10
C9802F	1	32	1

🍁 *Canada Only*

- For terminations where hub requirements vary according to application — hubs easily made with flared wood bit or hole saw
- All sizes take standard covers and accessories or devices
- Integral mounting feet provide easy mounting







Type FS

CAT. NO.	SIZE (IN.)	VOL. CU. IN.	STD. CTN.
E9802	N/A	32	10
🍁 CE9802	N/A	32	10

🍁 *Canada Only*

Blank Covers

- Fits Carlon® single-gang FS boxes
- Supplied with stainless steel mounting screws and gasket



Single-Gang

CAT. NO.	COLOR	STD. CTN	STD. WT. (LBS)
E980CN-CAR	Gray	12	1.60
E980CM-CAR	White	12	1.60

- Fits Carlon® two-gang FS boxes, other non-metallic and metallic FS boxes
- Supplied with stainless steel mounting screws and gasket



Two-Gang

CAT. NO.	COLOR	STD. CTN	STD. WT. (LBS)
E9802CN-CAR	Gray	10	2.17

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Snap Strap™ Conduit Support Straps

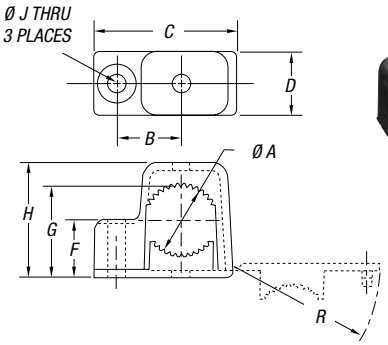
Carlon's Snap Strap™ offers a unique support strap designed especially for the installation of PVC conduit. Also usable for installations of rigid steel. This high-strength, non-metallic clamp enables conduit to expand and contract freely, eliminating the bowing commonly seen from the expansion and contraction of conduit caused by varying temperature changes. Finished installations have a neat, attractive appearance on exposed applications.

To be used in accordance with conduit spacing requirements per NEC® Section 352.30 and 12-1114 of the CEC. This part is not supplied with screws.

- UV inhibited for use in direct sunlight

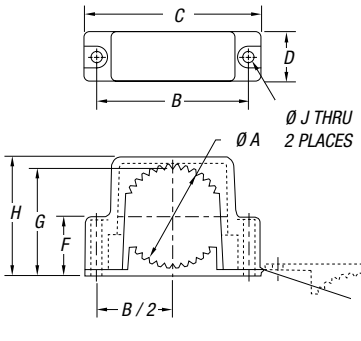
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Single Mount





Double Mount

Single Mount

CAT. NO.	SIZE IN. (MM)	STD. CTN.	STD. WT. (LBS.)	DIMENSIONS IN. (MM) A	B	C	D	F	G	H	J	R
E978DC-CAR	½ (16)	40	1	.80 (20.3)	.75 (1.90)	1.63 (41.4)	.75 (19.1)	.68 (14.9)	1.08 (25.1)	1.36 (34.5)	.21 (5.33)	1.67 (42.4)
E978EC-CAR	¾ (21)	40	3	1.00 (25.4)	.88 (22.4)	1.92 (48.7)	.75 (19.1)	.79 (17.8)	1.29 (30.4)	1.58 (39.9)	.21 (5.33)	1.96 (49.8)
E978FC-CAR	1 (27)	30	4	1.20 (30.5)	1.02 (25.9)	2.17 (55.1)	.75 (19.1)	.92 (21.1)	1.54 (36.3)	1.84 (46.7)	.21 (5.33)	2.22 (56.3)

Double Mount

CAT. NO.	SIZE IN. (MM)	STD. CTN.	STD. WT. (LBS.)	DIMENSIONS IN. (MM) A	B	C	D	F	G	H	J	R
E978GC-CAR	1¼ (35)	15	4	1.66 (42.16)	2.75 (69.9)	3.23 (82.0)	1.00 (25.4)	1.07 (24.1)	1.90 (45.2)	2.15 (54.61)	.218 (5.54)	3.28 (83.3)
E978HC-CAR	1½ (41)	15	5	1.92 (48.77)	3.05 (77.5)	3.53 (89.7)	1.00 (25.4)	1.20 (27.4)	2.16 (51.8)	2.40 (60.96)	.218 (5.54)	3.58 (90.9)
E978JC-CAR	2 (53)	10	5	2.34 (59.44)	3.50 (88.9)	4.00 (101.6)	1.00 (25.4)	1.43 (33.3)	2.59 (63.0)	2.86 (72.64)	.218 (5.54)	4.06 (103.1)

Non-Metallic Clamps

Non-metallic clamps offer the same chemical resistance as Carlon® non-metallic conduits for a complete, corrosion-resistant system.

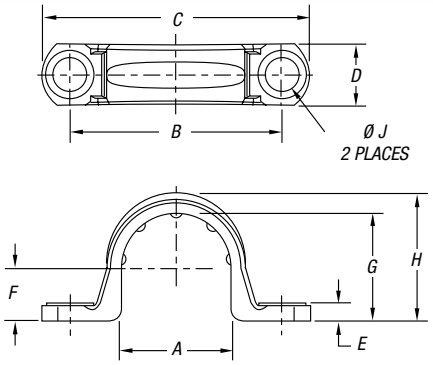
To be used in accordance with conduit spacing requirements per NEC® Section 352.30 and 12-1114 of the CEC.

- UV inhibited for use in direct sunlight

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Conduit Clamp

Conduit Clamps

CAT. NO.	SIZE IN. (MM)	STD. CTN.	STD. WT. (LBS.)	DIMENSIONS IN. (MM)								
				A	B	C	D	E	F	G	H	J
E977DC	½	100	1.2	.892	1.71	2.16	.50	.14	.42	.866	1.04	.260
	(16)			(22.6)	(43.4)	(54.8)	(12.7)	(3.5)	(10.6)	(21.9)	(26.4)	(6.6)
E977EC	¾	100	1.4	1.102	1.97	2.40	.50	.14	.525	1.076	1.255	.260
	(21)			(27.9)	(50.0)	(60.9)	(12.7)	(3.5)	(13.3)	(27.3)	(31.8)	(6.6)
E977FC	1	100	2	1.39	2.25	2.81	0.594	.14	.658	1.342	1.574	.260
	(27)			(35.3)	(57.1)	(71.3)	(15.0)	(3.5)	(16.7)	(34.0)	(39.9)	(6.6)
E977GC	1¼	50	5	1.714	2.68	3.28	.64	.15	.83	1.687	1.89	.320
	(35)			(43.5)	(68.0)	(83.3)	(16.2)	(3.8)	(21.0)	(42.8)	(48.0)	(8.1)
E977HC	1½	50	6	1.92	2.82	3.44	.70	.15	.97	1.93	2.12	.312
	(41)			(48.7)	(71.6)	(87.3)	(17.7)	(3.8)	(24.6)	(49.0)	(53.8)	(7.9)
E977JC	2	25	4.5	2.54	3.54	4.18	.76	.16	1.05	2.29	2.49	.315
	(53)			(64.5)	(89.9)	(106.1)	(19.3)	(4.0)	(26.6)	(58.1)	(63.2)	(8.0)
E977KC-CAR	2½	25	1.4	2.86	4.50	5.46	1.00	.20	1.43	2.86	3.12	.36
	(63)			(72.6)	(114.3)	(138.7)	(25.4)	(5.08)	(36.3)	(72.6)	(79.2)	(9.14)
E977LC-CAR	3	20	1.4	3.47	5.00	6.00	1.00	.20	1.74	3.48	3.70	.36
	(78)			(88.2)	(127.0)	(152.4)	(25.4)	(5.08)	(44.3)	(88.4)	(94.0)	(9.14)
E977NC-CAR	4	15	12.2	4.366	6.15	7.20	1.00	.20	2.32	4.50	4.70	.36
	(103)			(110.9)	(156.2)	(182.9)	(25.4)	(5.08)	(58.8)	(114.3)	(119.4)	(9.14)

***Note**: Some clamp applications require two screws, two nuts and two washers.*

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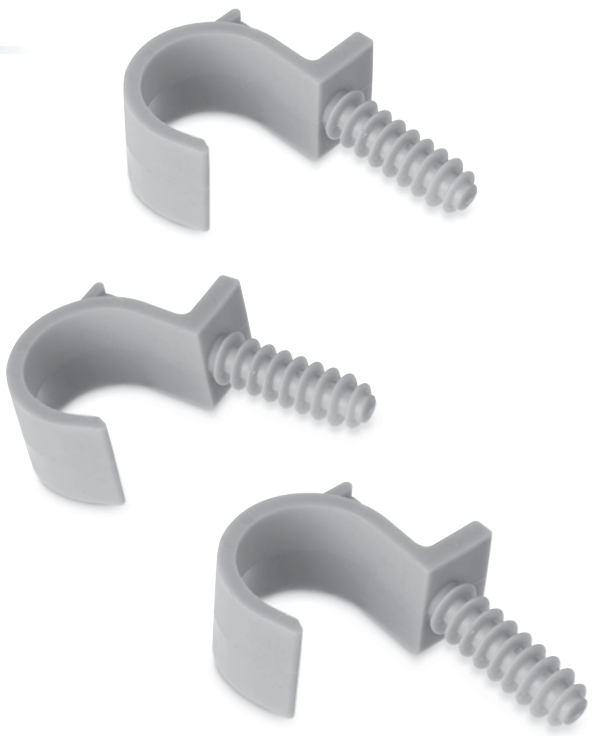
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Carlon® Masonry Pipe Clamps

Carlon® Masonry Pipe Clamps make installations faster and easier by eliminating the use of bolts and anchors. The one-piece design features an anchoring projection designed to push into a 5⁄16" drill hole.

The clamps are used to securely support pipe/conduit and electrical cables on concrete and masonry block, and unlike metallic clamps Carlon® Masonry Clamps won't rust or corrode.

Carlon® Masonry Pipe Clamps are available in sizes ½" and ¾" and are ideal for commercial applications such as schools, hospitals, airports, condominiums, hotels, airports, office buildings and casinos.



Features

- One-piece design
- Material: Nylon PA6
- Color: Gray
- Flame resistance: V2
- Anchor length: 1.2" threaded
- Drill hole: 5⁄16"

Installation:

Note: *Follow NEC® guidelines for conduit clamp spacing.*

1



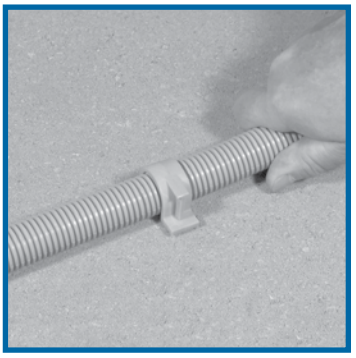
Using a 5⁄16" masonry drill bit, drill a hole into the concrete.

2



Tap clamp with hammer until fully inserted.

3



CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
E977NDC-CTN	½	12 (Equals 12 Bags of 5 Clamps)	1.2
E977NEC-CTN	¾	12 (Equals 12 Bags of 5 Clamps)	1.3

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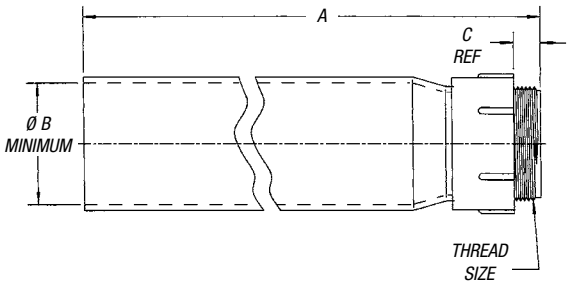
Slip Meter Risers

Carlon® Slip Meter Risers are designed for use in electrical service entrance applications. They provide solutions for applications requiring a non-rigid connection, with incoming service conduit diameters ranging from 2" to 4".

The Slip Meter Risers are fitted with a terminal adapter for easy installation at the service entrance location and provide a low-cost method to comply with NEC® 300.5(J), which requires protection for buried cables in areas subject to ground movement due to frost or trench settling.

***Note**: Meter box is not included.*

- Designed to provide faster and easier underground service entrance installations
- Provides cable protection from ground movement
- Accommodates incoming service conduit diameters ranging from 2" to 4"
- Fitted with Terminal Adapters for easy installing
- Allows ground water in raceway system to drain
- Complies with NEC® 300.5 paragraph 4, Schedule 80 rated





Article 300 Wiring Methods

(J) Ground Movement. Where direct buried conductors, raceways, or cables are subject to movement by settlement or frost, direct buried conductors, raceways, or cables shall be arranged to prevent damage to the enclosed conductors or to equipment connected to the raceways.

(FPN): This section recognizes "S" loops in underground direct burial to raceway transitions, expansion joints in raceway risers to fixed equipment, and, generally, the provision of flexible connections to equipment subject to settlement or frost heaves.

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CAT. NO.	SIZE	A LENGTH	B (MINIMUM)	C	THREAD SIZE	STD. CARTON QTY.	STD. CARTON WT. (LBS.)
E954JXX	2"	24.00	2.492	.83	2" NPT	20	46
E954JXS (SPLIT)	2"	24.00	2.492	.83	2" NPT	1	2.2
E954KXX	2½"	24.00	2.961	.81	2½" NPSC	10	28
E954LXX	3"	24.00	3.616	.80	3" NPSC	10	35
E954LXS (SPLIT)	3"	24.00	3.616	.80	3" NPSC	10	36
E954NXX	4"	24.00	4.859	.77	4" NPSC	5	23

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Spacers

Carlon® Snap-Loc® Spacers

Carlon® Snap-Loc® Duct Spacers provide stability, consistent separation and relieve direct stress for duct materials encased in concrete and direct-burial applications.

Carlon® Snap-Loc® Spacers provide:

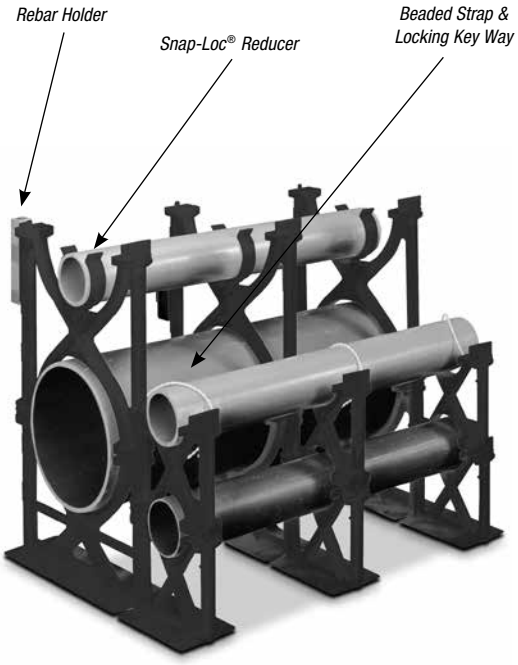
- A side dovetail rail-and-groove design enabling side-by-side interchangeability of conduit spacer sizes while maintaining horizontal stability
- Locking keyways incorporated into intermediate spacers eliminate the need for costly top spacers in each size. The locking keyways provide for the use of a beaded strap that secures the top section of conduit
- 1" and 2" Snap-Loc® Reducers enable fixturing of 1" or 2" conduit inside larger spacers
- The Snap-Loc® Rebar Holder provides stabilization on large banks of spacers

Non-metallic Snap-Loc® Spacers are designed specifically for use with non-metallic duct, with maximum O.D. dimensions as specified in NEMA TC-2, TC-6 & 8 and ASTM F512. The innovative vertical and horizontal interlocking Snap-Loc® design has tapered joining slots with maximum tolerances for easy jobsite assembly.

Important:

The use of duct spacers for direct burial may result in excessive point deflections unless proper design engineering is applied, such as the proper compaction of the appropriate backfill material.





Installation Note

The Spacers and Rebar Holder are designed with a dovetail tongue-and-groove feature for easy installation.

If required to permanently fix the position of a group of Spacers and/or Rebar Holder, the following are recommended procedures:

1. Use Carlon® Quick-Set Cement glue during assembly or spot glue after assembly to secure.
2. During assembly, deform the edge of the tongue or groove portion of the dovetail slide with a pair of pliers or similar tool. This deformation will create an interference, restricting movement.
3. An assembled system may be wired together for additional support.

Important:

The use of duct spacers for direct burial may result in excessive point deflections unless proper design engineering is applied, such as the proper compaction of the appropriate backfill material.

Note: *Spacers are not UL® Listed.*

Carlon® Snap-Loc® Spacers (continued)

Dimensions — Base Spacers

CAT. NO.	SIZE (IN.)	A (IN.)	C (IN.)	D (DIA.) (IN.)	STD. CTN.
S288JHN	2 x 1½	4.25	4.12	2.50	100
S288JJN	2 x 2	4.25	4.62	2.50	100
S288JLN	2 x 3	4.25	5.62	2.50	100
S288LHN	3 x 1½	4.81	5.25	3.63	90
S288LJN	3 x 2	4.81	5.75	3.63	80
S288LLN	3 x 3	4.81	6.75	3.63	60
S288NFN	4 x 1	4.50	5.75	4.63	70
S288NHN	4 x 1½	5.31	6.25	4.63	50
S288NJN	4 x 2	5.31	6.75	4.63	50
S288NLN	4 x 3	5.31	7.75	4.63	60
S288PHN	5 x 1½	5.84	7.31	5.69	50
S288PJN	5 x 2	5.84	7.81	5.69	60
S288PLN	5 x 3	5.84	8.81	5.69	50
S288RHN	6 x 1½	6.38	8.38	6.75	50
S288RJN	6 x 2	6.38	8.88	6.75	50
S288RLN	6 x 3	6.38	9.88	6.75	40
S288SHN	8 x 1½	7.38	10.30	8.75	30
S288SJN	8 x 2	7.38	10.76	8.75	30

Dimensions — Intermediate Spacers

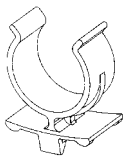
CAT. NO.	SIZE (IN.)	A (IN.)	C (IN.)	D (DIA.) (IN.)	STD. CTN.
S289JHN	2 x 1½	3.88	4.12	2.50	120
S289JJN	2 x 2	4.38	4.62	2.50	100
S289JLN	2 x 3	5.38	5.62	2.50	80
S289LHN	3 x 1½	5.01	5.25	3.63	100
S289LJN	3 x 2	5.51	5.75	3.63	80
S289LLN	3 x 3	6.51	6.75	3.63	60
S289NFN	4 x 1	5.51	5.73	4.63	70
S289NHN	4 x 1½	6.01	6.25	4.63	60
S289NJN	4 x 2	6.51	6.75	4.63	60
S289NLN	4 x 3	7.51	7.75	4.63	50
S289PHN	5 x 1½	7.07	7.31	5.69	50
S289PJN	5 x 2	7.57	7.81	5.69	50
S289PLN	5 x 3	8.57	8.81	5.69	30
S289RHN	6 x 1½	8.14	8.38	6.75	50
S289RJN	6 x 2	8.64	8.88	6.75	40
S289RLN	6 x 3	9.64	9.88	6.75	30
S289SHN	8 x 1½	10.14	10.30	8.75	30
S289SJN	8 x 2	10.64	10.76	8.75	30

** First number indicates trade size of duct, second number indicates separation between conduits or ducts.*

Accessories

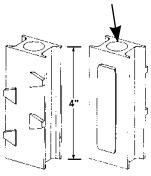
Snap-Loc® Reducer

CAT. NO.	SIZE (IN.)	STD. CTN.
S287F	1	100
S287J	2	100



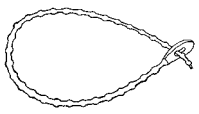
Rebar Holder

CAT. NO.	STD. CTN.
S258RH	100



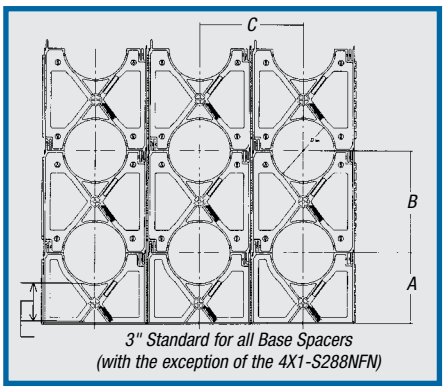
Beaded Strap

CAT. NO.	STD. CTN.
S28612	1 Bag of 250



15" in length

Specifications



3" Standard for all Base Spacers (with the exception of the 4X1-S288NFN)

Suggested Specification:

(Duct) (Conduit) bank shall be encased in concrete with at least three inches of concrete at the top and bottom and two inches on each side. A horizontal and vertical separation between the ducts of _____* inches shall be maintained by installing Carlon® high-impact spacers with horizontal and vertical locking intervals of _____** feet.

*Standard Separations of 1", 1½", 2" and 3" are available.

**Preferred interval between spacer assemblies is 8 to 10 feet.

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Fax: 901.252.1354

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Tel: 888.862.3289

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Spacers

Carlon® Snap-N-Stac™ Combo Spacers

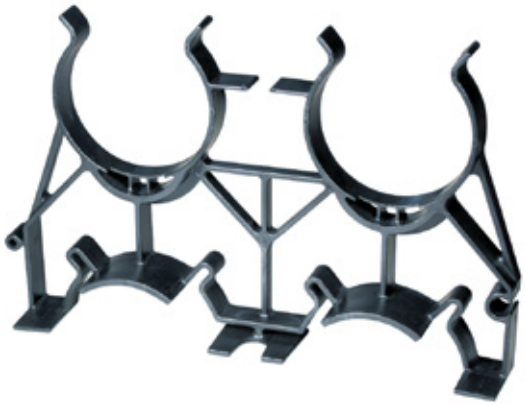
Carlon® Snap-N-Stac™ Combo Duct Spacers are specifically designed to replace the two-piece base and intermediate spacer system, by combining the conventional base and intermediate spacer into a single unit.

Manufactured out of highly engineered thermoplastic material, Snap-N-Stac™ Spacers are strong, durable and able to withstand the rigors of concrete construction. They feature an innovative horizontal and EXCLUSIVE vertical locking system, and can be used as either a base or intermediate spacer.

Snap-N-Stac™ Spacers are available in one-way, two-way and three-way configurations (one-way and three-way only available in sizes 2" and 4"). They accept 2", 3", 4", 5" and 6" pipe and can be installed horizontally, vertically or turned upright for unique duct bank configurations.

This NEW one-piece design makes underground duct bank installations faster and easier than the conventional two-piece system — saving material and labor costs.

Carlon® Snap-N-Stac™ Combo Spacers…The IDEAL solution for underground duct bank installations.





One-way

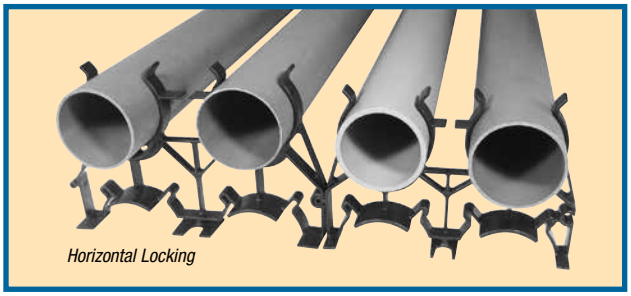


Three-way

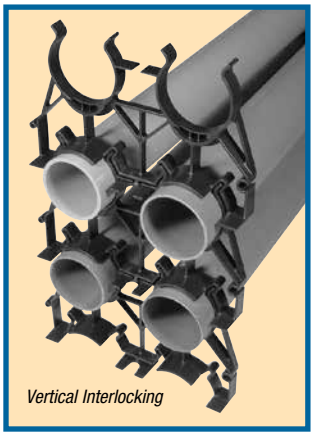
Features:

- Conventional base and intermediate spacer in a single unit
- Less inventory required
- EXCLUSIVE vertical locking system
- Horizontal locking system
- Installs horizontally or turned upright
- Molded-in rebar holder on two-way and three-way
- One-, two- and three-way configurations (one-way and three-way only available in sizes 2" and 4")
- Five sizes: 2", 3", 4", 5" and 6"
- Reducer to accommodate smaller duct sizes
- Can be used as either an intermediate or base spacer
- Spacers interlock horizontally regardless of size
- Non-metallic, non-corrosive, non-conductive
- Strong and durable
- Easy to handle
- Fast installation

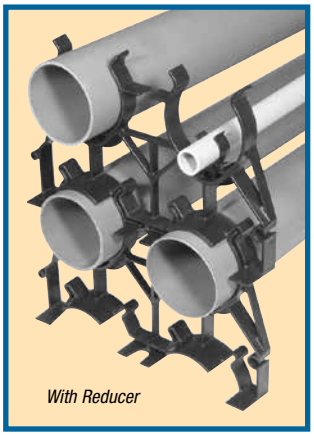
Installations



Horizontal Locking



Vertical Interlocking



With Reducer

Spacers

Carlon® Snap-N-Stac™ Combo Spacers *(continued)*

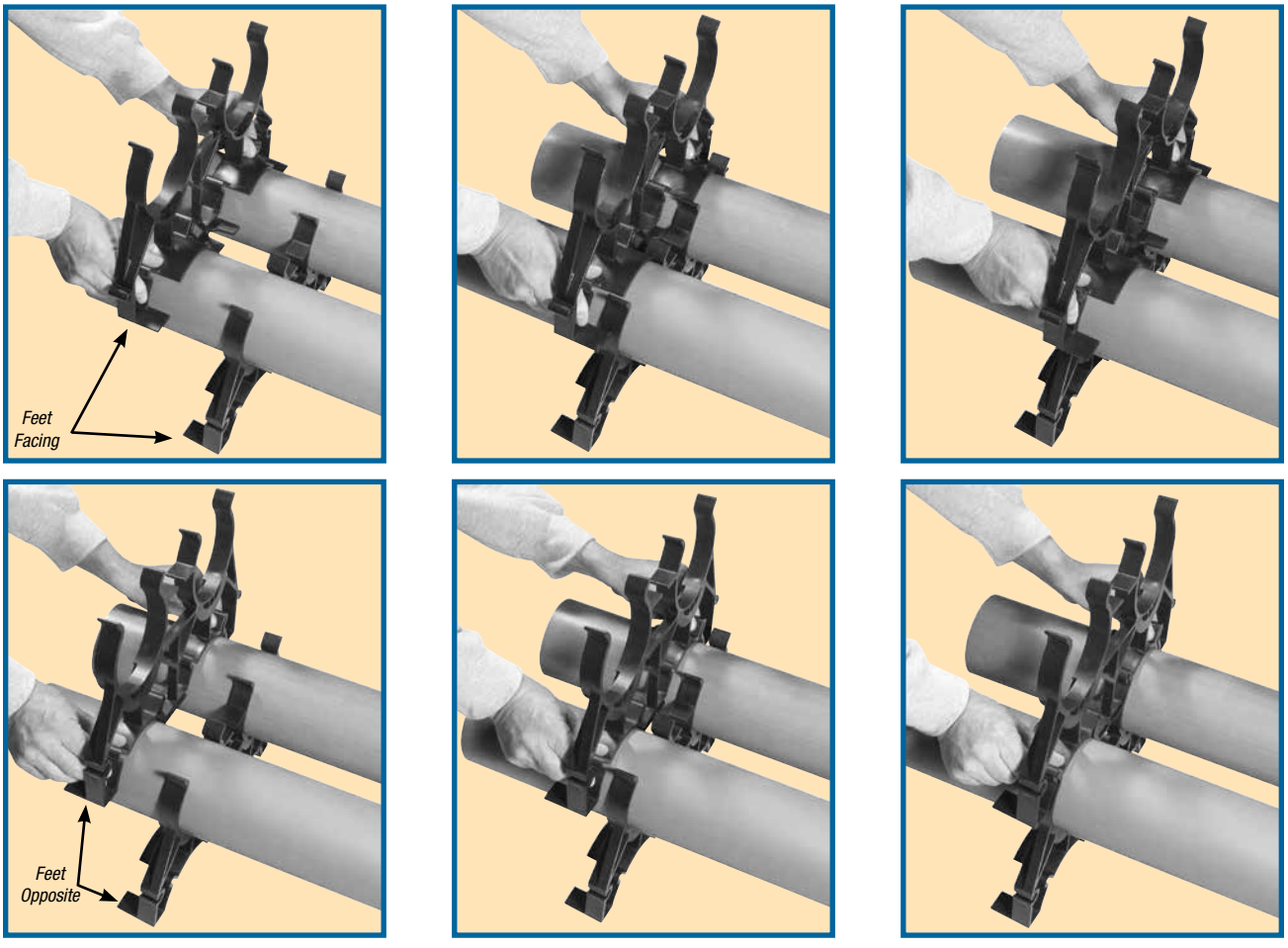
Installation Instructions

IMPORTANT:

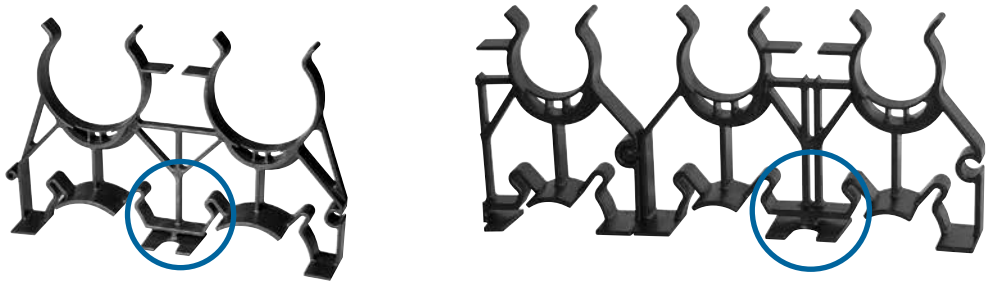
1. Snap-N-Stac™ Spacers are recommended for concrete-encased applications only.
2. The use of duct spacers for direct burial may result in excessive point deflections unless proper design engineering is applied, such as the proper compaction of the appropriate backfill material.

Vertical Interlocking

Slide spacers together "Feet Facing Feet" or "Feet Opposite."



Molded-In Rebar Holder



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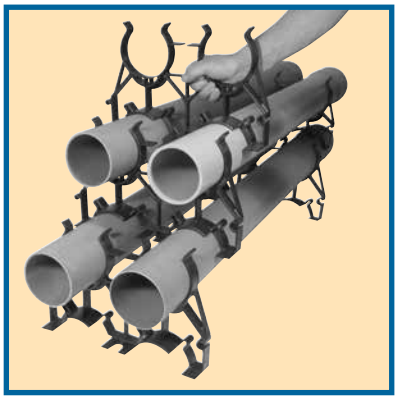
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Spacers

Installation Instructions

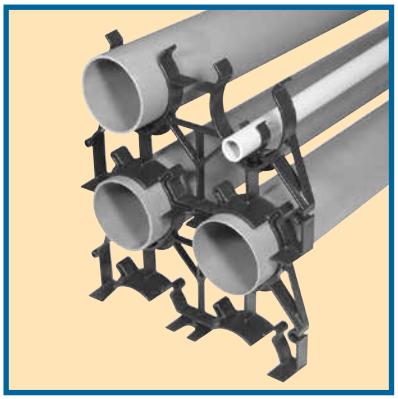
Vertical Free Standing

If spacers are installed using free-standing method, it is recommended to install the spacer on the upper row mid-way between the two spacers on the bottom row.



Reducer

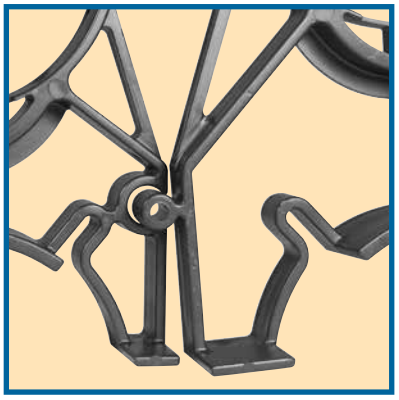
1" and 2" Snap-Loc® Reducers enable fixturing of 1" and 2" conduit inside of larger spacers.

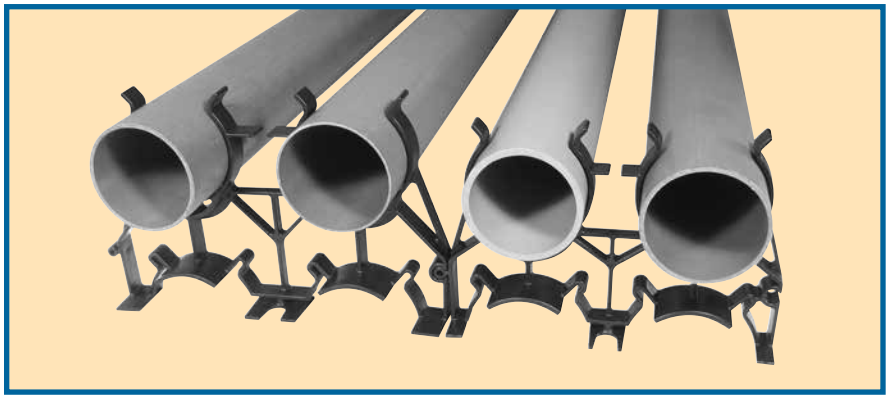


Transition to Various Duct Sizes

Install spacers side-by-side by inserting the male adapter into the female adapter.

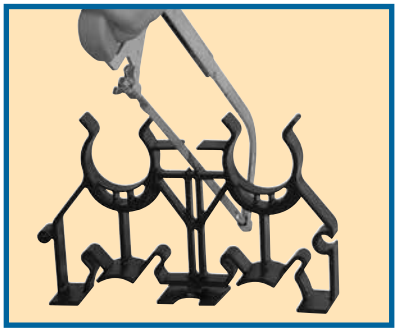
Note: *All Snap-N-Stac™ spacers are designed to interlock horizontally, regardless of size.*

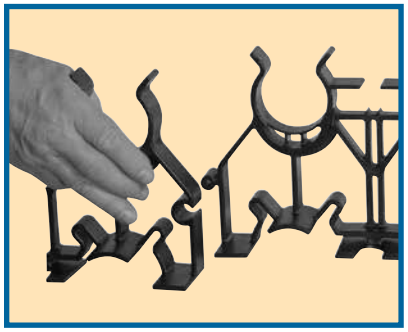


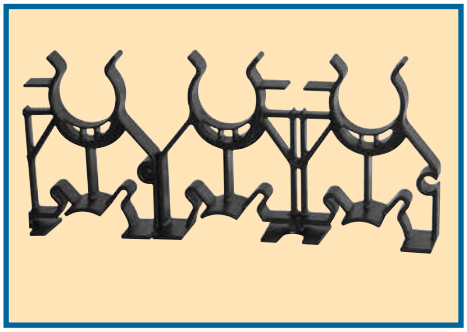


Odd Number of Ducts

Two-way spacers, size 2" and 4" only, can easily be cut apart to produce two one-way spacers. Create three-way and five-way spacers using the one-way spacer. Install spacers side-by-side by inserting the male adapter into the female adapter.







Spacers

Carlon® Snap-N-Stac™ Combo Spacers

CAT. NO.	DESCRIPTION	SIZE (IN.)	SEPARATION (IN.)	STD. CTN.	STD. WT. (LBS.)
SP2W20-1		2	2	56	15.0
SP2W30-1		2	3	40	13.0
SP4W15-1	1-Way Spacers	4	1½	26	9.6
SP4W20-1		4	2	20	10.0
SP4W30-1		4	3	20	9.4
SP2W20-2*		2	2	56	28.5
SP2W30-2*		2	3	40	23.8
SP3W20-2		3	2	40	24.0
SP3W30-2		3	3	24	17.9
SP4W15-2*		4	1½	26	18.3
SP4W20-2*	2-Way Spacers	4	2	24	18.8
SP4W30-2*		4	3	20	17.6
SP5W20-2		5	2	20	17.2
SP5W30-2		5	3	14	15.5
SP6W20-2		6	2	12	12.8
SP6W30-2		6	3	12	14.1
SP2W20-3		2	2	36	28.5
SP2W30-3		2	3	18	17.8
SP4W15-3	3-Way Spacers	4	1½	18	19.4
SP4W20-3		4	2	16	19.3
SP4W30-3		4	3	14	19.1

Can be cut apart to make (2) one-way spacers.

How to Interpret the Part Number:

POSITION 1	POSITION 2	POSITION 3	POSITION 4
PRODUCT TYPE	DUCT SIZE	DUCT-TO-DUCT SPACING — HORIZONTAL AND VERTICAL	HORIZONTAL DUCT POSITIONS
SP = Spacer	2W = 2" Width	15 = 1½"	-1 = One-Way
	3W = 3" Width	20 = 2"	-2 = Two-Way
	4W = 4" Width	30 = 3"	-3 = Three-Way
	5W = 5" Width		
	6W = 6" Width		

Accessories

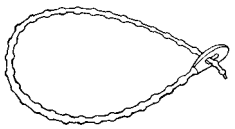
Snap-Loc® Reducer

CAT. NO.	SIZE (IN.)	STD. CTN.
S287F	1	100
S287J	2	100



Beaded Strap

CAT. NO.	STD. CTN.
S28612	100



15" in length

Technical Information

CAT. NO.	DUCT SIZE (IN.)	DUCT O.D.	HORIZONTAL DUCT POSITIONS	DUCT-TO-DUCT SPACING VERTICAL (IN.)	DUCT-TO-DUCT SPACING HORIZONTAL (IN.)	CENTER-TO-CENTER SPACING VERTICAL (IN.)	CENTER-TO-CENTER SPACING HORIZONTAL (IN.)	BOTTOM OF TRENCH TO BOTTOM OF DUCT	BOTTOM OF TRENCH TO CENTER OF BOTTOM OF DUCT	OVERALL LENGTH
SP2W20-1	2	2.375	1	2	2	2.19	2.19	3.13	4.25	4.38
SP2W30-1	2	2.375	1	3	3	2.69	2.69	4.13	5.25	5.38
SP4W15-1	4	4.500	1	1.5	1.5	3.00	3.00	3.38	5.56	6.00
SP4W20-1	4	4.500	1	2	2	3.25	3.25	3.88	6.06	6.50
SP4W30-1	4	4.500	1	3	3	3.75	3.75	4.88	7.06	7.50
SP2W20-2	2	2.375	2	2	2	4.38	4.38	3.13	4.25	8.75
SP2W30-2	2	2.375	2	3	3	5.38	5.38	4.13	5.25	10.75
SP3W20-2	3	3.500	2	2	2	5.50	5.50	3.63	5.38	11.00
SP3W30-2	3	3.500	2	3	3	6.50	6.50	4.63	6.38	13.00
SP4W15-2	4	4.500	2	1.5	1.5	6.00	6.00	3.38	5.56	12.00
SP4W20-2	4	4.500	2	2	2	6.50	6.50	3.88	6.06	13.00
SP4W30-2	4	4.500	2	3	3	7.50	7.50	4.88	7.06	15.00
SP5W20-2	5	5.500	2	2	2	7.56	7.56	4.38	7.25	15.12
SP5W30-2	5	5.500	2	3	3	8.56	8.56	5.38	8.25	17.14
SP6W20-2	6	6.625	2	2	2	8.62	8.62	4.13	7.38	17.25
SP6W30-2	6	6.625	2	3	3	9.62	9.62	5.13	8.38	19.25
SP2W20-3	2	2.375	3	2	2	4.38	4.38	3.13	4.25	13.13
SP2W30-3	2	2.375	3	3	3	5.38	5.38	4.13	5.25	16.13
SP4W15-3	4	4.500	3	1.5	1.5	6.00	6.00	3.38	5.56	18.00
SP4W20-3	4	4.500	3	2	2	6.50	6.50	3.88	6.06	19.50
SP4W30-3	4	4.500	3	3	3	7.50	7.50	4.88	7.06	22.50

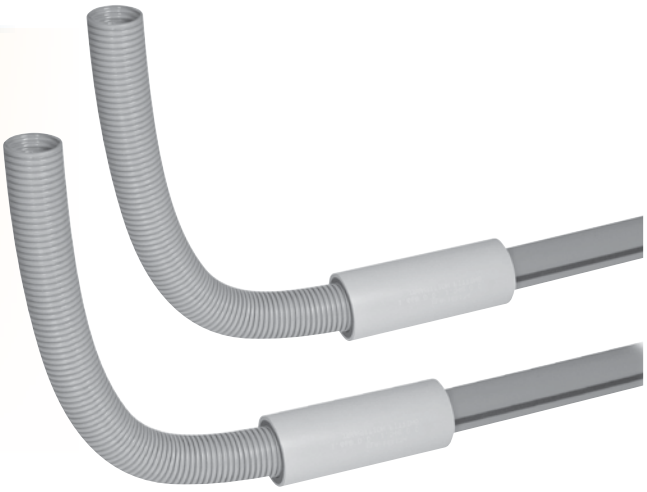
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Carlon® P&C Flex® Corrugated Flexible Conduit



Carlon® P&C Flex® Non-Metallic Corrugated Conduit makes power and communication installations faster and easier by providing maximum installation flexibility. The corrugated design is flexible enough to accommodate any degree of bend requirement. Unlike rigid conduit, it has a tight bend radius, making this product ideal for shallow trenches.

P&C Flex® is manufactured to IPS dimensions and can be used with any existing conduit system using standard fittings. It is UV resistant and suitable for a variety of applications, including direct burial, under bridges, service entrance/FTTx terminations, manhole terminations, pedestal/enclosure terminations and running up utility poles or outside of buildings.

P&C Flex® is available in sizes ¾" though 4", with or without pull tape (1" through 4" only) and comes in a variety of convenient standard put-ups.

Features:

- Accommodates any degree of bend — ideal for shallow trenches
  - – For use with HDPE — Use ELA_ Series Fittings
  - – For use with PVC — Use E940_ Series Fittings
- Easily handles offsets
- Manufactured to IPS dimensions — can be used with standard IPS coupling/fittings
- UV resistant
- Can be used as a flexible sweep or raceway — one SKU can do multiple bends
- Available in sizes ¾" though 4"
- Small put-ups for easy handling

Note: *Not UL® Listed.*



Applications









P&C Flex® Conduit and Fittings

P&C Flex® Conduit

CAT. NO.	SIZE (IN.)	I.D. (IN.)	O.D. (IN.)	PULL TAPE	REEL/ COIL	STD. CTN. (FT.)	STD. WT. (LBS.)
11807-350*	¾	.83	1.040	Empty	Coil	350	39.9
1808-250C	1	1.000	1.315	Empty	Coil	250	36.3
11808-5200	1	1.000	1.315	Empty	Reel	5200	1019.0
11809-900	1¼	1.340	1.660	Empty	Reel	900	243.0
11809-4500	1¼	1.340	1.660	Empty	Reel	4500	972.0
11810-250	1½	1.570	1.900	Empty	Reel	250	75.8
11810-4500	1½	1.570	1.900	Empty	Reel	4500	1080.0
11810T-2300	1½	1.570	1.900	1250 lb.	Reel	2300	720.0
11810T-250	1½	1.570	1.900	1250 lb.	Reel	250	78.0
11811-1100	2	2.045	2.375	Empty	Reel	1100	521.4
11811-250	2	2.045	2.375	Empty	Reel	250	87.0
11811-2500	2	2.045	2.375	Empty	Reel	2500	815.0
11811-500	2	2.045	2.375	Empty	Reel	500	201.6
11811-700	2	2.045	2.375	Empty	Reel	700	269.0
11811T-250	2	2.045	2.375	1250 lb.	Reel	250	89.0
11812-250	2½	2.469	2.875	Empty	Reel	250	121.0
11812AG-001	2½	2.469	2.875	Empty	Reel	1300	516.1
11813-1200	3	3.068	3.500	Empty	Reel	1200	850.8
11813-250	3	3.068	3.500	Empty	Reel	250	192.0
11813-500	3	3.068	3.500	Empty	Reel	500	523.0
11813-750	3	3.068	3.500	Empty	Reel	750	554.3
11815-250	4	4.026	4.500	Empty	Reel	250	324.0
11815-800	4	4.026	4.500	Empty	Reel	800	778.4

**Pull tape not available for ¾" conduit.*

P&C Flex® Fittings

Couplings

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
E940E	¾	100	4.6
E940F	1	50	3.5
E940G	1¼	30	3.2
E940H	1½	25	3.4
E940J	2	30	5.3
E940K	2½	20	7.5
E940L	3	25	14.7
E940N	4	15	12.5



Female Adapters

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
E942E	¾	100	4.3
E942F	1	50	3.7
E942G	1¼	30	3.3
E942H	1½	25	3.3
E942J	2	30	5.4
E942K	2½	20	6.6
E942L	3	25	11.8
E942N	4	15	10.8



Terminal Adapters

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
E943E	¾	125	4.2
E943F	1	50	3.0
E943G	1¼	25	4.1
E943H	1½	25	2.7
E943J	2	5	6.9
E943K	2½	20	6.3
E943L	3	45	16.6
E943N	4	15	11.7



Bell Ends (Schedule 40)

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
E997F	1	50	2.6
E997G	1¼	35	2.5
E997H	1½	30	2.5
E997J	2	10	4.8
E997K	2½	10	2.0
E997L	3	10	10.0
E997N	4	30	16.0



Plugs

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)
P258H	1½	50	1.7
P258JT	2	60	3.1
P258K	2½	25	1.5
P258LT	3	30	3.4
P258NT	4	48	8.3



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P&C Flex® Conduit and Fittings

Specifications

PERFORMANCE PROPERTIES	¾"	1"	1¼"	1½"	2"	2½"	3"	4"
Stiffness F/ y at 5% deflection	200	200	200	200	200	130	130	90
Impact Strength (ft./lbs.) 72° F	35	40	40	50	50	70	120	140
Impact Strength (ft./lbs.) 32° F	5	8	8	15	25	35	60	60
Minimum Bending Radius (inches)	6	6	6	7	8	12	15	18
Conduit Tensile Strength	200	300	400	500	700	1000	1500	2000

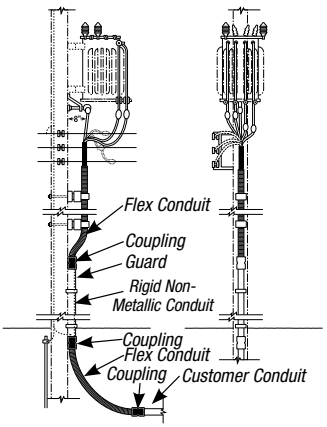
Storage: -4° to 158° F
Handling: -4° to 104° F

Sweep and Elbow Conversion Chart

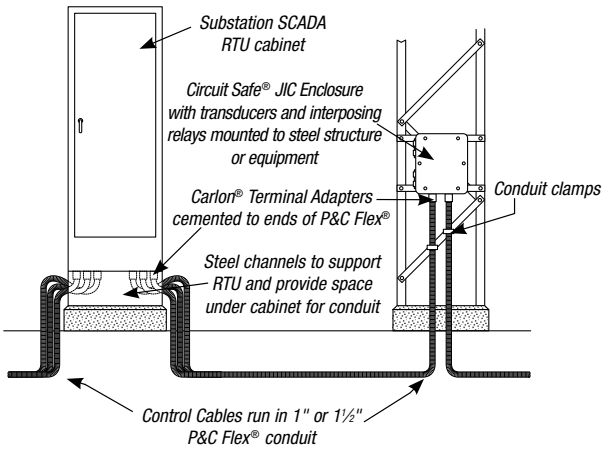
RADIUS (IN.) NOM. DIA.	SEGMENT	18" REQUIRED LENGTH OF P&C FLEX (IN.)	24" REQUIRED LENGTH OF P&C FLEX (IN.)	36" REQUIRED LENGTH OF P&C FLEX (IN.)	48" REQUIRED LENGTH OF P&C FLEX (IN.)	60" REQUIRED LENGTH OF P&C FLEX (IN.)
1½	90°	33	42	61	80	99
	45°	19	23	33	42	52
	30°	14	17	23	30	36
	22½°	12	14	19	23	28
2	90°	32	42	61	79	98
	45°	18	23	32	42	51
	30°	14	17	23	29	35
	22½°	11	12	18	23	28
2½	90°	34	44	63	81	100
	45°	20	25	33	44	53
	30°	16	19	24	31	37
	22½°	13	15	20	25	30
3	90°	35	44	63	82	101
	45°	20	25	34	44	53
	30°	16	19	24	32	38
	22½°	13	16	20	25	30
4	90°	37	46	65	84	103
	45°	22	27	37	46	55
	30°	18	21	27	34	40
	22½°	15	18	22	27	32

For other radius sweeps, use this formula: .0175 x Radius (inches) x Angle° = Required length of P&C Flex in inches.

Technical Information



P&C Flex® conduit is flexible. Carlon® P&C Flex® Non-Metallic Corrugated Conduit is used to transition from Carlon® P&C Duct Type DB. Despite equipment being mounted away from the pole, P&C Flex® conduit remains flush to the pole.



Carlon® P&C Flex® Non-Metallic Corrugated Conduit protects control cables in supervisory control and data acquisition equipment (SCADA) in distribution substations. Flexibility provides maximum utilization of equipment.



When soil conditions do not permit direct burial of cable, use Carlon® P&C Flex® Non-Metallic Corrugated Conduit to protect the cable. A lower coefficient of friction provides easy wire pulls on location. Flexibility eliminates the need for elbows.

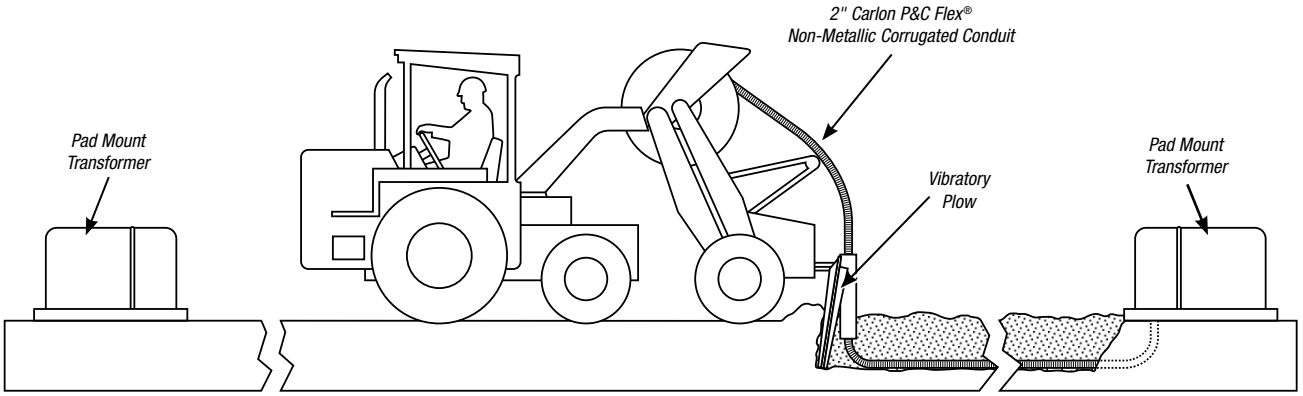
P&C Flex® Conduit and Fittings

Suggested Applications

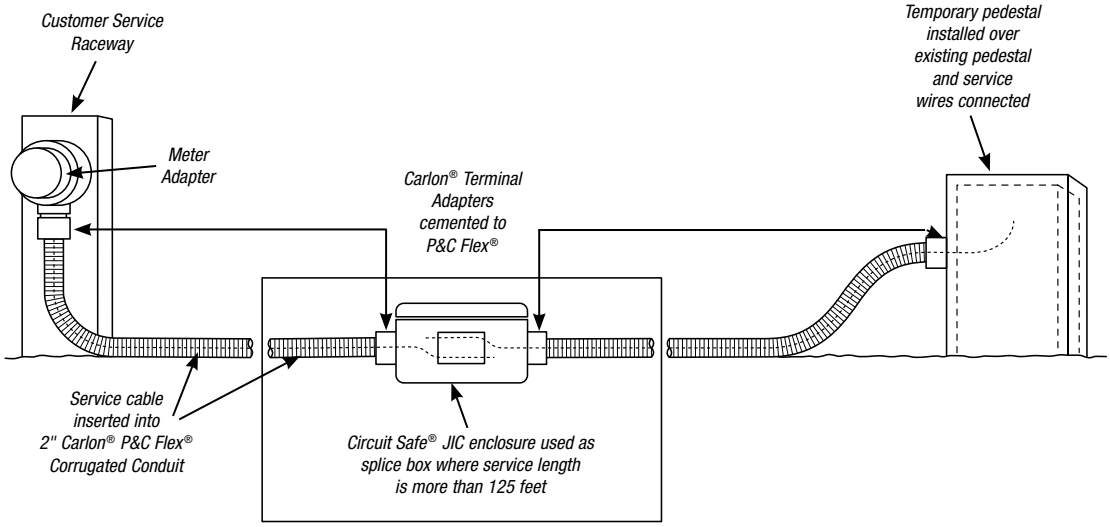
- Carlon® P&C Flex® Non-Metallic Corrugated Conduit is the most versatile system available for power and communications applications
- P&C Flex® combines high crush strength with flexibility.
- Longer coil lengths reduce installation time

Here are a few application ideas that illustrate how P&C Flex® can be effectively used:

In single-phase underground primary systems, lower the cost of direct buried and standard conduit systems by installing P&C Flex® Non-Metallic Corrugated Conduit with a vibratory plow.



Digging up faulty cable in frozen ground can be expensive and time consuming. Use Carlon® P&C Flex® from the customer service raceway to the temporary service pedestal to restore power on an interim basis. When the service length is more than 250 feet, use a splice box and an additional length of P&C Flex® Non-Metallic Corrugated Conduit.



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Installation

Incorrect Method

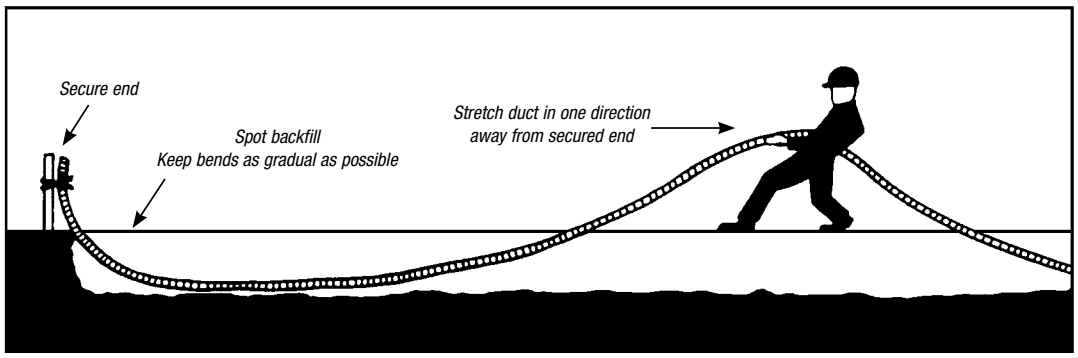


Correct Method



Lay conduit in the trench as straight as possible.
Avoid undulations up and down and side to side.

Trenching



1 Trenching

Trench should be graded true and free from stones or soft spots. Backfill should also be free of stones and be firmly tamped around the sides of the conduit to develop maximum supporting strength. Tamping on top of the conduit is not recommended.

2 Backfill

In rocky soil where it is impossible to have an even trench bottom, a selected backfill should be put in before laying the conduit. Selected backfill (not tamped) at least 6" over the top of the conduit is recommended. After final backfill is placed, tamping may be used to finish the grade.

3 Duct Placement

Duct may be unreeled directly into trench or alongside trench and subsequently placed in trench. After placing in trench, secure one end and stretch it by hand to take up the slack. Spot backfill to hold in position. Do not use mechanical stretching equipment.

4 Changes in Direction

Avoid unnecessary turns, dips or changes in direction. Keep bends as gradual as possible to ensure ease of cable pull-in after duct installation.

5 Pneumatic Rodding

All commonly used vacuum or pressure rodding equipment can be used to rod P&C Flex®. The line carrier (mouse, puck, rocket) should be soft, flexible material designed to fit snugly into duct without interference.

6 Mechanical Rodding

All commonly used mechanical rodding equipment can be used to rod P&C Flex®. The tip should have a ball-type arrangement to keep rod from catching in the convolutions on the inside of duct.

Carflex® Liquidtight Flexible Non-Metallic Conduit

Liquidtight Flexible Non-Metallic Conduit provides superior wire protection in harsh, damp environments. Carflex® Conduit is non-conductive, non-corrosive and resistant to oil, acid, ozone and alkaline. Carflex® Conduit is strong and lightweight and, because it weighs 50% less than metallic systems, it's easy to handle, transport and install. Carflex® is ideal for industrial, air conditioning, heating and outdoor lighting applications.



Features:

- Non-conductive and non-corrosive
- Lightweight for easy handling, transportation and installation
- Crush, abrasion and strain resistant
- Provides superior wire protection
- Smooth interior ideal for pulling cable
- No jagged edges
- Maintains internal I.D., even in tight-radius bends
- Type LFNC-B
- Resistant to oil, acid, ozone and alkaline
- UL® Listed for use as indicated in Article 356.2 of the NEC®, and Section 12-1300 of the Canadian Electrical Code, Part 1
- UL® Listed for outdoor use
- UL® Listed for sunlight resistance
- Trade sizes ½", ¾" and 1" are UL® Listed for direct burial and concrete encasement
- Sequentially marked footage
- Suitable for use at conduit temperatures of 80° C dry, 60° C wet and 60° C oil resistant as required by section 15-6 of ANSI/NFPA 79 and UL 1660
- Material – PVC

***Note**: Liquidtight flexible conduits, metallic and non-metallic, in contrast to rigid PVC conduit and electrical non-metallic tubing, does not have wire temperature limitations. Any temperature-rated wire (for example, 90° wire) can be used as long as the temperature conditions marked on the conduit are not exceeded. UL Listed conduits that are not marked are limited to a maximum temperature of 60° C wet or dry.*

Applications:

- Control and motor
- Air conditioning and heating
- Computer power distribution
- Machine tools
- Console wiring
- Transformer connections
- Outdoor lighting

Custom Orders:

Available in gray (standard) and black.

UL LISTED E95745

Coils

CAT. NO.	NOM. SIZE (IN.)	AVG. O.D. (IN.)	AVG. I.D. (IN.)	STD. CTN. (FT.)	STD. WT. (LBS.)
15004-100	⅜	.700	.489	100	11.70
15005C-25	½	.830	.627	25	3.25
15005-100*	½	.830	.627	100	13.00
15005BK-100*	½	.830	.627	100	13.00
15007-100*	¾	1.040	.825	100	18.00
15008-100*	1	1.302	1.046	100	28.00
15009-100	1¼	1.645	1.385	100	37.60
15010-50	1½	1.882	1.580	50	22.55
15010-100	1½	1.882	1.580	100	47.80
15011-050	2	2.357	2.025	50	34.10

Standard color is gray.

**Joint UL Listed/CSA Approved product available*

Reels

CAT. NO.	NOM. SIZE (IN.)	AVG. O.D. (IN.)	AVG. I.D. (IN.)	STD. CTN. (FT.)	STD. WT. (LBS.)
15004-001	⅜	.700	.489	1000	145.0
15005-001	½	.830	.627	1000	157.0
15005BK-001	½	.830	.627	1000	157.0
15007-001	¾	1.040	.825	1000	212.0
15008-500	1	1.302	1.046	500	155.0
15009-200	1¼	1.645	1.385	200	100.0
15010-150	1½	1.882	1.580	150	95.7
15011-100	2	2.357	2.025	100	94.6

Standard color is gray.

NEC and National Electrical Code are registered trademarks of the National Fire Protection Association, Inc.

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Carflex® X-Flex™ Non-Metallic Mechanical Protection Tubing

Extra-Flexible Non-Metallic Mechanical Protection Tubing is ideal for applications requiring extra strength and flexibility, such as robotics and repetitive-flexing arms. Carflex® X-Flex™ is non-conductive, non-corrosive and resistant to oil, acid, ozone and alkaline. It's designed for use with standard Carflex® fittings, providing a complete non-metallic system. Carflex® X-Flex™ is lightweight for easier handling, transportation and installation.



Features:

- Extra-strong and flexible to withstand repetitive motions
- Non-conductive and non-corrosive
- Resistant to oil, acid, ozone and alkaline
- Lightweight for easy handling, transportation and installation
- Crush, abrasion and strain resistant
- Provides superior wire protection
- Smooth interior ideal for pulling cable
- No jagged edges
- Rated for continuous use at 60° C (140° F) ambient
- Type NMPT-B
- UL® Recognized to UL® Standard 1696
- Material – PVC

Applications:

- Repetitive flexing arms
- Robotics
- Machine tools
- Automatic/moving machinery
- Control and motor

E80040 *LR88170*

Where noted by ◆

Coils

CAT. NO.	NOM. SIZE (IN.)	AVG. O.D. (IN.)	AVG. I.D. (IN.)	STD. CTN. (FT.)	STD. WT. (LBS.)
15104-100	⅜	.700	.489	100	9.09
15105-100	½	.830	.627	100	10.01
15107-100◆	¾	1.040	.825	100	13.91
15108-100◆	1	1.302	1.046	100	18.25
15109-100◆	1¼	1.645	1.385	100	27.65
15110-100	1½	1.882	1.580	100	38.00
15111-050	2	2.357	2.025	50	24.22

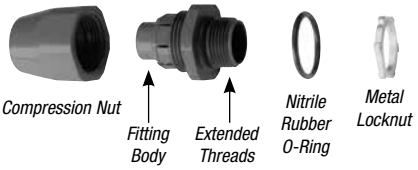
Carflex® Liquidtight Flexible Conduit and Fittings

For use with Carflex® conduit and Carflex® X-Flex™ tubing.

Carflex® Liquidtight Straight Fittings



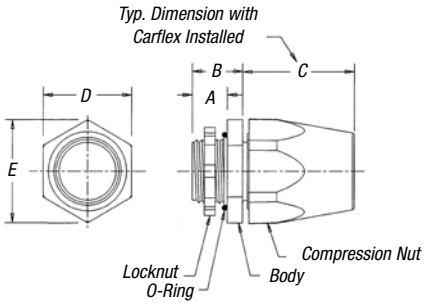
Assembly



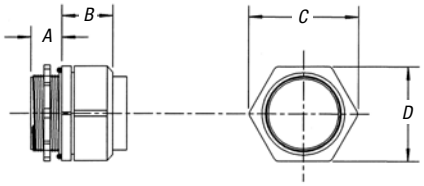


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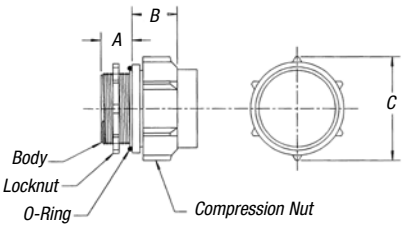




LT43C-CAR, LT43D-NEW, LT43E-NEW, LT43F



LT43G, LT43H



LT43J

Features:

- Non-conductive and non-corrosive
- Resistant to oil, acid, ozone and alkaline
- Easy to install
- Approved for indoor and outdoor locations
- UL® Listed for wet locations
- Nitrile rubber O-ring for a liquidtight termination
- Temperatures up to 225° F (107° C)
- Meets UL® Standard 514B
- Approved for direct burial
- Material: Nylon 6

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E23018

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)
LT43C	⅜	50	3.6	.55	.75	1.60	1.30	1.40
LT43C-CAR	⅜	15	1.4	.55	.75	1.60	1.30	1.40
LT43D-NEW	½	50	4.2	.56	.91	1.62	1.30	1.40
LT43E-NEW	¾	50	6.6	.56	.91	1.88	1.61	1.71
LT43F	1	25	5.5	.70	1.00	2.20	1.90	2.04
LT43G	1¼	5	1.5	.71	1.16	2.50	2.17	
LT43H	1½	5	2.0	.75	1.36	2.78	2.43	
LT43J	2	5	2.5	1.00	1.45	3.33		

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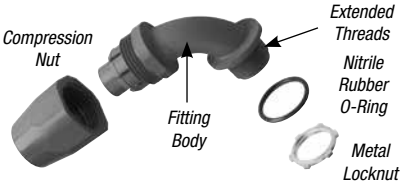
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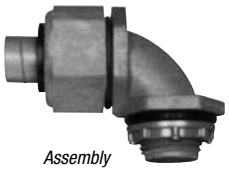
Carflex® Liquidtight Flexible Conduit and Fittings

For use with Carflex® conduit and Carflex® X-Flex™ tubing.

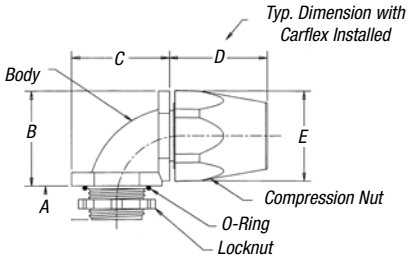
Carflex® Liquidtight 90° Fittings



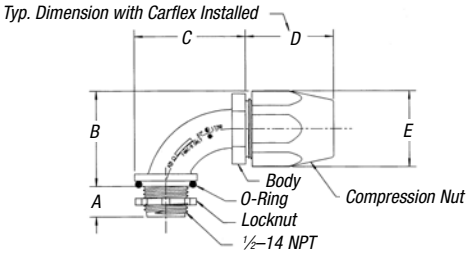




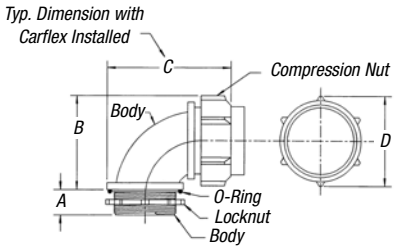




LT20C-CAR, LT20F



LT20D-NEW, LT20E-NEW



LT20G, LT20H, LT20J

c UL us LISTED
E23018

Features:

- Non-conductive and non-corrosive
- Resistant to oil, acid, ozone and alkaline
- Easy to install
- Approved for indoor and outdoor locations
- UL® Listed for wet locations
- Nitrile rubber O-ring for a liquidtight termination
- Temperatures up to 225° F (107° C)
- Meets UL® Standard 514B
- Material: Nylon 6

CAT. NO.	SIZE (IN.)	STD. CTN.	STD. WT. (LBS.)	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	G (IN.)
LT20C	⅜	50	4.9	.56	1.44	1.44	1.56	1.39	1.26	
LT20C-CAR	⅜	15	1.8	.56	1.44	1.44	1.56	1.39	1.26	
LT20D-NEW	½	50	4.9	.56	1.76	2.05	1.62	1.40	1.30	1.15
LT20E-NEW	¾	50	8.0	.56	2.04	2.35	1.88	1.71	1.61	1.50
LT20F	1	25	6.9	.70	2.01	2.01	2.26	2.04	1.90	
LT20G	1¼	5	1.9	.75	2.50	3.55	2.48			
LT20H	1½	5	2.2	.75	2.80	3.98	2.77			
LT20J	2	5	3.4	.94	3.48	4.56	3.33			

Carflex® One-Piece Liquidtight Fittings



Unique Design

The simple, one-piece body design of the Carflex® One-Piece Liquidtight Non-Metallic Fitting requires no disassembly of components for installation. The system is so strong that there is no need for a compression nut.

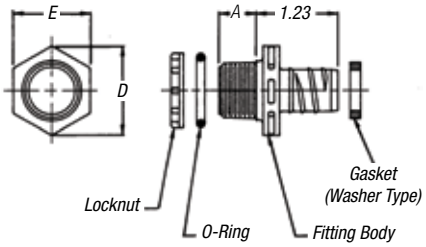
PVC Construction

PVC construction of the fitting and locknut provides unparalleled protection from water, oil and dust. Totally non-metallic, the system is non-conductive and will not corrode or rust. It withstands temperatures up to 140° F (60° C).

Features:

- Approved for indoor and outdoor locations
- UL® Listed for wet locations



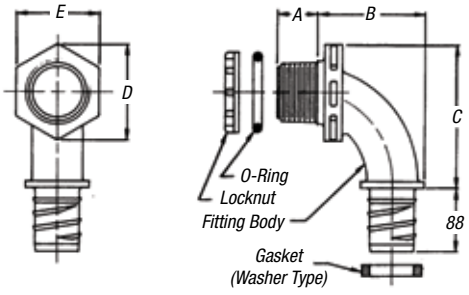


LR201397 E23018

Straight Fittings

CAT. NO.	TRADE SIZE (IN.)	THREAD SIZE	STD. CTN.	STD. WT. (LBS.)	A (IN.)	D (IN.)	E (IN.)
LN43DA	½	½–14 NPT	100	2.8	.56	1.34	1.19
LN43EA	¾	¾–14 NPT	50	2.2	.56	1.63	1.44
LN43FA	1	1–11½ NPT	25	3	.69	1.99	1.75
LN43FA-CAR	1	1–11½ NPT	15	1	.69	1.99	1.75





LR201397 E23018

90° Fittings

CAT. NO.	TRADE SIZE (IN.)	THREAD SIZE	STD. CTN.	STD. WT. (LBS.)	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)
LN20DA	½	½–14 NPT	100	4.3	.56	1.50	1.99	1.34	1.19
LN20EA	¾	¾–14 NPT	50	3.1	.56	1.73	2.25	1.63	1.44
LN20FA	1	1–11½ NPT	25	3.2	.69	1.86	2.58	1.99	1.75
LN20FA-CAR	1	1–11½ NPT	10	1	.69	1.86	2.58	1.99	1.75

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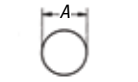
Carflex® Omni Connectors — Straight



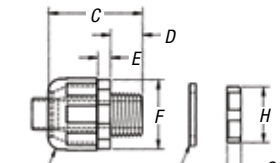
Features:

- Available in sizes ⅜" through 1" conduit and tubing
- All-nylon construction resists saltwater, weak acids, gasoline, alcohol, oil, grease and common solvents
- No disassembly required

- No threading of the conduit or tubing required to install
- Complete conduit/connector system is reusable
- Suitable for indoor/outdoor use
- Lower installed cost
- Black connectors provided with nylon locknut
- Gray connectors provided with assembled O-ring and metal locknuts
- Protection class IP 68 per DIN 40050 up to 70 psi (5 bar) water pressure
- Molded of type 6/6 nylon. ASTM D-4066-PA 111; flammability classification 94V-2



Suggested Clearance Hole for Non-Threaded Mounting



Domed Sealing Nut *Optional Sealing Washer*

LR201397 E23018

CAT. NO. BLACK	CAT. NO. GRAY*	SIZE (IN.)	DESCRIPTION	BODY & SEALING UNIT A CLEARANCE HOLE IN. (MM)	C MAX O.A. LENGTH IN. (MM)	D THREAD LENGTH IN. (MM)	E WRENCHING NUT THICKNESS IN. (MM)	F WRENCHING FLATS IN. (MM)	LOCKING NUT G THICKNESS IN. (MM)	H WRENCHING FLATS IN. (MM)	STD. CTN.
LT38	LT38G	⅜	Straight L/T Fitting	.875 (22.2)	2.000 (50.8)	.625 (15.9)	.250 (6.3)	1.328 (33.7)	.266 (6.7)	1.062 (26.9)	50
LT50	LT50G	½	Straight L/T Fitting	.875 (22.2)	2.000 (50.8)	.625 (15.9)	.250 (6.3)	1.328 (33.7)	.266 (6.7)	1.062 (26.9)	50
LT75	LT75G	¾	Straight L/T Fitting	1.109 (28.2)	2.031 (51.6)	.625 (15.9)	.250 (6.3)	1.562 (39.7)	.266 (6.7)	1.312 (33.3)	25
LT100	LT100G	1	Straight L/T Fitting	1.375 (34.9)	2.250 (57.1)	.781 (19.8)	.250 (6.3)	1.875 (47.6)	.266 (6.7)	1.625 (41.3)	20

**Gray connectors provided with assembled O-ring and metal locknuts. Black connectors provided with nylon locknuts only.*

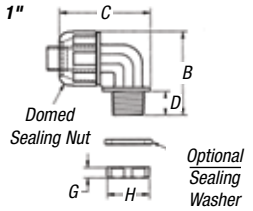
Carflex® Omni Connectors — 90° Angle



Features:

- Available in sizes ⅜" through 1" conduit and tubing
- Smooth internal surfaces for easier wire installation around corner angles
- All-nylon construction resists saltwater, weak acids, gasoline, alcohol, oil, grease and common solvents
- No disassembly required

- No threading of the conduit or tubing required to install
- Complete conduit/connector system is reusable
- Use of a sealing washer may be required for wet locations
- Suitable for indoor/outdoor use
- Lower installed cost
- Black connectors provided with nylon locknut, packed separately
- Gray connectors provided with assembled O-ring and metal locknuts.
- Protection class IP 68 per DIN 40050 up to 70 psi (5 bar) water pressure
- Molded of type 6/6 nylon. ASTM D-4066-PA 111; flammability classification 94V-2





Suggested Clearance Hole for Non-Threaded Mounting

LR201397 E23018

CAT. NO. BLACK	CAT. NO. GRAY	SIZE (IN.)	DESCRIPTION	BODY & SEALING UNIT A CLEARANCE HOLE IN. (MM)	B MAX O.A. HEIGHT IN. (MM)	C MAX O.A. LENGTH IN. (MM)	D THREAD LENGTH IN. (MM)	LOCKING NUT G THICKNESS IN. (MM)	H WRENCHING FLATS IN. (MM)	STD. CTN.
LT938	LT938G	⅜	90 Degree L/T Fitting	.875 (22.2)	1.98 (50.3)	2.91 (73.9)	.52 (13.2)	.27 (6.8)	1.06 (26.9)	25
LT950	LT950G	½	90 Degree L/T Fitting	.875 (22.2)	1.98 (50.3)	2.91 (73.9)	.52 (13.2)	.27 (6.8)	1.06 (26.9)	25
LT975	LT975G	¾	90 Degree L/T Fitting	1.109 (28.2)	2.29 (58.2)	3.17 (80.5)	.52 (13.2)	.27 (6.8)	1.31 (33.3)	20
LT9100	LT9100G	1	90 Degree L/T Fitting	1.375 (34.9)	2.84 (72.1)	3.18 (80.8)	.78 (19.8)	.27 (6.8)	1.61 (40.9)	10

Carflex® Fittings Installation Instructions

LT43C-CAR, LT43F thru J, LT20C-CAR, LT20F thru J.

1. Cut the end of the Carflex® conduit or Carflex® X-Flex™ tubing square.
2. Install compression nut and sealing gland ring over the end of the conduit or tubing.
3. Insert the ferrule end of the fitting into the conduit using a clockwise twisting action.
4. Screw fitting body into compression nut.
5. When installation is completed, use a wrench to tighten compression nut one-quarter (¼) turn past hand-tight. Do not overtighten fitting.

**To prevent damage to conductors, conduit and fittings, do not twist Carflex during installation.*

LT43D-NEW, LT43E-NEW, LT20D-NEW, LT20E-NEW.

1. Cut the end of the Carflex® conduit or Carflex® X-Flex™ tubing square.
2. Install compression nut over the end of the conduit or tubing.
3. Insert the ferrule end of the fitting into the conduit using a clockwise twisting action. (Be sure conduit is fully inserted to the bottom of the fitting shoulder.)
4. Screw compression nut onto fitting body.
5. Use a wrench to tighten compression nut one (1) full turn past hand-tight. Do not overtighten fitting.

Carflex® Liquidtight Conduit Technical Information

1. There shall be no more than the equivalent of four (4) quarter (90°) bends (360° total) between pull points, conduit bodies and boxes.
2. The radius of the curve of the center of the conduit or tubing shall not be less than that shown in the table **(right)**:

SIZE OF CONDUIT OR TUBING		RADIUS TO CENTER OF CONDUIT OR TUBING	
INCHES	(METRIC DESGR.)	INCHES	(MM)
⅜	(14)	4	(101.6)
½	(16)	4	(101.6)
¾	(21)	4½	(114.3)
1	(27)	5¾	(146.0)
1¼	(35)	7¼	(184.1)
1½	(41)	8¼	(209.5)
2	(53)	9½	(241.3)

UL® Listed for Use as Indicated in Article 356 of the National Electrical Code®

- Cellular Metal Floor Raceways, Connections to Cabinets & Wall Outlets
- Class I, Div. 2, Hazardous Location
- Class II, Div. 1, Hazardous Location
- Class III, Div. 1, Hazardous Location
- Computer Room Raised Floor
- Concealed Locations
- Intrinsically Safe Systems
- Lighting Fixtures, Connection to Electric Discharge Fixture
- Non-Metallic Boxes
- RV Engine Generator
- Swimming Pool Pump Motors
- Tap Conductors (Fixture Whips)
- Underfloor Raceway, Connection to Cabinets and Wall Outlets
- Wireway, Extensions from Wireways, Wiring Methods
  – Agricultural Buildings, Flexible Connections
  – Electric Signs, 1000 Volts, Nominal, or Less
  – Electric Signs, Over 1000 Volts (per Section 600.32(A)(1)
  – Floating Buildings
  – Marinas and Boatyards
  – Service Entrance Conductors
- Wiring on Buildings, Outside Branch Circuits and Feeders
- Direct-Burial Applications

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Technical Services
Tel: 888.862.3289

www.tnb.com

Carflex® Liquidtight Whips

Carflex® Liquidtight Whip assemblies save the customer time and hassle of having to hunt for the needed components. Our moisture-tight non-metallic flexible conduit system is ideal for installing swimming pool motors, hot tubs, spas, air conditioners, pumps, outdoor lighting and more.

Unlike plastic-coated metal conduit, the Carlon® Carflex® system has no metal core to fatigue, rust or corrode. The Carflex® system has no sharp edges or burrs to cut into the wire insulation. Metal conduit is subject to fatigue and penetration of moisture.

The Carflex® Liquidtight Whip assembly is complete with Carflex® moisture-tight conduit, wire, one straight fitting and one 90° fitting.

All this enables quick and trouble-free installation.



Features:

- Designed for easy installation
- Will not rust or corrode
- Can be used for many commercial and residential applications
- Many applications such as swimming pool filters, hot tub spas, air conditioners, pumps, etc.
- Available in ½" and ¾" diameters
- Available in 4' and 6' lengths
- Each kit contains (1) straight and (1) 90° fitting
- Complete with (3) 8-, 10- or 12-gauge wires
- Wire colors: black, green and red



Custom Orders:

Also available in special configurations including different fitting combinations, wire types and sizes and metal-fitting variations. Consult your Thomas & Betts Sales Team for details.

UL LISTED
E171248

CAT. NO.	DESCRIPTION	WIRE SIZE (GAUGE)	STD. CTN.	STD. WT. (LBS.)
WCD4	½"	Carflex Whip — 4 foot, 10 gauge	6 (poly bag)	10.6
WCD6	½"	Carflex Whip — 6 foot, 10 gauge	6 (poly bag)	15.8
WCE4	¾"	Carflex Whip — 4 foot, 8 gauge	6 (poly bag)	12.4
WCE6	¾"	Carflex Whip — 6 foot, 8 gauge	6 (poly bag)	15.8
WCD3124	½"	Carflex Whip — 4 foot, 12 gauge	20 (bulk pack)	32.4
WCD3126	½"	Carflex Whip — 6 foot, 12 gauge	20 (bulk pack)	47.9
WCD3104	½"	Carflex Whip — 4 foot, 10 gauge	20 (bulk pack)	35.2
WCD3106	½"	Carflex Whip — 6 foot, 10 gauge	20 (bulk pack)	52.8
WCE3084	¾"	Carflex Whip — 4 foot, 8 gauge	15 (bulk pack)	30.9
WCE3086	¾"	Carflex Whip — 6 foot, 8 gauge	15 (bulk pack)	39.6

Typical Properties of Conduit Raw Material Compound

THERMAL	ASTM TEST	TYPICAL VALUES
Co-effecient of Thermal Expansion-inch/ inch/° F (properties @ 73.4° F)	D696	3.38 x 10^{-5}
Heat Distortion ° F at 264 psi	D648	160° F
Thermal Conductivity BTU (hr.) (ft.) (° F/in.)	N/A	1.3

MECHANICAL	ASTM TEST	TYPICAL VALUES
Specific Gravity	D792	1.43 - 1.6
Tensile Strength (psi) @ 73.4° F	D638	5,000-6,500
Izod Impact ft lbs./in. of notch	D256	.65 - 1.5
Flexural Strength (psi)	D790	12,500
Compressive Strength (psi)	D695	9,000
Hardness (Durometer D)	D2240	85

ELECTRICAL	ASTM TEST	TYPICAL VALUES
Dielectrical Strength volts/mil	D149	1100
Dielectric Constant 60 CPS @ 30° C	D150	4.00
Power Factor 60 CPS @ 30° C	D150	1.93

IMPEDANCE (VOLTS LOST PER AMPERE PER 100 FEET)	30 90% P.F.	80% P.F.	10 90% P.F.	80% P.F.
Steel Conduit	.0118	.0123	.0136	.0142
Schedule 40	.0105	.0106	.0121	.0122

Using 250 kcmil copper conductor. Comparable values for other conductor sizes.

Wire Fill

Maximum number of conductors in Schedule 40 PVC conduit (Based on Table 1, Chapter 9 of the NEC®)

TYPE LETTERS	CONDUCTOR SIZE AWG, KCMIL	TRADE SIZE ½	¾	1	1¼	1½	2	2½	3	3½	4	4¼	5	6	8
THWN	14	13	24	39	69	94	154								
	12	10	18	29	51	79	114	164							
THHN	10	6	11	18	32	44	73	194	160						
	8	3	5	9	19	22	36	51	71	106	136				
FEP (14 thru 2)	6	1	4	6	11	15	26	37	57	76	98	125	154		
	4	1	2	4	7	9	16	22	35	47	60	75	94	137	236
FEPB (14 thru 8)	3	1	1	3	6	8	13	19	29	39	51	64	90	116	201
	2	1	1	3	5	7	11	16	25	33	43	54	67	97	169
	1		1	1	3	5	9	12	18	25	32	49	59	72	125
PFA (14 thru 4/0)	1/0		1	1	3	4	7	10	15	21	27	33	42	61	105
	2/0		1	1	2	3	6	8	13	17	22	28	35	51	88
	3/0		1	1	1	3	5	7	11	14	18	23	29	42	73
	4/0		1	1	1	2	4	6	9	12	15	19	24	35	61
PFAH (14 thru 4/0)	250			1	1	1	3	4	7	10	12	16	20	28	49
	300			1	1	1	3	4	6	8	11	13	17	24	42
	350			1	1	1	2	3	5	7	9	12	15	21	37
Z (14 thru 4/0)	400				1	1	1	3	5	6	8	10	13	19	33
	500				1	1	1	2	4	5	7	9	11	16	27
	600				1	1	1	1	3	4	5	7	9	13	22
XHHW (4 thru 500)	700					1	1	1	3	4	5	6	8	11	19
	750					1	1	1	2	3	4	6	7	11	19
	6	1	3	5	9	13	21	30	47	63	81	102	128	185	320
	600				1	1	1	1	3	4	5	7	9	13	22
XHHW	700					1	1	1	3	4	5	6	7	11	19
	750					1	1	1	2	3	4	6	7	10	18

Maximum number of conductors in Schedule 80 PVC conduit (Based on Table 1, Chapter 9 of the NEC®)

CONDUCTOR SIZE AWG, KCMIL		TRADE SIZE ½	¾	1	1¼	1½	2	2½	3	4	5
#14	THW	4	8	13	24	34	57	82	128		
	THHN	10	19	33	58	81	135	194	0		
12	THW	3	6	11	20	28	47	67	105	183	
	THHN	8	14	24	43	60	100	144	0		
10	THW	3	5	9	16	22	37	54	85	148	
	THHN	5	9	15	27	38	64	92	143		
8	THW	1	2	4	8	11	19	28	44	77	121
	THHN	1	4	7	13	18	31	45	70	123	195
6	THW	1	1	3	6	8	14	20	32	56	88
	THHN	1	3	5	9	13	22	32	50	88	140
4	THW	0	1	2	4	6	10	15	24	42	66
	THHN	1	1	3	6	8	13	20	31	54	86
3	THW	0	1	1	4	5	9	13	20	36	57
	THHN	1	1	2	5	7	11	17	26	46	73
2	THW	0	1	1	3	4	8	11	17	31	49
	THHN	1	1	1	4	5	9	14	22	38	61
1	THW	0	1	1	1	3	5	8	13	22	35
	THHN	0	1	1	3	4	7	10	16	28	45
0	THW	0	0	1	1	2	4	7	11	19	30
	THHN	0	1	1	2	3	6	8	13	24	38
00	THW	0	0	1	1	1	4	6	9	16	26
	THHN	0	1	1	1	3	5	7	11	20	32
000	THW	0	0	1	1	1	3	5	8	14	22
	THHN	0	0	1	1	2	4	6	9	16	26
0000	THW	0	0	1	1	1	3	4	6	11	18
	THHN	0	0	1	1	1	3	5	8	14	22
250	THW	0	0	0	1	1	1	3	5	9	14
	THHN	0	0	0	1	1	2	4	6	11	18
300	THW	0	0	0	1	1	1	3	4	8	13
	THHN	0	0	0	1	1	1	3	5	9	15
350	THW	0	0	0	1	1	1	2	4	7	11
	THHN	0	0	0	1	1	1	3	4	8	13
400	THW	0	0	0	0	1	1	1	3	6	10
	THHN	0	0	0	1	1	1	2	4	7	12
500	THW	0	0	0	0	1	1	1	3	5	8
	THHN	0	0	0	0	1	1	1	3	6	10
600	THW	0	0	0	0	0	1	1	1	4	7
	THHN	0	0	0	0	1	1	1	3	5	8
700	THW	0	0	0	0	0	1	1	1	3	6

Weight Comparison

Carlon® Schedule 40 rigid non-metallic conduit compared to other conduit in pounds per 100 feet (approx.)

NOM. SIZE	CARLON® SCHEDULE 40 RIGID NON-METALLIC CONDUIT	CARLON® SCHEDULE 80 RIGID NON-METALLIC CONDUIT	ALUMINUM	ELECTRICAL METALLIC TUBING (EMT)	INTERMEDIATE METAL CONDUIT (IMC)	RIGID METAL CONDUIT (RMC)
½	18	22	27	30	57	79
¾	23	29	36	46	78	105
1	35	43	53	66	112	153
1¼	48	60	70	96	114	201
1½	57	72	86	112	176	246
2	76	100	116	142	230	334
2½	125	153	183	230	393	527
3	164	212	239	270	483	690
3½	198		288	350	561	831
4	234	310	340	400	625	982
5	317	431	465	Not Made	Not Made	1344
6	412	592	612	Not Made	Not Made	1770

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Expansion and Contraction

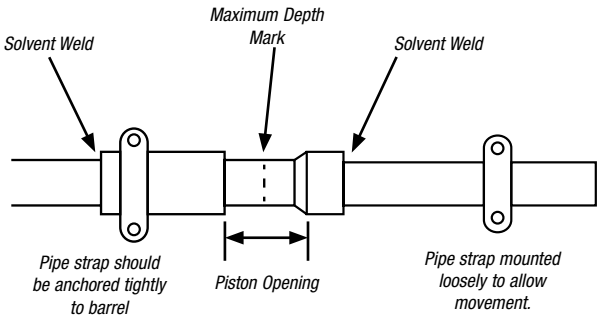
Temperature Considerations for Rigid Non-Metallic Conduit Compensation for Linear Expansion

Like all construction materials, PVC will expand or contract with variations in temperatures. The coefficient of linear expansion in PVC conduit is 3.38 x 10^{-5} in./in./°F as compared to 1.2 x 10^{-5} for aluminum and .6 x 10^{-5} for steel An expansion fitting is needed whenever the change in length due to temperature variation will be ¼ in. or greater per 352.44 of the NEC.

Add 30° F to the estimated temperature range when conduit is installed in direct sunlight to allow for radiant heating.

An expansion fitting consists of two sections, one telescoping inside another. When installing expansion fittings, alignment of piston and barrel is important. Be sure to mount expansion fitting level for best performance.

For a vertical run, the expansion fitting must be installed close to the top of the run with the barrel jointing down, in order that rain water does not run into the opening. The lower end of the conduit run must be secured at the bottom so that any length change due to temperature variation will result in an upward movement.



Determine the Piston Opening

The expansion joint must be installed to allow both expansion and contraction of the conduit run. The correct piston opening for any installation condition should use the following formula:

$$O = \left[\frac{T\ max - T\ installed}{\Delta T} \right] E$$

Example

380 ft. cf conduit is to be installed on the outside of a building exposed to the sun in a single straight run. It is expected that the conduit will vary in temperature from 0° F in the winter to 140° F in the summer (this includes the 30° F for radiant heating from the sun.) The installation is to be made at a conduit temperature of 90° F. From this table, a 140° F temperature change will cause a 5.7 in. length change in 100 ft. of conduit. The total change for this example is 5.7" x 3.8 = 21.67" which should be rounded to 22". The number of expansion fittings will be 22" x fitting range (4" for Carlon trade sizes ½" through 1½", and 8" for sizes 2" through 6".) If the E945D fitting is used, the number will be 22" x 4 = 5.50 which should be rounded to 6. The fitting should be placed at 62 ft. intervals (380 x 6). the proper piston setting at the time of installation is calculated as explained above.

$$O = \left[\frac{140-90}{140} \right] 4.0=1.4\ in.$$

Insert the piston into the barrel to the maximum depth. Place a mark on the piston at the end of the barrel. To properly set the piston, pull the piston out of the barrel to correspond to the 2.1 in. calculated above. See drawing at **left**.

Summary

1. Anticipate expansion and contraction of PVC conduit in above ground, exposed installation.
2. Use an expansion fitting when length change due to temperature variation will be ¼" or greater per 352.44 of the NEC®.
3. PVC conduit expands 4.1" for each 100 feet of run and a 100° F temperature change.
4. Align expansion fitting with the conduit run to prevent binding.
5. Follow the instructions to set the piston opening.
6. Rigidly fix the outer barrel of the expansion fitting so it cannot move. Mount the conduit connected to the piston loosely enough to allow the conduit to move as the temperature changes.

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Expansion Characteristics of PVC Rigid Non-Metallic Conduit Coefficient of Thermal Expansion = 3.38 x 10^{-5} in./in./°F

TEMPERATURE CHANGE IN DEGREES F	LENGTH CHANGE IN INCHES PER 100 FT. OF PVC CONDUIT	TEMPERATURE CHANGE IN DEGREES F	LENGTH CHANGE IN INCHES PER 100 FT. OF PVC CONDUIT	TEMPERATURE CHANGE IN DEGREES F	LENGTH CHANGE IN INCHES PER 100 FT. OF PVC CONDUIT	TEMPERATURE CHANGE IN DEGREES F	LENGTH CHANGE IN INCHES PER 100 FT. OF PVC CONDUIT
5	.2	55	2.2	105	4.2	155	6.3
10	.4	60	2.4	110	4.5	160	6.5
15	.6	65	2.6	115	4.7	165	6.7
20	.8	70	2.8	120	4.9	170	6.9
25	1.0	75	3.0	125	5.1	175	7.1
30	1.2	80	3.2	130	5.3	180	7.3
35	1.4	85	3.4	135	5.5	185	7.5
40	1.6	90	3.6	140	5.7	190	7.7
45	1.8	95	3.8	145	5.9	195	7.9
50	2.0	100	4.0	150	6.1	200	8.1

Corrosion Resistance of Carlon® Schedule 40 and Schedule 80 Fittings

Carlon Schedule 40 and Schedule 80 Fittings are generally acceptable for use in environments containing the chemicals **below**. These environmental-resistance ratings are based upon tests where the specimens were placed in complete submergence in the reagent listed. Schedule 40 and Schedule 80 Fittings can be used in many process areas where chemicals not on this list are manufactured or used because worker safety requirements dictate that any air presence or splashing be at a very low level.

If there are any questions about specific suitability in a given environment, prototype samples should be tested under actual conditions.

CHEMICAL ENVIRONMENT

- Acetic Acid 0 – 20%
- Acetic Acid 20 – 30%
- Acetic Acid 30 – 60%
- Acetic Acid 80%
- Acetic Acid – Glacial
- Acetic Acid Vapors
- Acetylene
- Adipic Acid
- Alum
- Aluminum Chloride
- Aluminum Fluoride
- Aluminum Hydroxide
- Aluminum Oxychloride
- Aluminum Nitrate
- Aluminum Sulfate
- Ammonia-Dry Gas
- Ammonium Bifluoride
- Ammonium Carbonate
- Ammonium Chloride
- Ammonium Hydroxide 28%
- Ammonium Metaphosphate
- Ammonium Nitrate
- Ammonium Persulfate
- Ammonium Phosphate – Neutral
- Ammonium Sulfate
- Ammonium Sulfide
- Ammonium Thiocyanate
- Amyl Alcohol
- Anthraquinone
- Anthraquinonesulfonic Acid
- Antimony Trichloride
- Aqua Regia
- Arsenic Acid 80%
- Arylsulfonic Acid
- Barium Carbonate
- Barium Chloride
- Barium Hydroxide
- Barium Sulfate
- Barium Sulfide
- Beet – Sugar Liquor
- Benzine Sulfonic Acid 10%
- Benzoic Acid
- Bismuth Carbonate
- Black Liquor (Paper Industry)
- Bleach – 12.5% Active CL2
- Borax
- Boric Acid
- Brine
- Breeder Pellets – Dane. Fish
- Bromic Acid
- Bromine – Water
- Butane
- Butadiene
- Butyl Alcohol
- Butyl Phenol
- Butylene
- Butyric Acid
- Calcium Bisulfite
- Calcium Carbonate
- Calcium Chlorate
- Calcium Chloride
- Calcium Hydroxide
- Calcium Hypochlorite
- Calcium Nitrate
- Calcium Sulfate
- Carbonic Acid
- Carbon Dioxide Gas – Wet
- Carbon Dioxide – Aqueous Solution
- Carbon Monoxide
- Caustic Potash
- Caustic Soda
- Chloracatic Acid
- Chloral Hydrate
- Chlorine Gas (Dry)
- Chlorine Gas (Moist)
- Chlorine Water
- Chlorosulfonic Acid
- Chrome Alum
- Chromic Acid 10%
- Chromic Acid 30%
- Chromic Acid 40%
- Chromic Acid 50%
- Citric Acid
- Copper Chloride
- Copper Cyanide
- Copper Fluoride
- Copper Nitrate
- Copper Sulfate
- Cottonseed Oil
- Cresylic Acid 50%
- Crude Oil – Sour
- Crude Oil – Sweet
- Demineralized Water
- Dextrin
- Dextrose
- Diglycolic Acid
- Disodium Phosphate
- Ethyl Alcohol
- Ethylene Glycol
- Fatty Acids
- Ferric Chloride
- Ferric Nitrate
- Ferric Sulfate
- Ferrous Chloride
- Ferrous Sulfate
- Fluorine Gas – Wet
- Fluorine Gas – Dry
- Fluoroboric Acid
- Fluorosilicic Acid
- Formaldehyde
- Formic Acid
- Fructose
- Gallic Acid
- Gas – Coke Oven
- Gas – Natural (Dry)
- Gas – Natural (Wet)
- Gasoline – Sour
- Gasoline – Refined
- Glucose
- Glycerine (Glycerol)
- Glycol
- Glycolic Acid
- Green Liquor (Paper Industry)
- Heptane
- Hexanol, Tertiary
- Hydrobromic Acid 20%
- Hydrochloric Acid 0% – 25%
- Hydrochloric Acid 25% – 40%
- Hydrocyanic Acid or Hydrogen Cyanide
- Hydrofluoric Acid 10%
- Hydrofluorosilicic Acid
- Hydrogen Phosphide
- Hydrogen Sulfide – Dry
- Hydrogen Sulfide – Aqueous Solution
- Hydroquinone
- Hydroxylamine Sulfate
- Iodine
- Kerosene
- Lactic Acid 28%
- Lauric Acid
- Lauryl Chloride
- Lauryl Sulfate
- Lead Acetate
- Lime Sulfur
- Linoleic Acid
- Linseed Oil
- Lubricating Oils
- Magnesium Carbonate
- Magnesium Chloride
- Magnesium Hydroxide
- Magnesium Nitrate
- Magnesium Sulfate
- Maleic Acid
- Malic Acid
- Mercuric Chloride
- Mercuric Cyanide
- Mercurous Nitrate
- Mercury
- Methyl Sulfate
- Methylene Chloride
- Mineral Oils
- Naphthalene
- Nickel Chloride
- Nickel Nitrate
- Nitric Acid, Anydrous
- Nitric Acid 20%
- Nitric Acid 40%
- Nitric Acid 60%
- Nitrobenzene
- Nitrous Oxide
- Oils and Fats
- Oils – Petroleum – (See Type)
- Oleic Acid
- Oxalic Acid
- Palmitic Acid 10%
- Perchloric Acid 10%
- Phenylhydrazine Hydrochloride
- Phosgene, Gas
- Phosphoric Acid – 0 – 25%
- Phosphoric Acid – 25 – 50%
- Phosphoric Acid – 50 – 85%
- Photographic Chemicals
- Plating Solutions
- Potassium Bicarbonate
- Potassium Bichromate
- Potassium Borate
- Potassium Bromide
- Potassium Carbonate
- Potassium Chloride
- Potassium Chromate
- Potassium Cyanide
- Potassium Dichromate
- Potassium Ferricyanide
- Potassium Ferrocyanide
- Potassium Fluoride
- Potassium Hydroxide
- Potassium Nitrate
- Potassium Perborate
- Potassium Perchlorite
- Potassium Permanganate 10%
- Potassium Persulfate
- Potassium Sulfate
- Propane
- Propyl Alcohol
- Silicic Acid
- Silver Cyanide
- Silver Nitrate
- Silver Plating Solutions
- Sodium Acetate
- Sodium Arsenite
- Sodium Benzoate
- Sodium Bicarbonate
- Sodium Bisulfate
- Sodium Bisulfite
- Sodium Bromide
- Sodium Chlorate
- Sodium Chloride
- Sodium Cyanide
- Sodium Dichromate
- Sodium Ferricyanide
- Sodium Ferrocyanide
- Sodium Fluoride
- Sodium Hydroxide
- Sodium Hypochlorite
- Sodium Nitrate
- Sodium Nitrite
- Sodium Sulfate
- Sodium Sulfide
- Sodium Sulfite
- Sodium Thiosulfate (Hypo)
- Stannic Chloride
- Stannous Chloride
- Stearic Acid
- Sulfur
- Sulfur Dioxide – Gas Dry
- Sulfur Trioxide
- Sulfuric Acid – 0 – 10%
- Sulfuric Acid – 10 – 75%
- Sulfuric Acid – 75 – 90%
- Sulfurous Acid
- Tannic Acid
- Tanning Liquors
- Tartaric Acid
- Titanium Tetrachloride
- Triethanolamine
- Trimethyl Propane
- Trisodium Phosphate
- Turpentine
- Urea
- Vinegar
- Whiskey
- White Liquor (Paper Industry)
- Wines
- Zinc Chloride
- Zinc Chromate
- Zinc Cyanide
- Zinc Nitrate
- Zinc Sulfate

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Steel City®

Steel City® Commercial Fittings

In this section...



Steel City® Commercial Fittings

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Overview

Steel City® Fittings

Steel City® Conduit Fittings provide long-lasting service in commercial, industrial and residential construction. Our fittings are manufactured within strict tolerances to maintain consistent performance. Installers can be assured that every fitting with the Steel City® name will work every time. So when you select Steel City® Conduit Fittings, that means fewer headaches and call-backs.

Steel City® products symbolize the highest quality standards in manufacturing and innovative design, with one of the most complete offerings available. Contact a T&B distributor nearest you to select the right Steel City® product for your requirements.



Advantages of Steel City® Commercial Conduit Fittings

Compression Fittings

Dependable Pipe Stop

- Strong, thick protrusion that does not exceed thickness of EMT. Keeps forcefully inserted conduit from breaking through the opposite side of the coupling, while not interfering with the pulling of conductors



Heavy-Duty Thick Steel Body/Glands with Continuous Threading

- True hexagonal shape. The non-circular design has actual flats for gripping power using hand or tool force



Extra-Thick Electro-Plated Zinc Finish

- Ensures corrosion resistance while the clear chromate coating gives the fittings their quality shine and luster



Couplings and Connectors

Superior Quality and Design

- Strict tolerances throughout fitting ensures a straight conduit run with no sagging over extreme lengths
- Chamfered entry provides lead-in for conduit insertion



Dependable Pipe Stop

- 360° groove traveling the circumference ensures that conduit forcefully inserted won't break through to the opposite side of the fitting. Also, it does not exceed thickness of EMT and prevents interference with pulling conductors



Extra-Large Head Tri-Drive Set Screw

- Accommodates Phillips, slotted and square drives

Enhanced Locknut Construction

- Heavy-duty turned sharp teeth, double-threaded



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Overview

Here's How the Steel City® Catalog Number System Works

Easy-to-identify alphabetical prefixes:

BG – Bushings, Grounding
BI – Bushings, Insulated
BL – Blanks
BR – Rigid Spacer
BS – Box Spacer
BT – Thinwall Spacer
BU – Bushings
CB – Clamp Back
CP – Cable Protector
EK – 3-Piece Coupling
FA – Fire Alarm
GA – Ground Clamp (Armored Ground Wire)
GC – Ground Clamp
H – Hub
HA – Heavywall Adapter
HC – Heavywall Connector
HK – Heavywall Coupling
HL – Heavywall Elbow
HO – Heavywall Offset
HS – Heavywall Strap
LG – Locknut, Grounding
LN – Locknut
LT – Liquidtight
NC – Non-Metallic Sheathed Cable Connector
NS – Non-Metallic Sheathed Cable Strap
RB – Reducing Bushings
RT – Raintight
SH – Service Entrance Fitting
SL – Service Ells
SR – Sealing Rings
SS – Stainless Steel
LS – Locknut, Sealing
TC – Thinwall Connectors
TK – Thinwall Couplings
TL – Thinwall Elbow
TO – Thinwall Offset
TS – Thinwall Strap
TX – Thinwall to Flexible Metallic Conduit Fitting
UC – Utility Connector
USA – Made in USA
WA – Washer
XC – Armored Cable or Flexible Metallic Conduit Connector
XK – Armored Cable or Flexible Metallic Conduit Coupling

1st Digit — Material

1 = Steel
2 = Die Cast
3 = Combination Steel and Die Cast
4 = Malleable
5 = Plastic
6 = Aluminum
7 = Steel Insulated
8 = Die Cast Insulated
9 = Malleable Insulated

2nd Digit — Method

1 = Compression
2 = Set Screw
3 = Other

3rd/4th Digit — Size

0 = ⅜"
1 = ½"
2 = ¾"
3 = 1"
4 = 1¼"
5 = 1½"
6 = 2"
7 = 2½"
8 = 3"
9 = 3½"
10 = 4"
11 = 5"
12 = 6"

A few examples of the three-digit identification system for thinwall fittings are:

TK-111A: ½" steel, compression-type coupling
TC-714A: 1¼" steel insulated compression-type connector
TC-822SC: ¾" die-cast, insulated, set-screw type connector



Electrical Metallic Tubing (EMT) Fittings

Ideal for use in Recovery Act projects requiring MADE IN USA components!

Made In USA Steel EMT Fittings

High-Quality Steel Construction — Made in the USA!

NEW!

- Available in sizes for ½" to 4" electrical metallic tubing (EMT)
- Steel construction for strength and durability
- Electroplated zinc finish for corrosion protection
- Use couplings to join two lengths of EMT
- Use connectors (insulated or non-insulated) to join EMT to a box or enclosure
- Set-screw couplings and connectors are for use in dry locations and are concrete-tight when taped
- Compression couplings and connectors are concrete-tight
- MADE IN USA for use on American Recovery and Reinvestment Act (ARRA) projects



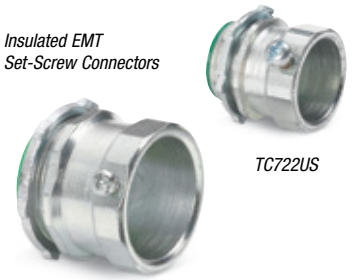
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Electrical Metallic Tubing (EMT) Fittings



Insulated EMT Set-Screw Connectors

TC722US

TC724US



Insulated EMT Compression Connector (TC7110US)



Insulated EMT Set-Screw Connector (TC729US)



EMT Set-Screw Coupling (TK128US)



EMT Compression Couplings

TK114US



TK111US

Made In USA Steel EMT Fittings

CAT. NO.	HUB SIZE
EMT Compression Connectors, Non-Insulated	
TC111US	½"
TC112US	¾"
TC113US	1"
TC114US	1¼"
TC115US	1½"
TC116US	2"
TC117US	2½"
TC118US	3"
TC119US	3½"
TC1110US	4"
EMT Compression Connectors, Insulated	
TC711US	½"
TC712US	¾"
TC713US	1"
TC714US	1¼"
TC715US	1½"
TC716US	2"
TC717US	2½"
TC718US	3"
TC719US	3½"
TC7110US	4"

CAT. NO.	HUB SIZE
EMT Set-Screw Connectors, Non-Insulated	
TC121US	½"
TC122US	¾"
TC123US	1"
TC124US	1¼"
TC125US	1½"
TC126US	2"
TC127US	2½"
TC128US	3"
TC129US	3½"
TC1210US	4"
EMT Set-Screw Connectors, Insulated	
TC721US	½"
TC722US	¾"
TC723US	1"
TC724US	1¼"
TC725US	1½"
TC726US	2"
TC727US	2½"
TC728US	3"
TC729US	3½"
TC7210US	4"

CAT. NO.	HUB SIZE
EMT Compression Couplings	
TK111US	½"
TK112US	¾"
TK113US	1"
TK114US	1¼"
TK115US	1½"
TK116US	2"
TK117US	2½"
TK118US	3"
TK119US	3½"
TK1110US	4"
EMT Set-Screw Couplings	
TK121US	½"
TK122US	¾"
TK123US	1"
TK124US	1¼"
TK125US	1½"
TK126US	2"
TK127US	2½"
TK128US	3"
TK129US	3½"
TK1210US	4"

Electrical Metallic Tubing (EMT) Fittings

Set-Screw Connectors — Steel

- Concrete tight when taped
- Zinc plated



Non-Insulated

"A" CAT. NO.	CONDUIT SIZE (IN.)	INNER PACK	OUTER PACK
TC121A	½	50	500
TC122A	¾	50	250
TC123A	1	25	100
TC124A	1¼	—	25
TC125A	1½	—	25
TC126A	2	—	25
TC127A	2½	—	10
TC128A	3	—	5
TC129A	3½	—	5
TC1210A	4	—	5
TC121A-FA	½	50	500
TC122A-FA	¾	50	250
TC123A-FA	1	25	100

UL File No. E-16592.

FA — Fire Alarm.

Insulated

"A" CAT. NO.	CONDUIT SIZE (IN.)	INNER PACK	OUTER PACK
TC-721A	½	50	500
TC722A	¾	50	250
TC-723A	1	25	100
TC724A	1¼	—	25
TC725A	1½	—	25
TC726A	2	—	25
TC727A	2½	—	10
TC728A	3	—	5
TC729A	3½	—	5
TC7210A	4	—	5
TC721A-FA	½	50	500
TC722A-FA	¾	50	250
TC723A-FA	1	25	100

UL File No. E-16592.

FA — Fire Alarm.

Set-Screw Couplings — Steel

- Concrete tight when taped
- Zinc plated
- Fire Alarm (FA) painted red for fire alarm identification



"A" CAT. NO.	CONDUIT SIZE (IN.)	INNER PACK	OUTER PACK
TK121A	½	50	500
TK122A	¾	50	250
TK123A	1	25	100
TK124A	1¼	—	25
TK125A	1½	—	25
TK126A	2	—	25
TK127A	2½	—	10

UL File No. E-16592.

"A" CAT. NO.	CONDUIT SIZE (IN.)	INNER PACK	OUTER PACK
TK128A	3	—	5
TK129A	3½	—	5
TK1210A	4	—	5
TK121A-FA	½	50	500
TK122A-FA	¾	50	250
TK123A-FA	1	25	100

UL File No. E-16592.

Compression Connectors — Steel

- ½"–4" concrete tight
- Zinc plated
- RT — Raintight



Steel City® Raintight EMT Compression Fittings feature a distinctive design and a vibrant gold gland nut, enabling inspectors to visually inspect conformance from a distance. There's no close-up inspection required!

***Note**: A sealing ring is required when fitting is used outside, on the top and on the sides of an enclosure.*

Non-Insulated

"A" CAT. NO.	CONDUIT SIZE (IN.)	INNER PACK	OUTER PACK
TC111A	½	50	500
TC112A	¾	50	250
TC113A	1	25	100
TC114A*	1¼	—	25
TC115A*	1½	—	25
TC116A*	2	—	25
TC117A	2½	—	10
TC118A	3	—	5
TC119A	3½	—	5
TC1110A	4	—	5
TC111A-RT	½	50	500
TC112A-RT	¾	50	250
TC113A-RT	1	25	100
TC114A-RT*	1¼	—	25
TC115A-RT*	1½	—	25
TC116A-RT*	2	—	25
TC117ART	2½	—	10
TC118ART	3	—	5
TC119ART	3½	—	5
TC1110ART	4	—	5

UL File No. E-16592.

**O-rings are supplied.*

Insulated

"A" CAT. NO.	CONDUIT SIZE (IN.)	INNER PACK	OUTER PACK
TC711A	½	50	500
TC712A	¾	50	250
TC713A	1	25	100
TC714A	1¼	—	25
TC715A	1½	—	25
TC716A	2	—	25
TC717A	2½	—	10
TC718A	3	—	5
TC719A	3½	—	5
TC7110A	4	—	5
TC711A-RT	½	50	500
TC712A-RT	¾	50	250
TC713A-RT	1	25	100
TC714A-RT*	1¼	—	25
TC715A-RT*	1½	—	25
TC716A-RT*	2	—	25
TC717ART	2½	—	10
TC718ART	3	—	5
TC719ART	3½	—	5
TC7110ART	4	—	5

UL File No. E-16592.

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Electrical Metallic Tubing (EMT) Fittings

Compression Couplings — Steel



- ½"–4" concrete tight
- Zinc plated
- RT — Raintight

Steel City® Raintight EMT Compression Fittings feature a distinctive design and a vibrant gold gland nut, enabling inspectors to visually inspect conformance from a distance. There's no close-up inspection required!

"A" CAT. NO.	CONDUIT SIZE (IN.)	INNER PACK	OUTER PACK
TK111A	½	50	250
TK112A	¾	50	250
TK113A	1	25	100
TK114A	1¼	—	25
TK115A	1½	—	25
TK116A	2	—	25
TK117A	2½	—	10
TK118A	3	—	5
TK119A	3½	—	5
TK1110A	4	—	5

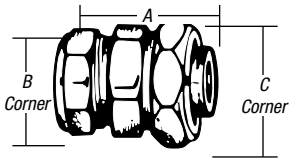
UL File No. E-16592.

"A" CAT. NO.	CONDUIT SIZE (IN.)	INNER PACK	OUTER PACK
TK111A-RT	½	50	250
TK112A-RT	¾	50	250
TK113A-RT	1	25	100
TK114A-RT	1¼	—	25
TK115A-RT	1½	—	25
TK116A-RT	2	—	25
TK117A-RT	2½	—	10
TK118A-RT	3	—	5
TK119A-RT	3½	—	5
TK1110A-RT	4	—	5

UL File No. E-16592.

Combination Compression Couplings — Heavywall to Liquidtight Flexible Metal Conduit — Steel

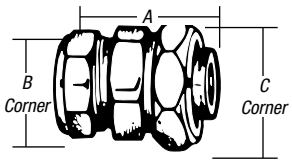
- Steel
- Raintight
- Zinc plated



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. CTN.
LTH 111	½ Rigid to ½ Liquidtight	1⅞	1⅛	1⅛	100

Combination Compression Couplings — Thinwall to Liquidtight Flexible Metal Conduit — Steel

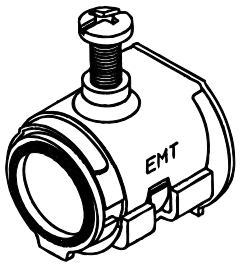
- Steel
- Raintight
- Zinc plated



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. CTN.
LTT 111	½ EMT to ½ Liquidtight	1¾	1$^{5}/_{16}$	1⅛	100
LTT-112	¾ EMT to ¾ Liquidtight	1¾	1$^{11}/_{64}$	1⅜	50
LTT-113	1 EMT to 1 Liquidtight	1$^{15}/_{16}$	1½	1¾	25

EMT LOK Conduit Connector — Steel

- Simple, one-piece installation with no locknuts
- Available in insulated or non-insulated throat
- Screw designed for exceptional pullout resistance
- Captive screw ensures that the screw is intact for installation and resists backing out after installation
- Corrosion-resistant, zinc-chromatic plating
- Positive grounding
- Vibration-resistant screw design
- UL Listed and CSA certified



CAT. NO.	DESCRIPTION	STD. CTN.
TC101-SC	½" Uninsulated	500
TC-102-SC	¾" Uninsulated	250
TC-701-SC	½" Insulated	500
TC-702-SC	¾" Insulated	250

UL Listing No. E16592, CSA Listing No. LR-12798.

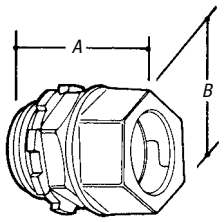
Installation using either slotted or Phillips screwdriver head, 35-in.-lb. of torque onto the EMT.

***Note**: Excessive torque could damage EMT or housing.*

Electrical Metallic Tubing (EMT) Fittings

Compression Connectors — Die-Cast Zinc

- ½"–4" concrete tight



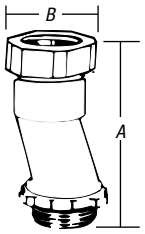
CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
Non-Insulated				
TC-211-SC	½	1¼	1	500
TC-212-SC	¾	1 11/32	1 5/32	250
TC-213-SC	1	1 29/64	1 15/32	200
TC-214-SC	1¼	1 13/16	1 27/32	100
TC-215-SC	1½	1⅞	2 1/16	40
TC-216-SC	2	2 5/32	2 17/32	20
TC-217-SC	2½	2 45/64	3¼	12
TC-218-SC	3	2⅞	3 15/16	12
TC-219-SC	3½	2 47/64	4 1/16	10
TC-2110-SC	4	2 13/16	4 15/16	6

UL File No. E-16592 — ½"–4". *CSA File No. LR-12798 — ½"–2".*

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
Insulated				
TC-811-SC	½	1 23/64	63/64	500
TC-812-SC	¾	1 15/32	15/16	250
TC-813-SC	1	1 35/64	1 15/32	200
TC-814-SC	1¼	1 29/32	1 27/32	100
TC-815-SC	1½	1 31/32	2 1/16	40
TC-816-SC	2	2¼	2 17/32	20
TC-817-SC	2½	2 25/32	3¼	12
TC-818-SC	3	2 31/32	3 15/16	12
TC-819-SC	3½	2 27/32	4 1/16	10
TC-8110-SC	4	2 29/32	4 15/16	6

Offset Compression Connectors — Die-Cast Zinc



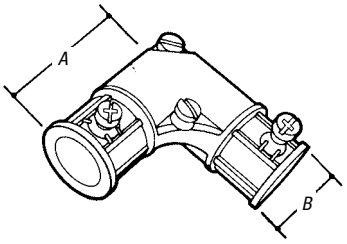


CAT. NO.	OFFSET (IN.)	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
TO-211SC	⅜	½	2 13/64	1	200

UL File No. E-16592.

Capped Corner Couplings — Die-Cast Zinc

- Concrete tight when taped



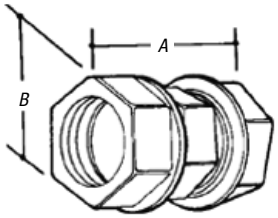
CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
TL-291	½	1.81	1.00	100
TL-292	¾	2.00	1.25	50

UL File No. E-16592.

CSA File No. LR-12798.

Compression Couplings — Die-Cast Zinc

- ½"–4" concrete tight



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
TK-211-SC	½	1½	1 3/32	500
TK-212-SC	¾	1⅝	1 5/16	250
TK-213-SC	1	1⅞	1 45/64	200
TK-214-SC	1¼	1 13/16	2 3/32	100
TK-215-SC	1½	2 3/32	2 21/64	40
TK-216-SC	2	2 11/32	2 29/32	20
TK-217-SC	2½	3 13/64	3 11/64	12
TK-218-SC	3	3 7/32	4½	12
TK-219-SC	3½	3 9/64	5 1/16	10
TK-2110-SC	4	3 3/16	5 41/64	6

UL File No. E-16592 — ½"–4".

CSA File No. LR-12798 — ½"–1¼", 2½"–4".

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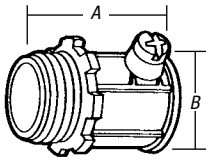
Technical Services
Tel: 888.862.3289

www.tnb.com

Electrical Metallic Tubing (EMT) Fittings

Set-Screw Connectors — Die-Cast Zinc

- Concrete tight when taped



CAT. NO.	CONDUIT SIZE (IN.)	A (IN.) TC-221 SERIES	A (IN.) TC-821 SERIES	B (IN.)	STD. CTN.
Non-Insulated					
TC-221-SC	½	1 5/32	1 17/64	15/16	500
TC-222-SC	¾	1 13/32	1 33/64	1 5/32	250
TC-223-SC	1	1 9/16	1 21/32	1 27/64	200
TC-224-SC	1¼	1 15/16	2 1/32	1 13/16	100
TC-225-SC	1½	2 3/32	2 3/8	2 3/64	40
TC-226-SC	2	2 33/64	2 39/64	2 17/32	20
TC-227-SC	2½	3 3/16	3 3/32	3 19/64	12
TC-228-SC	3	3 25/64	3 31/64	4 1/16	12
TC-229-SC	3½	3 31/64	3 19/32	4 17/32	10
TC-2210-SC	4	3 47/64	3 53/64	5 1/16	6

UL File No. E-16592 — ½"–2".

UL File No. E-23018 — 2½"–4".

CSA File No. LR-12798 — ½"–1", 2½"–4".

CAT. NO.	CONDUIT SIZE (IN.)	A (IN.) TC-221 SERIES	A (IN.) TC-821 SERIES	B (IN.)	STD. CTN.
Insulated					
TC-821-SC	½	1 5/32	1 17/64	15/16	500
TC-822-SC	¾	1 13/32	1 33/64	1 5/32	250
TC-823-SC	1	1 9/16	1 21/32	1 27/64	200
TC-824-SC	1¼	1 15/16	2 1/32	1 13/16	100
TC-825-SC	1½	2 3/32	2 3/8	2 3/64	40
TC-826-SC	2	2 33/64	2 39/64	2 17/32	20
TC-827-SC	2½	3 3/16	3 3/32	3 19/64	12
TC-828-SC	3	3 25/64	3 31/64	4 1/16	12
TC-829-SC	3½	3 31/64	3 19/32	4 17/32	10
TC-8210-SC	4	3 47/64	3 53/64	5 1/16	6

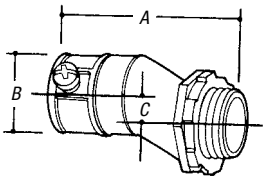
UL File No. E-16592 — ½"–2".

UL File No. E-23018 — 2½"–4".

CSA File No. LR 12798 — ½"–2".

Offset Set-Screw Connectors — Die-Cast Zinc

- Concrete tight when taped



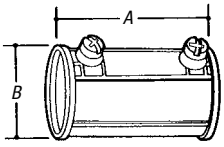
CAT. NO.	OFFSET (IN.)	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	DIMENSIONS (IN.) C	STD. CTN.
TO 221	⅜	½	2.00	.90	.37	100
TO 222	¾	¾	2.98	1.16	.25	100
TO-223	¾	1	3.15	1.42	.75	100

UL File No. E-16592.

CSA File No. LR-18130M57.

Set-Screw Couplings — Die-Cast Zinc

- Concrete tight when taped



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
TK-221	½	1 33/64	59/64	500
TK-222	¾	1 29/32	1 5/32	250
TK-223	1	2	1 1/16	200
TK-224	1¼	2 33/64	1 27/32	100
TK-225	1½	2 27/32	2 1/16	40

UL File No. E-16592 — ½"–2".

UL File No. E-23018 — 2½"–4".

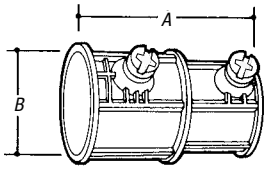
CSA File No. LR-12798 — ½"–1¼", 2½"–4".

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
TK-226A	2	3 13/32	2½	20
TK-227	2½	4 7/32	3 19/64	12
TK-228	3	4 11/16	4 3/64	12
TK-229	3½	4 27/32	4 17/32	10
TK-2210	4	5 15/32	4 9/16	6

Combination Set-Screw Couplings — Thinwall to Heavywall — Die-Cast Zinc

- Concrete tight when taped





CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HT 221	½ EMT to ½ Rigid	1.67	1.07	500
HT-222	¾ EMT to ¾ Rigid	1.98	1.29	250
HT-223	1 EMT to 1 Rigid	2.15	1.58	100

UL File No. E-23018.

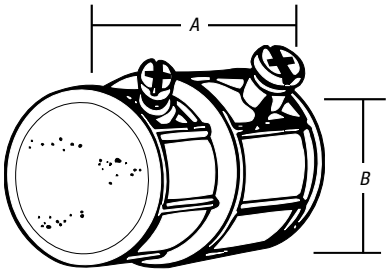
Electrical Metallic Tubing (EMT) Fittings

Combination Set-Screw Couplings

- Concrete tight when taped

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
Die-Cast Zinc Flexible Metal Conduit to EMT				
TX-220	⅜ Flex to ½ EMT	1⅝	½	500
TX-221	½ Flex to ½ EMT	1 13/16	1 5/32	250
TX-222	¾ Flex to ¾ EMT	1 31/32	1 11/32	150
TX-223	1 Flex to NMT	2 7/64	1⅝	150

UL File No. E-23018



Combination Couplings

CAT. NO.	TRADE FIG.	SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	DIMENSIONS (IN.) A (MAX.)	DIMENSIONS (IN.) B	STD. CTN
EMT to Flex Set-Screw Type — Die-Cast Zinc						
TX210	1	½–⅜	.15	.61	1.16	250
TX211	2	½–½	.60	1.00	1.71	250
TX-212	2	¾–¾	.78	1.20	1.93	200

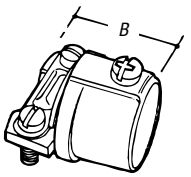


Fig. 1
½"–⅜"

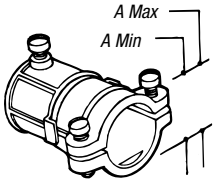
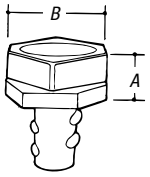


Fig. 2
½"–½" ¾"–¾"

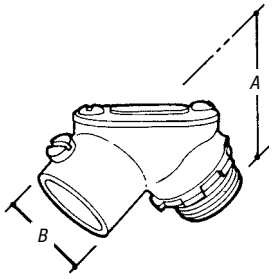
CAT. NO.	TRADE SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN
EMT to Flex Compression to Screw-In Type — Die-Cast Zinc				
TX201	½	.84	1.10	500
TX-202	¾	.95	1.30	250



EMT to Box Set-Screw Type — Die-Cast Zinc

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN
EMT to Flex Compression to Screw-In Type — Die-Cast Zinc				
TL-211	½	1.31	.93	100
TL-212	¾	1.47	1.22	50

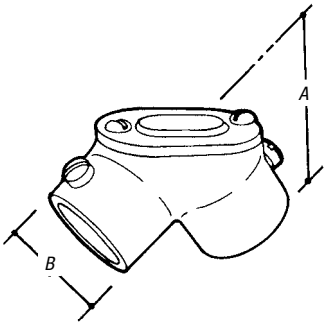
UL File No. E-23018.



EMT to Box Set-Screw Type — Die-Cast Zinc

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN
EMT to Flex Compression to Screw-In Type — Die-Cast Zinc				
TL 201	½	1.31	1.10	100
TL-202-SC	¾	1.60	1.24	50
TL-203	1	1.94	1.59	25
TL-204	1¼	2.26	1.97	25

UL File No. E-23018.



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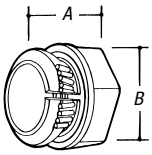
www.tnb.com

Electrical Metallic Tubing (EMT) Fittings

EMT Connectors — Die-Cast Zinc

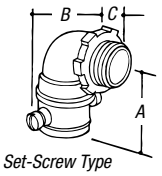
CAT. NO.	TRADE SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
Two-Piece Type				
TC-201-SC	½	.68	1.05	1,000

UL File No. E16592.

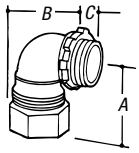


EMT Connector

CAT. NO.	TRADE TYPE (IN.)	SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. CTN.
90° Angle						
TC921	Set-Screw Type	½	1.27	1.15	.45	200
TC-911-SC	Compression Type	½	1.37	1.15	.45	200
TC-912-SC	Compression Type	¾	1.86	.95	.52	200



Set-Screw Type



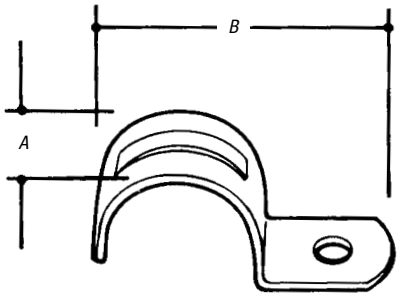
Compression Type

One-Hole Snap Straps — Steel

- Steel
- Zinc plated

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STAINLESS STEEL STD. CTN.	REGULAR STD. CTN.
EMT to Flex Compression to Screw-In Type — Die-Cast Zinc					
TS 101	½	.57	1.79	25	100
TS-102	¾	.62	1.96	25	50
TS-103	1	.75	2.25	25	50
TS-104	1¼	.88	2.85	10	25
TS-105	1½	.99	3.16	5	20
TS-106	2	1.10	3.93	5	10
HS-107	2½	1.28	5.00	5	25
HS-108	3	1.28	5.55	5	25
HS-109	3½	1.28	6.37	5	10
HS-110	4	1.28	6.87	5	10

Add SS suffix to part number for Stainless Steel.

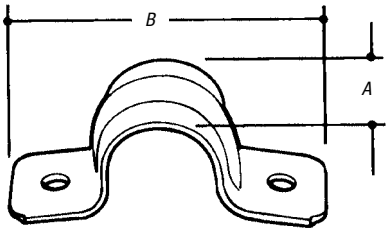


Two-Hole EMT Straps — Steel — Malleable Insulated

- Steel
- Zinc plated

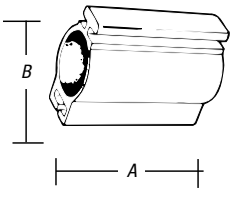
CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STAINLESS STEEL STD. CTN.	REGULAR STD. CTN.
TS-901	½	.56	2.20	25	250
TS-902	¾	.62	2.67	25	200
TS-903	1	.68	2.97	25	100
TS-904	1¼	.75	3.67	10	50
TS-905	1½	.88	4.22	5	5
TS-906	2	1.00	4.91	5	25

Add SS suffix to part number for Stainless Steel.



Space Caps — Plastic

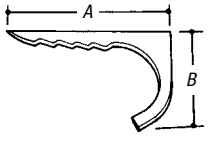
CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
BT-501	½	2 15/32	1 33/64	100
BT-502	¾	2 15/32	1 47/64	100
BT-503	1	2 15/32	1 31/32	100
BT-504	1¼	2 15/32	2 31/64	100
BT-505	1½	2 15/32	3 1/32	100



Nail Straps — Steel

- Steel
- Zinc plated

CAT. NO.	RIGID/MC SIZE (IN.)	EMT SIZE (IN.)	FLEX SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
N-101-SC	—	½	⅜	1 15/16	1 5/64	1,000
N-102-SC	½	¾	½	2 3/16	1 17/32	1,000
N-103-SC	¾	1	—	2 3/8	1 15/32	1,000



Rigid Conduit/IMC Fittings

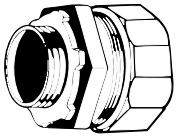
Threadless Compression Connectors

- Malleable iron/zinc plated

CAT. NO.	CONDUIT SIZE (IN.)	STD. CTN.
Die-Cast Zinc Flexible Metal Conduit to EMT		
HC 401	½	300
HC-402	¾	150
HC-403	1	90
HC-404	1¼	60
HC-405	1½	30
HC-406	2	12
HC-407	2½	12
HC-408	3	6
HC-409	3½	6
HC-410	4	6

Suggested use — rigid conduit only.

UL File No. E-23018 ½"–1¼".



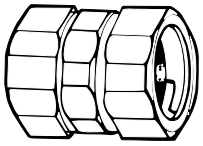
Threadless Compression Couplings

- Malleable iron/zinc plated

CAT. NO.	CONDUIT SIZE (IN.)	STD. CTN.
HK 401	½	300
HK 402	¾	150
HK 403	1	90
HK 404	1¼	60
HK 405	1½	30
HK 406	2	6
HK 407	2½	6
HK 408	3	4
HK 409	3½	4
HK 410	4	4

Suggested use — rigid conduit only.

UL File No. E-23018 ½"–1¼".



Set-Screw Connectors

- Steel
- Zinc plated

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
Die-Cast Zinc Flexible Metal Conduit to EMT				
HC 101	½	1⅛	1⅛	100
HC-102	¾	1⅜	1½	50
HC-103	1	⅝	1 13/16	50
HC-104	1¼	2	2	25
HC-105	1½	2½	2⅜	25
HC-106	2	2¾	2⅜	20
HC-107	2½	3 13/32	3 5/16	10
HC-108	3	4 1/32	3 7/16	5
HC-109	3½	4 9/16	3 13/16	5
HC-110	4	5 3/32	4 3/32	5

One set screw or two. Two set screws starting at 2" trade size.

Suggested use — rigid conduit only.

UL File No. E-23018 ½" –1¼".

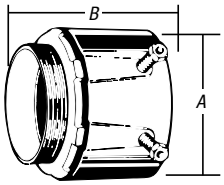
Insulated

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
Die-Cast Zinc Flexible Metal Conduit to EMT				
HC 701	½	1⅛	1⅛	100
HC-702	¾	1⅜	1½	50
HC-703	1	⅝	1 13/16	25
HC-704	1¼	2	2	25
HC-705	1½	2½	2⅜	25
HC-706	2	2¾	2⅜	20
HC-707	2½	3 13/32	3 5/16	10
HC-708	3	4 1/32	3 7/16	5
HC-709	3½	4¼	4⅛	5
HC-710	4	4¾	4 5/16	5

One set screw or two. Two set screws starting at 2" trade size.

Suggested use — rigid conduit only.

UL File No. E-23018 ½"–1¼".



Set-Screw Couplings

- Steel (concrete tight) when taped
- Zinc plated

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HK-101	½	1⅛	2 13/32	100
HK-102	¾	1⅜	2 17/32	50
HK-103	1	1⅝	2 11/16	25
HK-104	1¼	2	2 25/32	25
HK-105	1½	2¼	3 11/64	25

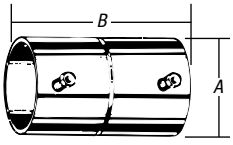
Two set screws starting at 2".

UL File No. E-23018.

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HK-106	2	2¾	3 13/32	20
HK-107	2½	3 7/16	3 29/32	10
HK-108	3	4 1/16	4 5/32	5
HK-109	3½	4 9/16	4⅞	5
HK-110	4	5 1/16	5⅜	5

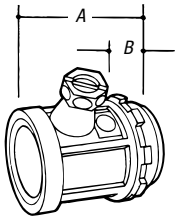
Two set screws starting at 2".

UL File No. E-23018.



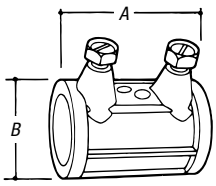
Rigid Connectors — Set-Screw Type — Die-Cast Zinc

CAT. NO.	TRADE SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HC-203	1	1.54	.49	100
HC-802	¾	1.44	.45	250
HC-803	1	1.54	.49	100



Rigid Connectors — Set-Screw Type — Die-Cast Zinc

CAT. NO.	TRADE SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HK 201	½	1.77	1.09	250
HK-203	1	2.29	1.61	100



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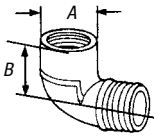
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Rigid Conduit/IMC Fittings

90° Short-Radius Elbows — Die-Cast Zinc

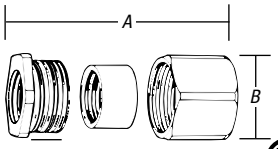


CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A	B	SHF. CTF./ SHIP QTY.
HL-202-SC	¾	1.17	1.04	25/250

Use: To join rigid or IMC conduit at right angles where lack of room prevents using a standard sweep elbow or to terminate a run of rigid or IMC conduit at a box.

UL® Listing E37148.

Three-Piece Couplings



- ½"–2½" — Steel
- 2½"–6" — Malleable iron
- Zinc plated

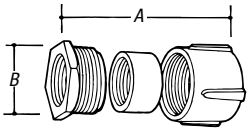
CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (ASSEMBLED)	B	STD. CTN.
EK 401	½	1 1/16	1⅛	100
EK 402	¾	1⅛	1 11/32	50
EK 403	1	1⅜	1⅝	25
EK 404	1¼	1 21/32	2 5/32	25
EK 405	1½	1⅞	2 23/32	25
EK 406	2	2	3 33/64	20
EK 407	2½	2½	3 29/64	10
EK 408	3	3⅜	4 23/32	6
EK 409	3½	3⅝	5 5/32	5
EK 410	4	3 29/32	5 29/32	5
EK 411	5	4 5/16	7	1

One set screw or two. Two set screws starting at 2" trade size.

Suggested use — rigid conduit only.

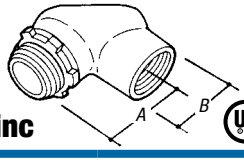
UL File No. E-23018 ½"–1¼".

Rigid Couplings — Three-Piece Type — Die-Cast Zinc



CAT. NO.	TRADE SIZE (IN.)	DIMENSIONS (IN.) A (ASSEMBLED)	B	STD. CTN.
EK 201	½	1.39	1.31	100
EK-202	¾	1.53	1.58	50

Rigid to Box with Gasket — Die-Cast Zinc

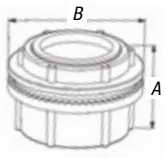


CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (ASSEMBLED)	B	STD. CTN.
HL-611	½	1.31	1.09	100
HL-612	¾	1.47	1.29	50

UL File No. E-23018.

Commercial Hub





- Suitable for wet locations
- Die-cast zinc hub with insulated throat and sealing ring for exceptional performance

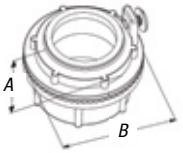
CAT NO.	TRADE SIZE (IN.)	DIMENSIONS (IN.) A	B
HUB050-SC	½	1.39	1.41
HUB075-SC	¾	1.54	1.65
HUB100-SC	1	1.76	1.94
HUB125-SC	1¼	1.70	2.40
HUB150-SC	1½	1.78	2.69
HUB200-SC	2	1.77	3.17
HUB250-SC	2½	2.57	3.68
HUB300-SC	3	2.56	4.32
HUB350-SC	3½	2.56	4.94
HUB400-SC	4	2.48	5.42

Consult customer service for price and delivery.

UL File No. E23018

Commercial Grounded Hub





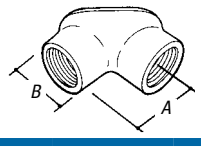
- Suitable for wet locations

CAT NO.	TRADE SIZE (IN.)	DIMENSIONS (IN.) A	B
HUB050GR-SC	½	1.39	1.41
HUB075GR-SC	¾	1.54	1.65
HUB100GR-SC	1	1.76	1.94
HUB125GR-SC	1¼	1.70	2.40
HUB150GR-SC	1½	1.78	2.69
HUB200GR-SC	2	1.77	3.17
HUB250GR-SC	2½	2.57	3.68
HUB300GR-SC	3	2.56	4.32
HUB350GR-SC	3½	2.56	4.94
HUB400GR-SC	4	2.48	5.42

Consult customer service for price and delivery.

UL File No. E3060

Pull Corner Elbows — Die-Cast Zinc

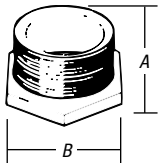


CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	STD. CTN.
HL-601	½	1.31	1.10	100
HL-602	¾	1.60	1.24	50
HL-603	1	1.95	1.59	25
HL-604	1¼	2.26	1.97	30

UL File No. E-23018.

Rigid Conduit/IMC Fittings

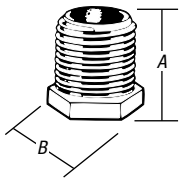
Conduit Nipples — Iron/Zinc Plated



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
841-TB	⅜	9/16	11/16	500
HA-401	½	33/64	15/16	500
HA-402	¾	43/64	1 3/16	200
HA-403	1	⅞	1 7/16	100
HA-404	1¼	1⅛	1¾	100
HA-405	1½	1⅛	2 1/16	50
HA-406	2	1 7/16	2 9/16	50
HA-407	2½	1¼	3	20
HA-408	3	1½	3⅜	10
HA-409	3½	1¾	4⅜	5
HA-410	4	—	—	5

UL File No. E16592.

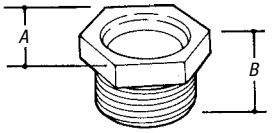
Conduit Nipples Die-Cast Zinc — 1" Long



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HA-211	½	1	15/16	1,000
HA-212	¾	1	1 3/16	500
HA-213	1	1	1 7/16	250

UL File No. E-23018 ½" & ¾" only.

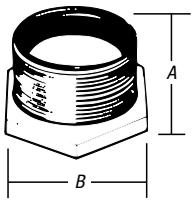
Conduit Nipples Die-Cast Zinc — Insulated



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HA-801	½	0.98	0.69	1,000
HA-802	¾	1.18	0.74	500
HA-803	1	1.50	0.84	250
HA-804	1¼	1.77	1.00	250
HA-805	1½	2.11	1.12	100
HA-806	2	2.61	1.12	40
HA-807	2½	3.07	1.18	25
HA-808	3	3.72	1.34	10
HA-809	3½	4.24	1.34	10
HA-810	4	4.69	1.34	10

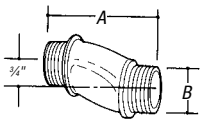
UL File No. E-23018 ½" & ¾" only.

Conduit Nipples Iron/Zinc Plated — Insulated



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HA-901	½	43/64	1 13/16	500
HA-902	¾	13/16	1 7/32	200
HA-903	1	⅞	1 7/16	100
HA-904	1¼	1⅛	1¾	100
HA-905	1½	1⅛	2 1/16	50
HA-906	2	1 7/16	2 9/16	50

Offset Nipples — Die-Cast Zinc



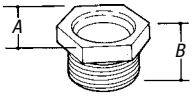


CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HO 221	½	2.60	1.00	100
HO-222	¾	2.62	1.32	100
HO-223	1	2.68	1.51	100
HO-224	1¼	2.85	1.85	50
HO-225	1½	2.88	2.08	50
HO-226	2	3.19	2.71	20

¾" offset.

UL File No. E-23018.

Conduit Nipples Die-Cast Zinc — Non-Insulated



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HA-201	½	0.98	0.65	1,000
HA-202	¾	1.18	0.70	500
HA-203	1	1.50	0.80	250
HA-204	1¼	1.77	0.94	250
HA-205	1½	2.11	0.06	100
HA-206	2	2.61	0.06	40
HA-207	2½	3.07	0.10	40
HA-208	3	3.72	0.26	40
HA-209	3½	4.24	0.26	40
HA-210	4	4.69	0.26	20

UL File No. E-23018 ½"–2".

Thomas&Betts

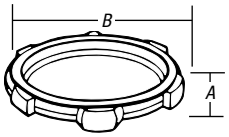
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800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

www.tnb.com

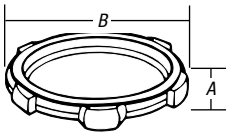
Rigid Conduit/IMC Fittings

Locknuts — Steel/Zinc Plated



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
LN-100-SC	⅜	—	—	1,000
LN-101-SC	½	.125	1.140	1,000
LN-102	¾	.140	1.420	1,000
LN-103	1	.170	1.770	500
LN-104	1¼	.170	2.281	200
LN-105	1½	.170	2.598	100
LN-106	2	.187	3.175	50
LN-107	2½	.375	3.562	30
LN-108	3	.375	4.250	25
LN-109	3½	.438	4.803	25
LN-110	4	.438	5.402	25
LN-111	5	.500	6.674	10
LN-112	6	.561	7.934	10

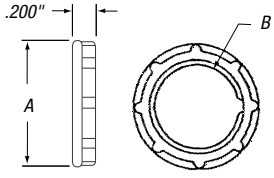
Sealing Locknuts — Steel/Zinc Plated



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	DIMENSIONS (IN.) B (MAX.)	STD. CTN.
LS 101	½	.26	1.12	1,000
LS-102	¾	.27	1.37	1,000
LS-103	1	.28	1.75	500
LS-104	1¼	.32	2.06	200
LS-105	1½	.32	2.37	100
LS-106	2	.32	2.87	50
LS-107	2½	.32	3.43	50
LS-108	3	.32	4.12	50
LS-109	3½	.32	4.62	50
LS-110	4	.32	5.18	25

Locknuts — Non-Metallic



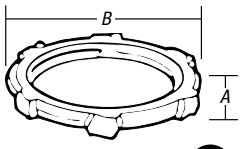


CAT. NO.	TRADE SIZE (IN.)	A DIA. (IN.)	B THD. (IN.)	STD. CTN.
LN-501	½	1.3	½–14	100
LN-502	¾	1.4	¾–14	100
LN-503	1	1.7	1–11½	50

Material: Nylon 6/6.

Color: Gray.

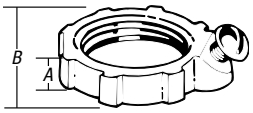
Locknuts Die-Cast Zinc



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
LN-201	½	.125	1.140	2,000
LN-202	¾	.140	1.420	1,000
LN-203	1	.170	1.770	1,000
LN-204	1¼	.170	2.281	500
LN-205	1½	.170	2.598	500
LN-206	2	.187	3.175	200
LN-207	2½	.375	3.562	100
LN-208	3	.375	4.250	100
LN-209	3½	.438	4.803	40
LN-210	4	.438	5.402	40

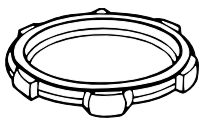
CSA File No. LR- 12798.

Grounding Locknuts — Malleable Iron/Zinc Plated



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	DIMENSIONS (IN.) B (MAX.)	STD. CTN.
LG-401	½	.125	1.140	100
LG-402	¾	.140	1.420	100
LG-403	1	.170	1.770	50
LG-404	1¼	.170	2.281	50
LG-405	1½	.170	2.598	50
LG-406	2	.187	3.175	25
LG-407	2½	.375	3.562	10
LG-408	3	.375	4.250	10
LG-409	3½	.438	4.803	50
LG 410	4	.438	5.402	5

Thin Construction Locknuts — Steel/Zinc Plated



CAT. NO.	CONDUIT SIZE (IN.)	UNIT QTY	STD. CTN.
SPLN-107	2½	30	30
SPLN-108	3	25	25
SPLN-109	3½	25	25
SPLN-110	4	25	25

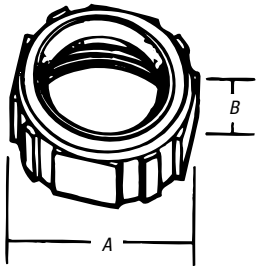
Rigid Conduit/IMC Fittings

Conduit Bushings — Die-Cast Zinc — Insulated

- 105° C thermoplastic liners
- Heavy reinforced ribs

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
BU-801	½	1.06	.43	1,000
BU-802	¾	1.31	.43	1,000
BU-803	1	1.59	.48	500
BU-804	1¼	1.96	.56	250
BU-805	1½	2.18	.60	250
BU-806	2	2.68	.56	250
BU-807	2½	3.25	.90	50
BU-808	3	3.87	.85	25
BU-809	3½	4.37	.93	25
BU-810	4	5.00	.93	10

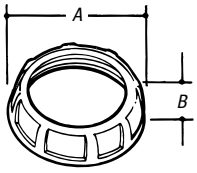
UL File No. E-23018.



Conduit Bushings — Die-Cast Zinc — Heavy Reinforced Ribs

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	DIMENSIONS (IN.) B (MAX.)	STD. CTN.
BU201	½	1.05	.37	1,000
BU-202	¾	1.32	.37	1,000
BU-203	1	1.58	.47	500
BU-204	1¼	1.94	.50	250
BU-205	1½	2.20	.52	250
BU-206	2	2.69	.52	250
BU-207	2½	3.23	.85	50
BU-208	3	3.84	.85	25
BU-209	3½	4.35	.85	25
BU-210	4	5.02	.85	10

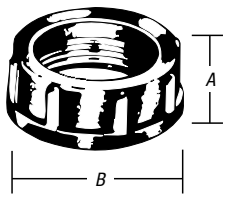
UL File No. E-23018.



Insulated Bushings — Thermoplastic

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
BU-501	½	13/32	1 1/16	400
BU-502	¾	13/32	1 19/64	400
BU-503	1	9/16	1 9/16	200
BU-504	1¼	9/16	1 29/32	100
BU-505	1½	9/16	2 3/16	100
BU-506	2	5/8	2 1/16	60
BU-507	2½	23/32	3 3/16	20
BU-508	3	9/16	3 27/32	20
BU-509	3½	¾	4 23/64	5
BU-510	4	25/32	4 27/32	5
BU-511	5	1	6 5/16	5
BU-512	6	1	7 7/16	5

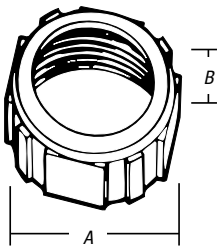
UL File No. E-23018 ½"–4" only.
Rated 105° C.



Bushings — Iron/Zinc Plated

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
BU-401	½	1 1/32	7/16	1,000
BU-402	¾	1¼	7/16	1,000
BU-403	1	1 9/16	½	500
BU-404	1¼	1 15/16	17/32	200
BU-405	1½	2 13/64	9/16	100
BU-406	2	2 45/64	9/16	50

UL File No. E-23018.

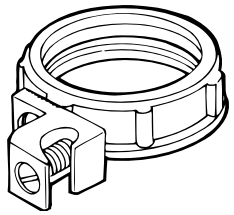


Grounding Bushings — Die-Cast Zinc — Insulated with Aluminum Lay-in Type Lug

- 105° C thermoplastic liners
- Heavy reinforced ribs

CAT. NO.	TRADE SIZE (IN.)	GROUNDING LUG WIRE SIZE MIN.	GROUNDING LUG WIRE SIZE MAX.	STD. CTN.
BG201	½	14 AWG	4 AWG	500
BG-202	¾	14 AWG	4 AWG	500
BG-203	1	14 AWG	4 AWG	250
BG-204A	1¼	14 AWG	4 AWG	200
BG-204	1¼	8 AWG	1/0 AWG	200
BG-205A	1½	11 AWG	4 AWG	100
BG-205	1½	8 AWG	1/0 AWG	50
BG-206A	1	14 AWG	4 AWG	100
BG-206	2	8 AWG	1/0 AWG	50
BG-207	2½	8 AWG	1/0 AWG	50
BG-207A	2½	6 AWG	250 kcmil	50
BG-208	3	8 AWG	1/0 AWG	50
BG-208A	3	6 AWG	250 kcmil	50
BG-209	3½	8 AWG	1/0 AWG	10
BG-209A	3½	6 AWG	250 kcmil	10
BG-210	4	8 AWG	1/0 AWG	10
BG-210A	4	6 AWG	250 kcmil	10

UL File No. E-3060.



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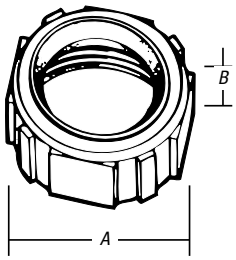
Rigid Conduit/IMC Fittings

Insulated Bushings — Iron/Zinc Plated

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	STD. CTN.
BI 901	½	1 1/32	½	1,000
BI-902	¾	1¼	½	1,000
BI-903	1	1 9/16	9/16	500
BI-904	1¼	1 5/16	19/32	200
BI-905	1½	2 13/64	⅝	100

UL File No. E-23018.

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	STD. CTN.
BI-906	2	2 45/64	⅝	50
BI-907	2½	3 7/32	9/16	30
BI-908	3	3 27/32	9/16	25
BI-909	3½	4 7/16	⅞	25
BI910	4	4 31/32	2 9/32	25



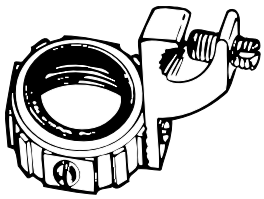
Insulated Grounding Bushings

- Die-cast zinc
- Tin-plated aluminum lay-in lug
- Three lug mounting locations

CAT. NO.	TRADE SIZE (IN.)	GROUNDING LUG WIRE CAPACITY	DIMENSIONS (IN.) A	B	STD. CTN.
BG801L	½	—	1 1/32	½	500
BG802L	¾	#14–#4 CU	1¼	½	500
BG803L	1	or	1 9/16	9/16	250
BG804L	1¼	#12–#4 AL	1 5/16	19/32	150
BG805L	1½	—	2 13/64	⅝	150

UL File No. E-3060.

CAT. NO.	TRADE SIZE (IN.)	GROUNDING LUG WIRE CAPACITY	DIMENSIONS (IN.) A	B	STD. CTN.
BG806L	2	—	2 45/64	⅝	100
BG807L	2½	#14–1/0 CU	3 3/16	9/16	60
BG808L	3	or #12–1/0 AL	3⅝	9/16	30
BG809L	3½	#6–250 kcmil	4 1/16	⅞	30
BG810L	4	CU or AL	4 21/32	2 9/32	30



Grounding Bushings Malleable Iron/Zinc Plated — Insulated with Aluminum Lug

- For copper or aluminum bare ground wire
- 105° C thermoplastic liners
- Heavy reinforced ribs

CAT. NO.	TRADE SIZE (IN.)	GROUNDING LUG WIRE SIZE MIN.	MAX.	STD. CTN.
BG801A	½	14 AWG	6 AWG	500
BG-802A	¾	14 AWG	6 AWG	500
BG-803A	1	14 AWG	6 AWG	250
BG-804A	1¼	14 AWG	2 AWG	200
BG- 805A	1½	14 AWG	2 AWG	100
BG-806A	2	14 AWG	2 AWG	100

UL File No. E-3060.

CAT. NO.	TRADE SIZE (IN.)	GROUNDING LUG WIRE SIZE MIN.	MAX.	STD. CTN.
BG-807A	2½	14 AWG	2/0 AWG	50
BG-808A	3	14 AWG	2/0 AWG	50
BG-809A	3½	14 AWG	2/0 AWG	10
BG-810A	4	14 AWG	2/0 AWG	10
BG-810B	4	6 AWG	250 kcmil	10

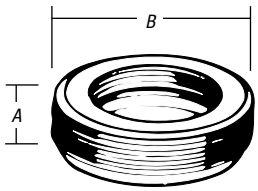
Reducing Bushings

- RB-121 thru RB-165 — Steel
- RB-175 thru RB-187 — Malleable iron (concrete tight), zinc plated

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	STD. CTN.
RB 121	¾–½	9/16	⅞	100
RB-131	1–½	⅝	1⅛	50
RB-132	1–¾	⅝	1⅛	50
RB-141	1¼–½	11/16	1 7/16	50
RB 142	1¼–¾	11/16	1 7/16	50
RB-143	1¼–1	11/16	1 7/16	50
RB-151	1½–½	23/32	1 11/16	50
RB-152	1½–¾	23/32	1 11/16	50
RB-153	1½–1	23/32	1 11/16	50
RB-154	1½–1¼	23/32	1 11/16	50

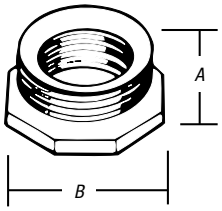
UL File No. E-23018.

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	STD. CTN.
RB-161	2–½	27/32	2 3/32	25
RB-162	2–¾	27/32	2 3/32	25
RB-163	2–1	27/32	2 3/32	25
RB-164	2–1¼	27/32	2 3/32	25
RB-165	2–1½	27/32	2 3/32	25
RB-175	2½–1½	⅞	2 13/16	25
RB-176	2½–2	⅞	2 13/16	25
RB-186	3–2	29/32	2 7/16	25
RB-187	3–2½	29/32	2 7/16	25



Rigid Conduit/IMC Fittings

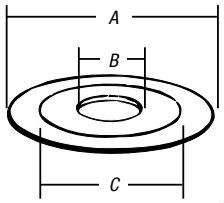
Reducers — Malleable Iron/Zinc Plated



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
RB 421	¾–½	⅝	1 3/16	100
RB-432	½–¾	1	1 3/16	100
RB-443	1–¾	1 1/16	1 3/16	50

UL File No. E-23018.

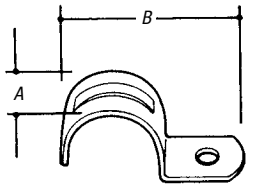
Reducing Washers — Steel/Zinc Plated



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	DIMENSIONS (IN.) C	STD. CTN.
WA 110	½–⅜	1 3/16	1 1/16	27/32	500
WA-121	¾–½	1 ½	⅞	1 1/16	500
WA-131	1–½	1 ¾	⅞	1 5/16	500
WA-132	1–¾	1 ¾	1 3/32	1 5/16	500
WA-141	1¼–½	2 3/16	⅞	1 11/16	200
WA-142	1¼–¾	2 3/16	1 3/32	1 11/16	200
WA-143	1¼–1	2 3/16	1 23/64	1 11/16	200
WA-151	1½–½	2 ⅝	⅞	1⅞	200
WA-152	1½–¾	2 ⅝	1 3/32	1⅞	200
WA-153	1½–1	2 ⅝	1 23/64	1⅞	200
WA-154	1½–1¼	2 ⅝	1 23/32	1⅞	200
WA-161	2–½	3¼	⅞	2⅜	100
WA-162	2–¾	3¼	1 3/32	2⅜	100
WA-163	2–1	3¼	1 23/64	2⅜	100
WA-164	2–1¼	3¼	1 23/32	2⅜	100
WA-165	2–1½	3¼	1 31/32	2⅜	100
WA-171	2½–½	3¼	⅞	2⅞	100
WA-172	2½–¾	3¼	1 3/32	2⅞	100
WA-173	2½–1	3¼	1 23/64	2⅞	100
WA-174	2½–1¼	3¼	1 23/32	2⅞	100
WA-175	2½–1½	3¼	1 31/32	2⅞	100
WA-176	2½–2	3¼	2 7/16	2⅞	100
WA-181	3–½	4½	⅞	3½	100
WA-182	3–¾	4½	1 23/32	3½	100
WA-183	3–1	4½	1 23/64	3½	100
WA-184	3–1¼	4½	1 23/32	3½	100
WA-185	3–1½	4½	1 31/32	3½	100
WA-186	3–2	4½	2 7/16	3½	100
WA-187	3–2½	4½	2 5/16	3½	100

WA-121 thru WA-165 CSA Listed.

One-Hole Straps — Steel/Zinc Plated

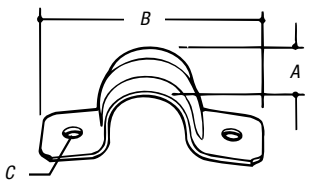


CAT. NO.	SCREW SIZE	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HS-100-SC	10	⅜	¾	1 47/64	1,000
HS-101	¼	½	1	1 15/16	500
HS-102	¼	¾	1	2 5/64	500
HS-103	¼	1	1	2 13/32	250
HS-104	5/16	1¼	1	3 3/32	100
HS-105	⅜	1½	1 3/16	3 13/32	100
HS-106	⅜	2	1 3/16	3 27/32	100
HS-107	7/16	2½	1¼	5 1/16	25
HS-108	½	3	1⅜	5⅞	25
HS-109	½	3½	1⅜	6¼	10
HS-110	½	4	1⅜	6⅞	10

Available in one-hole and two-hole in stainless steel.

Add SS suffix to catalog number for Stainless Steel.

Two-Hole Straps — Steel/Zinc Plated



CAT. NO.	SCREW SIZE	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	DIMENSIONS (IN.) C	STD. CTN.
HS-901	8	½	¾	2 7/16	3/16	1,200
HS-902	10	¾	¾	2 11/16	3/16	900
HS-903	¼	1	¾	3 7/16	3/16	600
HS-904	¼	1¼	¾	3 27/32	3/16	450
HS-905	¼	1½	¾	4 1/16	3/16	50
HS-906	¼	2	¾	4 7/16	3/16	150
HS-907	¼	2½	1	5⅛	¼	150
HS-908	½	3	1	6 3/16	¼	60
HS-909	¼	3½	1	7 3/16	¼	60
HS-910	¼	4	1	8 11/16	¼	60

CSA Certified.

Add SS suffix to catalog number for Stainless Steel.

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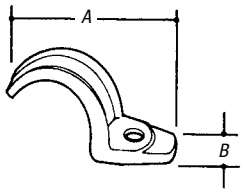
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Rigid Conduit/IMC Fittings

Pipe Straps — Malleable Iron/Zinc Plated

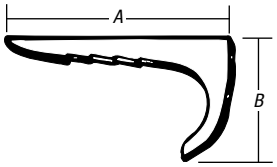


CAT. NO.	SCREW SIZE	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
HS-400	10	3/8	1 11/16	17/32	500
HS-401	1/4	1/2	2 1/64	5/8	500
HS-402	1/4	3/4	2 7/16	13/16	500
HS-403	1/4	1	2 7/8	15/16	100
HS-404-SC	5/16	1 1/4	3 5/16	1 1/32	100
HS-405	3/8	1 1/2	3 3/4	1 1/8	50
HS-406	1/2	2	4 19/32	1 5/16	25
HS-407	5/8	2 1/2	5 11/16	1 5/8	25
HS-408	5/8	3	6 7/8	1 7/8	25
HS-409	5/8	3 1/2	7 23/32	2 1/8	10
HS-410	5/8	4	8 9/16	2 3/8	10
HS-411	5/8	5	10 9/32	2 5/8	5

Available in one-hole and two-hole in Stainless Steel.

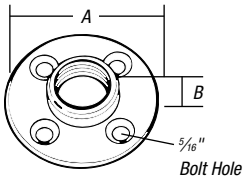
Add SS suffix to part number for Stainless Steel.

Nail Strap — Stamped Steel/ Zinc Plated



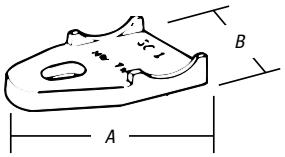
CAT. NO.	RIGID/MC SIZE (IN.)	EMT SIZE (IN.)	FLEX SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
N-101-SC	—	1/2	3/8	2 5/32	1 5/64	1,000
N-102-SC	1/2	3/4	1/2	2 5/16	1 7/32	1,000
N-103-SC	3/4	1	—	2 3/8	1 15/32	1,000

Flange Plates — Malleable Iron/ Zinc Plated



CAT. NO.	CONDUIT SIZE (IN.)	DIA. A (IN.)	DEPTH B (IN.)	STD.CTN.
FP-401	1/2	3	.625	50
FP-402	3/4	3 3/8	.656	50
FP-403	1	3 5/8	.765	50
FP-404	1 1/4	4	.875	25
FP-405	1 1/2	4 3/8	.937	25
FP-406	2	4 7/8	.843	25

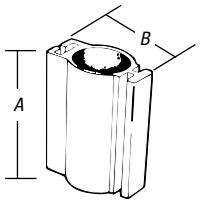
Pipe Spacers for Rigid/Intermediate or Thinwall — Die-Cast Zinc



CAT. NO.	CONDUIT SIZE (IN.)	DIA. A (IN.)	DEPTH B (IN.)	STD. CTN.
CB-201	1/2	2	1	1,000
CB-202	3/4	2 3/8	1 1/16	500
CB-203	1	2 3/4	1 5/16	500
CB-204	1 1/4	3 3/8	1 1/2	250
CB-205	1 1/2	3 13/16	1 5/8	100
CB-206	2	4 1/2	2	50

Rigid/Intermediate Space Caps — Plastic

- Color: Black



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (IN.)	DIMENSIONS (IN.) B (IN.)	STD. CTN.
BR-501	1/2	2 15/32	1 21/32	100
BR-502	3/4	2 15/32	1 55/64	100
BR-503	1	2 15/32	2 1/8	100
BR-504	1 1/4	2 15/32	2 61/64	100
BR-505	1 1/2	2 15/32	3 13/64	100

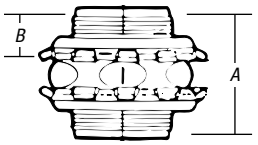
Snap-In Blanks

- Steel
- Zinc plated



CAT. NO.	CONDUIT SIZE (IN.)	DIAMETER (IN.)	STD. CTN.
BL-111	1/2	15/64	1,000
BL-112	3/4	1 1/4	1,000
BL-113	1	1 1/2	1,000
BL-114	1 1/4	1 13/16	500
BL-115	1 1/2	27/32	500
BL-116	2	2 11/16	250

Box Spacer — Die Cast Zinc (1/4" Space)



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
BS 201	1/2	1 1/8	13/32	500

UL File No. E-23018.

Non-Metallic Sheathed Cable Fittings

All-Plastic Connector for NM Cable and Flexible Cord



Snap captive locking wedge into connector's cavity.



Press locking wedge into cavity that locks onto cable.



Cat. No. 3201-TB is ideal for multiple flexible cords and cable.

- High-impact thermoplastic: UL94V-1
- Features push-in design
- Captive locking wedge secures cable with single squeeze of standard electrician's pliers
- Provides excellent insulation, strain-relief and high pull-out value

CAT. NO.	DESCRIPTION
3300	For use with 10-2, 12-2 and 14-2 NM cables; 18-2 and 18-3 SJ and SJO cords and 18-2 SV, SVO, SJT and SJTO cords, single or multiple; cord capacity .125–.300" diameter
3201-TB	For use with 10-3, 12-3, 14-3, 10-2, 12-2, 4-2 NM cables; multiple (2) 12-2 and 14-2 NM cables; single and multiple flexible cords in wire range .300–.600"
3202	For use with 8-3 and 6-3 NM cables; (2) 14-3, 14-2, 12-2 and 10-2 NM cables; single and multiple flexible cords in wire range .500–.850"

Temperature Rating: 105° C. CSA File Nos. 584 and 2884. UL File No. E-17583.

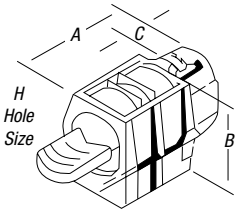




Fig. 1

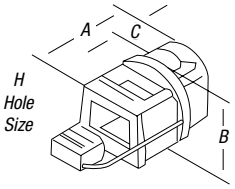




Fig. 2

Dimensions

CAT. NO.	KO SIZE (IN.)	FIG.	DIMENSIONS (IN.) A	B	C	D	E	MAX. THK. ENCLOSURE	H (IN.)	STD. CTN.
3300	½	2	1 1/32	1 5/16	3/8	.880	.795	.080	5/16 x 9/16	500
3201-TB	½	1	1 11/32	1	7/16	.880	.795	.080	2 1/32 dia.	500
3202	¾	1	1½	1 5/16	7/16	1.100	1.005	.090	⅞ dia.	250

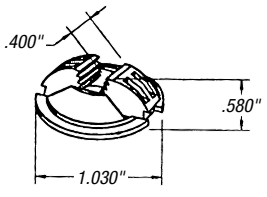
Hit Lock® Connectors



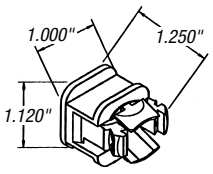
NC-501-SC

CAT. NO.	DESCRIPTION	STD. CTN.
NC-501SC	½" Hit Lock® Connector	500
NC-501DBL-SC	½" Double Hit Lock® Connector	500
NC-502SC	¾" Hit Lock® Connector	100
SB1216-SC	Twist It Bushing For Metal Studs	50

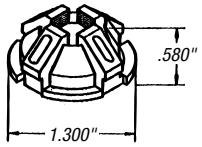
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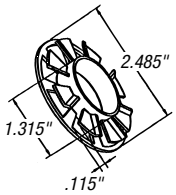
NC-501-SC



NC-501DBL-SC



NC-502-SC



SB1216-SC

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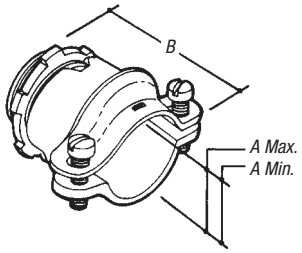
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Non-Metallic Sheathed Cable Fittings

NM Clamp-Type Connector — Die-Cast Zinc

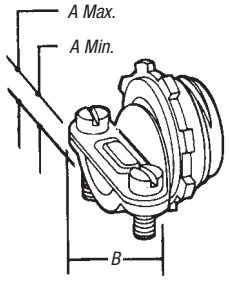


CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	A (MAX.)	B	STD. CTN.
NC-201	½	.40	.95	1.39	250
NC-202	¾	.50	1.10	1.50	200
NC-203	1	.62	1.14	1.63	100
NC-204	1¼	.50	1.38	1.08	100
NC-205	1⅜	.75	1.61	1.22	50
NC-206	2	.90	2.04	1.73	50

CSA File No. LR-12798.

UL File No. E-17583.

Clamp-Type Connector — Die-Cast Zinc

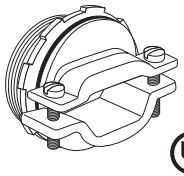


CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	A (MAX.)	B	STD. CTN.
NC301	⅜ (½ KO)	.18	.64	1.16	1,000
NC-302	¾	.41	.82	1.87	500
NC-303	1	.34	.94	2.01	250

CSA File No. LR-12798.

UL File No. E-17583.

Clamp-Type Connectors Non-Watertight — Die-Cast Zinc

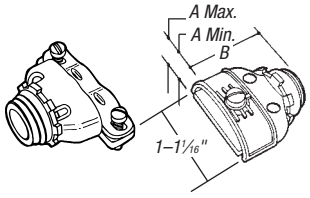


CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	A (MAX.)	B	STD. CTN.
NC041	1¼	.27	.75	2.02	100
NC-051	1½	.54	.95	2.50	50
NC-061	2	.75	1.12	3.41	40

UL File No. E-15170 — 1¼"–1½".

UL File No. E-17583 — 2".

Duplex Clamp-Type Connector — Die-Cast Zinc

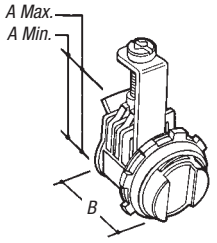


- For use with aluminum, smooth, extruded metal–clad cable. (min. dia. .410" — max. dia. .500").

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	A (MAX.)	B	STD. CTN.
XC-210	⅜ (½ KO)	.13	.65	1.56	250
XC-211-SC	⅜	.24	.63	1.59	200

CONDUIT/CABLE	FMC (IN.)	AC	MCC	MCI
Max. Size	⅜	10/2	.565	.565
Min. Size	⅜	14/2	.425	.425

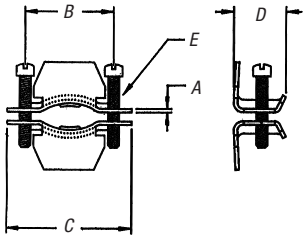
NM Flex Connectors Saddle-Type — Die-Cast Zinc



CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	A (MAX.)	B	STD. CTN.
XC-2200-C	⅜	.12	.63	.98	500

Tilt-In Connector — Electro-Galvanized Metallic Steel

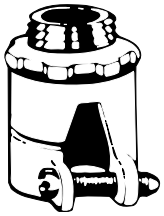




CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D	E	STD. CTN.
NC-850	½	.050	.950	1.312	.650	8–32 x ¾	1,000
NC-851	¾–1	.050	1.250	1.750	.760	8–32 x 1	500
NC-852	1–¼	.062	1.625	2.125	.760	10–32 x 1	250
NC-853	1–½	.062	1.970	2.500	.785	10–32 x 12	100

Armored Cable/Flexible Metallic Conduit Fittings

Straight Squeeze-Type Connectors — Malleable Iron

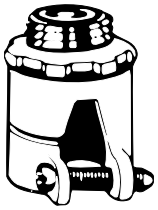


CAT. NO.	CONDUIT SIZE (IN.)	UNIT QTY.	STD. CTN.
XC-400	⅜ (½ KO)	50	100
XC-401	½	25	100
XC-402	¾	25	100
XC-403	1	25	100
XC-404	1¼	5	10
XC-405	1½	10	10
XC-406	2	10	10
XC-407	2½	5	5
XC-408	3	5	5

UL File No. E-1383 ½"–¾".

UL File No. E-23018 1"–3".

Straight Squeeze-Type Connectors — Insulated Malleable Iron



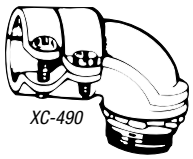
CAT. NO.	CONDUIT SIZE (IN.)	UNIT QTY.	STD. CTN.
XC-901	½	25	100
XC-902	¾	25	100
XC-903	1	25	100
XC-904	1¼	5	10
XC-905	1½	10	10
XC-906	2	10	10
XC-907	2½	5	5
XC-908	3	5	5

UL File No. E-1383 ½"–¾".

UL File No. E-23018 1"–3".

Clamp Straight Set, 90° and Duplex Connectors

90° Angle Squeeze-Type Connectors — Steel or Malleable Iron/Zinc Plated



XC-490

CAT. NO.	CONDUIT SIZE (IN.)	UNIT QTY.	STD. CTN.
XC-490	⅜ (½ KO)	50	100
XC-491	½	25	100
XC-492	¾	25	50
XC-493	1	25	25
XC-494	1¼	10	10
XC-495	1½	10	10
XC-496	2	5	5
XC-497	2½	1	1
XC-498	3	1	1

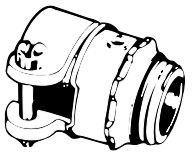
UL File No. E-1383 ⅜" & ¾".

UL File No. E-23018 1"–3".

⅜"–¾" — Steel.

Note: *For die-cast armored cable/flexible metallic conduit fittings and combination fittings, see Steel City® Die-Cast Conduit Fittings,* ***pages E–550-E–552.***

Straight Squeeze-Type Connectors — Die-Cast Zinc



CAT. NO.	FIG.	SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	DIMENSIONS (IN.) A (MAX.)	DIMENSIONS (IN.) B	STD. CTN.
XC-269	1	⅜ (½ KO)	.45	.60	.96	500
XC-270	1	½	.74	.92	1.43	250
XC-272	1	¾	.88	1.10	1.59	250
XC-273	2	1	1.10	1.35	1.60	100
XC-274	2	1¼	1.48	1.65	1.91	100
XC-275	2	1½	1.68	2.00	2.12	50
XC-276	3	2	2.12	2.47	2.54	40
XC-277	3	2½	2.71	3.08	2.88	10
XC-278	3	3	3.15	3.60	3.88	5
XC-278A	3	3½	3.20	4.03	5.04	1
XC-2710	3	4	3.15	4.25	5.04	—

UL File No. E-1383 ⅜" & ¾".

UL File No. E-23018 1"–3".

⅜"–¾" — Steel.

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Straight Squeeze-Type Connectors — Insulated Die-Cast Zinc

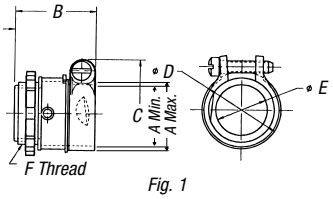


Fig. 1

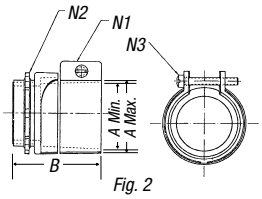


Fig. 2

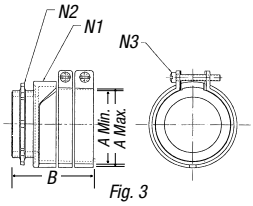
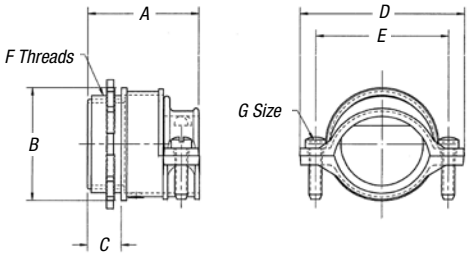


Fig. 3

CAT. NO.	FIG.	SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	DIMENSIONS (IN.) A (MAX.)	DIMENSIONS (IN.) B	STD. CTN.
XC-870	1	½	.74	.92	1.43	250
XC-872	1	¾	.88	1.10	1.59	250
XC-873	2	1	1.10	1.35	1.60	100
XC-874	2	1¼	1.48	1.65	1.91	50
XC-875	2	1½	1.68	2.00	2.12	50
XC-876	3	2	2.12	2.47	2.54	10
XC-877	3	2½	2.71	3.08	2.88	10
XC-878	3	3	3.15	3.60	3.88	5
XC-879	3	3½	3.20	4.03	5.04	1
XC-8710	3	4	3.15	4.25	5.04	1

UL File No. E-17909 — ½"–¾".
UL File No. E-23018 — 1¼".
CSA File No. LR-12798.

Squeeze-Type BX Flex Connectors



CAT. NO.	TRADE SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D	E	F THREADS	G SIZE	RANGE
XC-201	½	1 25/64	1 7/64	1 3/32	1 55/64	1 3/8	½–14NPS	10–24 x 7/8	.40–.95
XC-202	¾	1 1/2	1 1/4	1/2	1 53/64	1 3/8	¾–14NPS	10–24 x 7/8	.50–1.10
XC-203	1	1 3/4	1 23/32	9/16	2 9/32	1 7/8	1–11 ½NPS	10–24 x 7/8	.62–1.14
XC-204	1 1/4	1 7/8	1 57/64	9/16	2 47/64	2 7/32	1 1/4–11 ½NPS	10–24 x 7/8	.50–1.38

All dimensions are approximated to the nearest 1/64".

Steel City® Cable Lok®

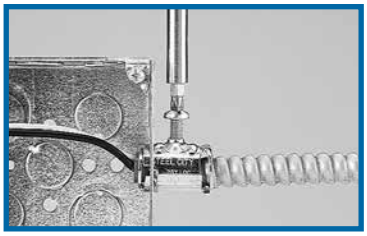
- Simple, one-piece installation with no locknuts
- Screw designed for exceptional pullout resistance
- Captive screw ensures that the screw is intact for installation and resists backing out after installation
- Corrosion-resistant, zinc-chromatic plating
- Positive grounding
- Vibration-resistant screw design
- UL Listed and CSA Certified



Simple, fast steps to install the Steel City® Cable Lok®.



1. Simply snap into place. No locknuts required!



2. Insert cord and twist set screw. Connector tightens as screw is set.

Specifications

- Material: Body: Steel (spring steel);
  Finish: Zinc;
  Insulator: Nylon;
  Temp.: 105° C
- Listing: UL, CSA Listed
- O.D. for over armor .400"–.510"
- No set screws, locknuts or tools are required to attach MC cable to a box or enclosure
- One-piece spring-steel construction
- Accommodates the widest range of MC cable sizes in the industry — 14-2 to 10-3
- Compact, low-profile design saves space in the box or enclosure
- Fittings can be used in adjacent knockouts in the corner of the box
- Removable and reusable
- Ideal for commercial construction or prefabricated electrical wiring assemblies

CAT. NO.	SIZE RANGE (IN.)	AC STEEL	AC ALUMINUM INTERLOCKED	MC (I) STEEL	MC (I) ALUMINUM	FLEX RW	STD. CTN.
XC-730		14/2 14/3 14/4	14/2 14/3 14/4	14/2 14/3 14/4	14/2 14/3 14/4	⅜ Steel	50
	.450/.610	12/2 12/3 12/4	12/2 12/3 12/4	12/2 12/3 12/4	12/2 12/3 12/4	& AL	
	½ KO	10/2		10/2 10/3	½" KO	10/2 10/3	
XC-731		14/2 14/3 14/4	14/2 14/3 14/4	14/2 14/3 14/4	14/2 14/3 14/4		50
	.450/.610	12/2 12/3 12/4	12/2 12/3 12/4	12/2 12/3 12/4	12/2 12/3 12/4	—	
	½ KO	10/2		10/2 10/3	½" KO	10/2 10/3	
XC-732		10/3 10/4 10/5		10/4 10/5		⅜ Steel	25
	.610/.875	8/3 8/4	—	8/3 8/4	—	& AL	
	¾ KO	6/2		6/2	¾" KO		
XC-7300		14/2 14/3 14/4	14/2 14/3 14/4	14/2 14/3 14/4	14/2 14/3 14/4		25
	.450/.610	12/2 12/3 12/4	12/2 12/3 12/4	12/2 12/3 12/4	12/2 12/3 12/4	—	
	½ KO	10/2		10/2 10/3	½" KO	10/2 10/3	

UL File No. E-1383.
CSA File No. LR-12798.

Snap-In Fitting for MC Cable — Steel

CAT. NO.	DESCRIPTION	STD. CTN.
XC-130	Steel Snap-In Fitting for MC Cable (14-2+G to 10-3+G)	500



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Armored Cable/Flexible Metallic Conduit Fittings

90° Clamp-Type Connectors — Die-Cast Zinc

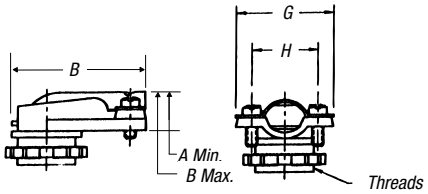


Fig. 1

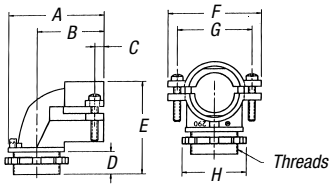


Fig. 2

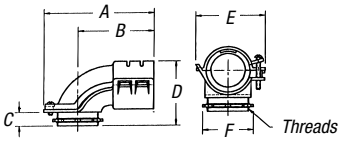


Fig. 3



XC-290

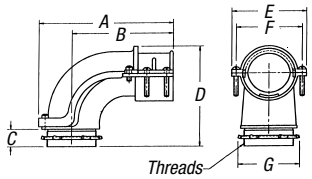


Fig. 4

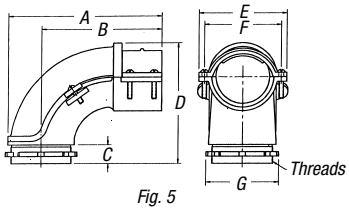


Fig. 5

Non-Insulated

CAT. NO.	FIG	SIZE (IN)	DIMENSIONS (IN.) A (MIN.)	A (MAX.)	B	STD. CTN.
XC-290	1	⅜ (½ KO)	.40	.63	1.80	500
XC-291	1	½	.65	1.00	2.08	250
XC-292	1	¾	.83	1.25	2.27	100
XC-293	2	1	1.27	1.50	2.60	50
XC-294	2	1¼	1.49	1.85	3.10	30
XC-295	3	1½	1.51	2.47	6.05	5
XC-296	3	2	1.51	2.47	6.05	5
XC-297	4	2½	2.45	3.50	7.75	2
XC298	5	3	3.07	4.02	8.88	1
XC-299	4	3½	3.63	4.34	12.75	1
XC-2910	4	4	3.68	5.17	12.75	1

UL File No. E-1383.
CSA File No. LR-18130M57.

Insulated

CAT. NO.	FIG	SIZE (IN)	DIMENSIONS (IN.) A (MIN.)	A (MAX.)	B	STD. CTN.
XC-890	1	⅜	.40	.63	1.81	500
XC-891	1	½	.65	.97	2.18	250
XC-892	1	¾	.77	1.12	2.38	100
XC-893	2	1	1.06	1.40	2.87	50
XC-894	2	1¼	1.34	1.65	3.93	30
XC-895	3	1½	1.51	2.47	6.05	5
XC-896	3	2	1.51	2.47	6.05	5
XC-897	4	2½	2.45	3.50	7.75	2
XC-898	5	3	3.07	4.02	8.88	1
XC-899	4	3½	3.63	4.34	12.75	1
XC-8910	4	4	3.68	5.17	12.75	1

UL File No. E-1383.
CSA File No. LR-12798.

Clamp-Type Connector — Die-Cast Zinc

CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	A (MAX.)	B	STD. CTN.
XC-280	⅜ (½ KO)	.18	.64	1.16	1,000

UL File No. E-1383
CSA File No. LR-18130M57.



Duplex Clamp-Type Connector — Die-Cast Zinc

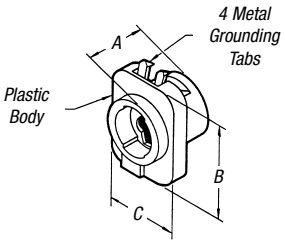
CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	A (MAX.)	B	STD. CTN.
XC-210	⅜ (½ KO)	.13	.65	1.56	250

CSA File No. LR-18130M57.

Armored Cable/Flexible Metallic Conduit Fittings

Snap-In Connector for Flexible Metal Conduit — 105° C Rated

- No locknut required
- No special tools required
- High-impact thermoplastic with steel insert





CAT. NO.	CONDUIT SIZE (IN.)	KO SIZE (IN.)	UNIT QTY.	STD. CTN.
100-TB	⅜	½	50	500
100BP	⅜	½	250	1,000

BX Flex Bushings — Anti-Short

- Packed in polybags
- Available bulk packed — 10,000 per carton
- Plastic

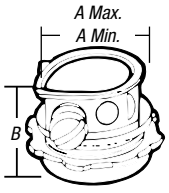


CAT. NO.	FITS STANDARD CABLE RANGE	UNIT SIZE	QTY.	STD. CTN.
IT 100 SC	14/2–14/3–12/2	0	100	100
IT-101	14/4–12/3–6/1–4/1	1	100	35
IT-102	12/4–10/2–10/3–2/1	2	50	50
IT-103	10/4–8/2–8/3–1/1	3	50	50
IT-104	8/4–6/2–6/3–4/2–4/3–6/4	4	50	50

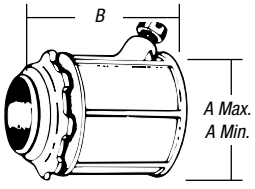
Ordered by Bags.

Note**: For die-cast armored cable/flexible metallic conduit fittings and combination fittings, see Steel City® Die-Cast Conduit Fittings,* ***pages E–550-E–552.

Straight Set-Screw Connectors — Non-Insulated Die-Cast Zinc



XC-220SC

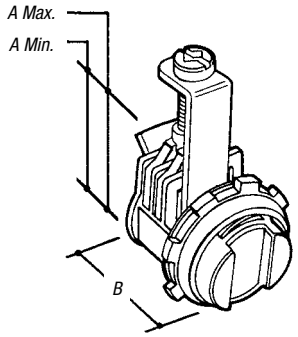


XC-221
XC-821

CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	A (MAX.)	B	STD. CTN.
XC-220SC	⅜ (½ KO)	.38	.63	.84	1,000
XC-221	½	.74	.94	1.46	250
XC-821	½	.74	.94	1.46	250

XC-220 and XC-221: UL File No. E-1383 ⅜".
UL File No. E-23018 ½".
XC-821: UL File No. E-1275 ½".

BX Flex Saddle-Type Connectors — Die-Cast Zinc

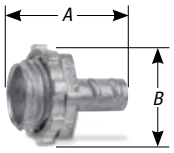


CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A (MIN.)	A (MAX.)	B	STD. CTN.
XC-2200-C	⅜	.12	.63	.98	500

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Armored Cable/Flexible Metallic Conduit Fittings

Screw-In Connectors — Non-Insulated Die-Cast Zinc

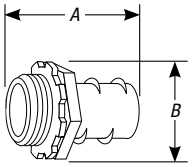


CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
XC-240	⅜ (½ KO)	1.31	.92	500
XC-241	½	1.38	.92	500
XC-242	¾	1.62	1.12	125
XC-243	1	1.94	1.37	125
XC-244	1¼	2.12	1.75	50
XC-245	1½	2.31	2.13	50
XC-246	2	2.58	2.67	50

UL File No. E-23018.

CSA File No. LR-18130M57 ⅜"–½".

Screw-In Connectors — Insulated Die-Cast Zinc

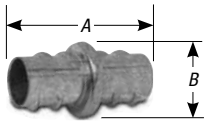


CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
XC-840	⅜ (½ KO)	1.31	.92	500
XC-841	½	1.38	.92	500
XC-842	¾	1.62	1.12	125
XC-843	1	1.94	1.37	125
XC-844	1¼	2.12	1.75	50
XC-845	1½	2.31	2.13	50
XC-846	2	2.58	2.67	50

UL File No. E-23018.

CSA File No. LR-18130M57 ⅜"–½".

Screw-In Couplings — Die-Cast Zinc

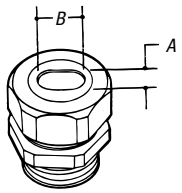


CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A	DIMENSIONS (IN.) B	STD. CTN.
XK 241	½	1.81	.92	250
XK-242	¾	2.09	1.12	250
XK-243	1	2.41	1.37	125
XK-244	1¼	2.75	1.81	50
XK-245	1½	3.05	2.12	50
XK-246	2	3.28	2.67	50

UL File No. E-23018.

Watertight Connectors

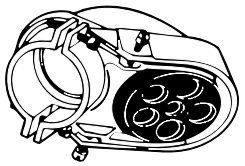
- For type SE, style U, flat; two insulating conductors, one bare



CAT. NO.	TRADE SIZE (IN.)	FITS CABLE	RUBBER GROMMET OPENING (IN.) A	RUBBER GROMMET OPENING (IN.) B	STD. CTN.
WT203A	1	3#8	.500	.750	100
WT-203B	1	3#6	.563	.844	100
WT-203C	1	3#4	.625	.938	100
WT-204A	1¼	3#3	.625	1.000	50
WT-204B	1¼	3#2	.580	.960	50
WT-204C	1¼	3#1	.660	1.090	50
WT-204D	1¼	3#1/0	.750	1.125	50
WT-205A	1½	3#1/0 & 3#2/0	.735	1.240	20
WT-205B	1½	3#2/0 & 3#3/0	.875	1.375	20
WT-205C	1½	3#2/0 & 3#3/0	.938	1.438	20
WT-206A	2	3#1/0 & 3#2/0	.735	1.240	20
WT-206B	2	3#2/0 & 3#3/0	.875	1.375	20
WT-206C	2	3#2/0 & 3#3/0	.938	1.438	20
WT-206D	2	3#4/0	.890	1.550	20
WT-206E	2	3#4/0	1.063	1.688	20
For Underground Feeder Cable					
UF201	½	2#14	.210	.440	250
UF-202	¾	3#14	.220	.660	250

Accessories

Aluminum Service Caps — Clamp-Type for Rigid/ Intermediate or Thinwall

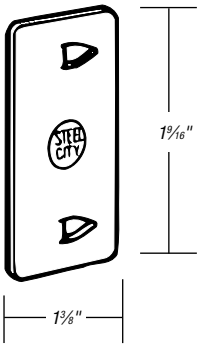


CAT. NO.	CONDUIT SIZE (IN.)	NO. HOLES	SIZE	STD. CTN.
SH-101	½	4	4 (19/64")	50
SH-102	¾	5	2 (3/8") 3 (13/32")	50
SH-103	1	5	2 (7/16") 3 (1/2")	10
SH-104	1¼	5	2 (19/32") 3 (5/8")	10
SH-105	1½	6	2 (19/32") 1 (7/16") 3 (3/4")	5
SH-106	2	6	2 (3/4") 3 (1") 1 (17/32")	5
SH-107	2½	7	3 (7/8") 1 (1") 3 (15/16")	1
SH-108	3	7	4 (1 1/8") 3 (1 3/4")	1
SH-109	3½	4	4 (1 3/4") 2 (1 1/8")	1
SH-110	4	4	4 (1 3/4") 2 (1 1/8")	1

CSA File No. LR-12798.
UL File No. E-13938.

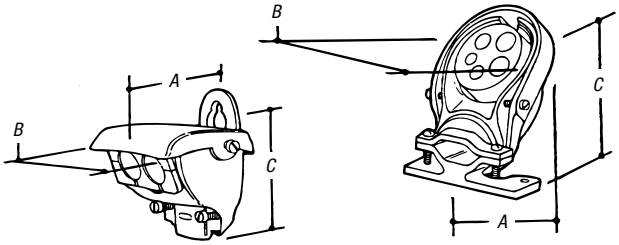
Cable Protector





CAT. NO.	DESCRIPTION	STD. CTN.
CP-1	Steel	100

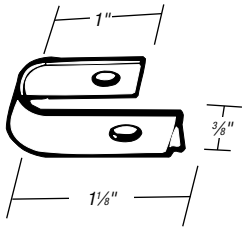
Service Cable Caps — Oval



CAT. NO.	FITS CABLE	DIMENSIONS (IN.) A	B	C	STD. CTN.
50130	To 2/0–3	5.00	3.31	4.75	10
50130A	To 4/0–3	6.75	4.62	6.00	5
With Split Insulator					
SC1000	3#3–2	2.37	2.12	2.25	25
SC2001	3#3/0–4/0	4.93	3.12	3.75	10

Extra-large body for additional wiring space.

Cable Clip



CAT. NO.	DESCRIPTION	STD. CTN.
NS 100	Steel	1,000

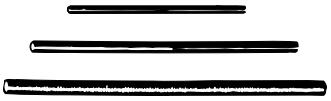
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Accessories

One-Hole Strap for ⅜" Armored Cable and Flexible Metal Conduit

CAT. NO.	STD. CTN.	WT./100 (LBS.)
FS100-SC	250	1.70

R-Series Continuous-Thread Rod — Galvanized



CAT. NO.	ROD SIZE (IN.)	ULTIMATE‡ LOAD IN LBS.	ROOT AREA THREAD	DATA FOR PRESSURE PIPING		STD. CTN.
				NOMINAL PIPE SIZE (IN.)	MAX. SAFE LOAD AT 450°	
R628-6 FT.	¼–20	900	.027	—	—	300
R638-6 FT.	⅜–16	1,900	.068	¾–2	610	150
R648-6 FT.	½–13	3,500	.126	2½–3½	1,130	60
R1028-10 FT.	¼–20	900	.027	—	—	500
R1038-10 FT.	⅜–16	1,900	.068	¾–2	610	250
R1048-10 FT.	½–13	3,500	.126	2½–3½	1,130	100

‡ *Load Ratings based on safety factor of three.*

One-Hole Service Cable Straps



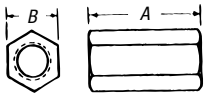
CAT. NO.	FITS CABLE	SHELF CTN.	SHIP CASE	STD. CTN.
SE-100	3#8, 3#6, 3#4	100	1,000	1,000
SE101	3#3, 3#2	100	1,000	1,000
SE102	3#1, 3#0, 3#1/0, 3#2/0	25	250	250
SE103	3#3/0, 3#4/0	25	250	250

Two-Hole Service Cable Straps



CAT. NO.	FITS CABLE	SHELF CTN.	SHIP CASE	STD. CTN.
SE-900	3#8, 3#6, 3#4	100	1,000	1,000
SE901	3#3, 3#2	100	1,000	1,000
SE902	3#1, 3#0, 3#1/0, 3#2/0	25	250	250
SE903	3#3/0, 3#4/0	25	250	250

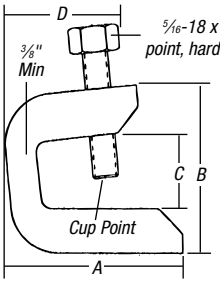
H-195 Steel Rod Coupling



CAT. NO.	ROD SIZE (IN.)	DIMENSIONS (IN.)		STD. CTN.
		A	B	
H-195-1/4	¼	¾	⅜	1,000
H-195-3/8	⅜	1	½	500
H-195-1/2	½	1	⅝	500
H-195-5/8	⅝	1½	¾	50

Accessories

Beam Clamps



5/16-18 x 1 3/8" hex head, cup point, hardened steel, cap screw

CAT. NO.	SIZE (IN.)	TAPPED	DIMENSIONS (IN.) A	B	C	D	STD. CTN.
BC1-TB	1	1/4–20	1 11/16	1 3/8	5/8	1 3/16	250
BC2-TB	2 15/16	3/8–16	2 1/8	2 1/16	3/4	1 11/16	25

Material: Steel

Finish: Zinc Plated

Beam Clamps — Malleable Iron, Electroplated Finish



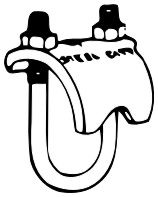
CAT. NO.	BASE SIZE (IN.) A	B	JAW OPENING INCHES	TAPPING OF BASE AND BACK HOLES	LOAD RATING‡	STD. CTN.
510	2 7/32	1 1/8	5/8	1/4–20	400	100
511-SC	2 7/32	1 1/8	5/8	10–24	400	100
500-SC	1	1 1/4	15/16	1/4–20	450	50
509	1	1 1/4	15/16	10–24	375	100
501	1 1/2	1 5/8	7/8	5/16–18	800	50
502	2	2	1	3/8–16	1,300	50
503-SC	2 5/8	2 1/2	1	1/2–13	1,300	20
507	2 1/2	2 3/8	1 3/8	1/2–13	1,700	20
508	2 1/2	2 3/8	2 1/8	1/2–13	1,700	10

‡*Safety factor of 3.*

Load ratings based on bottom hole of beam clamp.

CSA File No. LR-52208.

Conduit/Pipe to Beam Clamps



- For mounting pipe or conduit at right angles to the beam
- Add SS316 suffix for stainless steel
- Add HDG suffix for hot-dip galvanized

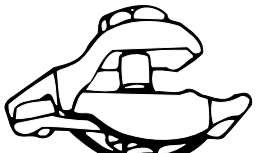
RCS Series

CAT. NO. & SIZE	O.D. OF CONDUIT OR PIPE	DIMENSIONS (IN.) NOM. CONDUIT OR PIPE SIZE	STD. CTN.
RCS Clamp — Steel			
RCS-1/2	.840	1/2	50
RCS-3/4	1.050	3/4	50
RCS-1	1.315	1	50
RCS-1-1/4	1.660	1 1/4	50
RCS-1-1/2	1.900	1 1/2	50
RCS-2	2.375	2	50
RC Clamp — Malleable Iron			
RC-3/8	.675	3/8	50
RC-1/2	.840	1/2	50
RC-3/4	1.050	3/4	50
RC-1	1.315	1	50
RC-1-1/4	1.660	1 1/4	50
RC-1-1/2	1.900	1 1/2	50
RC-2-SC	2.375	2	50
RC-2-1/2	2.875	2 1/2	25
RC-3	3.500	3	25
RC-3-1/2	4.000	3 1/2	25
RC-4-SC	4.500	4	20

Conduit/Pipe to Beam Clamps

EC Series

- For mounting pipe or conduit vertically across the beam
- Add HDG suffix for hot-dip galvanized

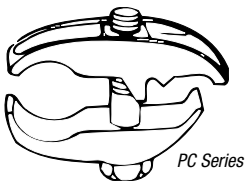


EC Series

CAT. NO. & SIZE	O.D. OF CONDUIT OR PIPE	DIMENSIONS (IN.) NOM. CONDUIT OR PIPE SIZE	STD. CTN.
EC Clamp — Malleable Iron			
EC 1/2	.840	1/2	50
EC-3/4	1.050	3/4	50
EC-1	1.315	1	25
EC-1-1/4	1.660	1 1/4	25
EC-1-1/2	1.900	1 1/2	25
EC-2	2.375	2	25
EC-2-1/2	2.875	2 1/2	10

PC Series

- For mounting pipe or conduit parallel to the beam
- Add HDG suffix for hot-dip galvanized



PC Series

CAT. NO. & SIZE	O.D. OF CONDUIT OR PIPE	DIMENSIONS (IN.) NOM. CONDUIT OR PIPE SIZE	STD. CTN.
PC Clamp — Malleable Iron			
PC-3/8	.675	3/8	50
PC 1/2	.840	1/2	50
PC-3/4	1.050	3/4	50
PC-1	1.315	1	50
PC-1-1/4	1.660	1 1/4	25
PC-1-1/2	1.900	1 1/2	25
PC-2	2.375	2	25
PC-2-1/2	2.875	2 1/2	25
PC-3	3.500	3	10
PC-3-1/2	4.000	3 1/2	10
PC-4	4.500	4	10

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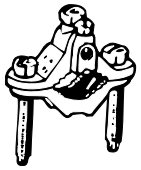
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Accessories

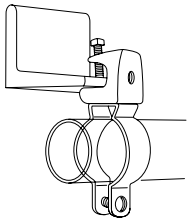
Ground Clamps — Die-Cast Zinc, Brass Colored

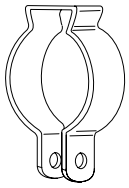
- Two-screw ground connection for armored ground wire



CAT. NO.	CONDUIT SIZE (IN.)	STD. CTN.
GC-203-B	½; 1	200

6H Series Conduit and Pipe Hangers — Without Bolt





Without Bolt

All Steel City 6H Hanger Bolts include a combination Slot-Phillips Head.

For hanging conduit (rigid or EMT) and pipe.

The 6H series hangers are fast, easy and economical to use. May be fastened directly to a #500 beam clamp through a hole in the base of the hanger by means of a ¼-20 stove bolt or suspended on ¼" hanger rod.

CAT. NO.	RIGID CONDUIT OR PIPE SIZE (IN.)	EMT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D (DIA.)	LOAD RATING	STD. CTN.
6H0	⅜–½	½	¾	.045	1 21/32	9/32	500	100
6H0 T	⅜–½	½	¾	.045	1 27/32	9/32	500	100
6H1	¾	¾	⅞	.045	1 31/32	9/32	500	100
6H1-T	¾	¾	⅞	.045	2 9/32	9/32	500	100
6H2	1	1	⅞	.045	2⅜	9/32	500	100
6H2 1/2	—	1¼	⅞	.045	2 23/32	9/32	500	100
6H3-SC	1¼	1½	⅞	.045	2⅞	9/32	500	100
6H4	1½	—	1	.071	3⅜	11/32	500	100
6H5	2	2	1¼	.071	3 29/32	11/32	500	50
6H6	2½	—	1¼	.071	4 9/32	11/32	500	50
6H7	3	—	1¼	.071	5 5/16	11/32	500	25
6H8	3½	—	1¼	.071	5 7/16	11/32	500	25
6H9	4	4	1¼	.071	5⅞	11/32	500	10

UL File No. E-160899.

Add SS suffix to catalog number for Type 302 Stainless Steel.

Load rating is 500 lbs. with a safety factor of 3. Available with or without closure bolt.

Standard finishes: Electro-Galvanized.

6H Series Conduit and Pipe Hangers — With Bolt



6H without bolt.



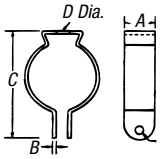
6H-B with bolt and hex nut.



6H-T Threaded without bolt.



6H-TB Threaded with bolt.



CAT. NO.	RIGID CONDUIT OR PIPE SIZE (IN.)	EMT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D (DIA.)	LOAD RATING	STD. CTN.
6H0 B	⅜–½	½	¾	.045	1 21/32	9/32	500	100
6H0 TB	⅜–½	½	¾	.045	1 27/32	9/32	500	100
6H1-B	¾	¾	⅞	.045	1 31/32	9/32	500	100
6H1-TB	¾	¾	⅞	.045	2 9/32	9/32	500	100
6H2-B	1	1	⅞	.045	2⅜	9/32	500	100
6H2-B	1	1¼	⅞	.045	2 23/32	9/32	500	100
6H3-B	1¼	1½	⅞	.045	2⅞	9/32	500	100
6H4-B	1½	—	1	.071	3⅜	11/32	500	100
6H5-B	2	2	1¼	.071	3 29/32	11/32	500	50
6H6-B	2½	—	1¼	.071	4 9/32	11/32	500	50
6H7-B	3	—	1¼	.071	5 5/16	11/32	500	25
6H8-B	3½	—	1¼	.071	5 7/16	11/32	500	25
6H9-B	4	4	1¼	.071	5⅞	11/32	500	10

UL File No. E-160899.

Add SS suffix to part number for Type 302 Stainless Steel.

Load rating is 500 lbs. with a safety factor of 3.

Available with or without closure bolt.

Standard finishes: Electro-Galvanized.

Liquidtight Flexible Metallic Conduit Fittings: Zinc Die Cast

Outdoor XTRA FLEX® Raceway System (Type B)





Specifications

- Color: Gray
- Length: 100 ft. for LTC038GY thru LTC125GY
  50 ft. for LTC150GY and LTC200GY
- UL Temperature Rating:
  80° C dry, 60° C wet
  70° C oil resistant, sunlight resistant, outdoor, direct burial
- CSA Certified: File LR 80349-2
- CSA Temperature Rating: -18° C to 75° C
- Material: PVC Helix reinforcement surrounded with flexible PVC
- Voltage Rating: 600V

CAT. NO. SERIES	TRADE SIZE (IN.)	I.D. (IN.) MIN.	I.D. (IN.) MAX.	O.D. (IN.) MIN.	O.D. (IN.) MAX.	STD. CTN.
LTC038GY	⅜	.484	.504	.690	.710	100
LTC050GY	½	.622	.642	.820	.840	100
LTC075GY	¾	.820	.840	1.030	1.050	100
LTC100GY	1	1.041	1.066	1.290	1.315	100
LTC125GY	1¼	1.380	1.410	1.630	1.660	100
LTC150GY	1½	1.575	1.600	1.865	1.900	50
LTC200GY	2	2.020	2.045	2.340	2.375	50

UL Listed: File E95745.

For use with Thomas & Betts LT38P, LT38M, LT500 series and Liquidtight Flexible Metal Conduit Fittings.

Liquidtight Whip Assembly



CAT. NO.	CONDUIT SIZE (IN.)	LENGTH (FT.)	WIRE GAUGE	STD. CTN.
LTWHIP 12-6-10	½	6	#10 AWG	6
LTWHIP 12-4-10	½	4	#10 AWG	6
LTWHIP 34-6-8	¾	6	#8 AWG	6
LTWHIP 34-4-8	¾	4	#8 AWG	6
Whip with Metallic Fittings — One Straight, One 90°				
LTWM 12-6-10	½	6	#10 AWG	6
LTWM 12-4-10	½	4	#10 AWG	6
LTWM 34-6-8	¾	6	#8 AWG	6
LTWM 34-4-8	¾	4	#8 AWG	6

Conduit Cutter for Non-Metallic Flexible Conduit



CAT. NO.	DESCRIPTION
XF-CUT	For Cutting Non-Metallic Flexible Conduit up to 1"
XF-BLADE	Replacement Blade for XF-CUT

Thomas&Betts

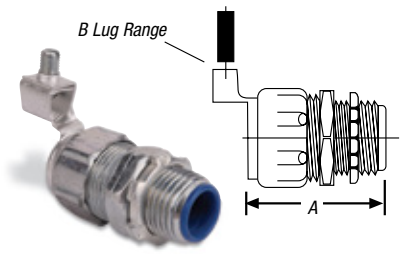
United States
Tel: 901.252.8000
800.816.7809
Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

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Liquidtight Flexible Metallic Conduit Fittings: Zinc Die Cast

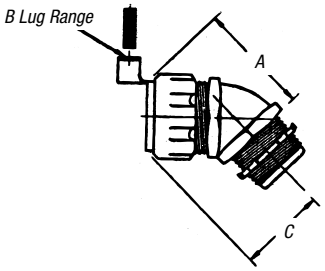
Liquidtight Fittings — Straight



CAT. NO.	GROUNDING DEVICE (LUG ONLY) CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B	STD. CTN.
5331GR	38GR-TB	⅜	1½	14-4	100
5332GR	12GR-TB	½	1 9/16	14-4	100
5333GR	34GR-TB	¾	1⅝	14-4	25
5334GR	1GR-TB	1	2 1/16	14-4	50
5231GR	38GR-TB	⅜	1½	14-4	100
5232GR	12GR-TB	½	1 9/16	14-4	100

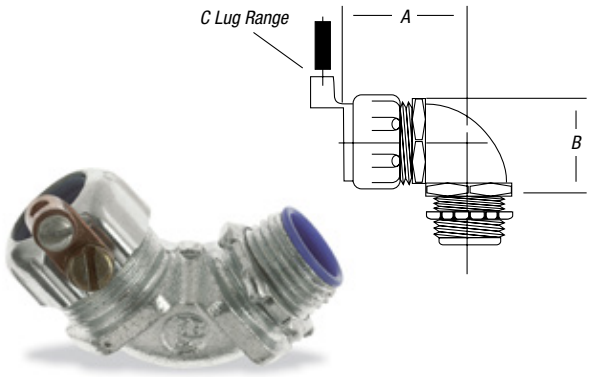
CAT. NO.	GROUNDING DEVICE (LUG ONLY) CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B	STD. CTN.
5233GR	34GR-TB	¾	1⅝	14-4	25
5234GR	1GR-TB	1	2 1/16	14-4	50
5231ALGR	38GR-TB	⅜	1½	14-4	100
5232ALGR	12GR-TB	½	1 9/16	14-4	100
5233ALGR	13GR-TB	¾	1⅝	14-4	50
5234ALGR	1GR-TB	1	2 1/16	14-4	50

Liquidtight Fittings — 45° Angle



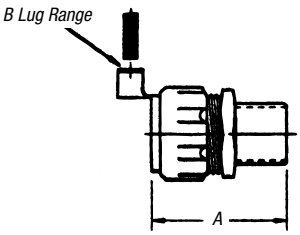
CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B	C (IN.)	STD. CTN.
5341GR	⅜	1 9/16	14-4	1 1/16	50
5342GR	½	1⅞	14-4	1⅜	50
5343GR	¾	2⅛	14-4	1 3/16	50
5344GR	1	2¼	14-4	1¾	25
5241GR	⅜	1 9/16	14-4	1 1/16	50
5242GR	½	1⅞	14-4	1⅜	50
5243GR	¾	2⅛	14-4	1 3/16	50
5244GR	1	2¼	14-4	1¾	25

Liquidtight Fittings — 90° Angle



CAT. NO.	GROUNDING DEVICE (LUG ONLY) CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	C	STD. CTN.
5351GR	38GR-TB	⅜	1⅜	1¼	14-4	50
5352GR	12GR-TB	½	1 9/16	1 7/16	14-4	50
5353GR	34GR-TB	¾	1¾	1 3/16	14-4	50
5354GR	1GR-TB	1	2 3/16	2 1/16	14-4	25
5251GR	38GR-TB	⅜	1⅜	1¼	14-4	50
5252GR	12GR-TB	½	1 9/16	1 7/16	14-4	50
5253GR	34GR-TB	¾	1¾	1 13/16	14-4	50
5254GR	1GR-TB	1	2 3/16	2 1/16	14-4	25
5251ALGR	38GR-TB	⅜	1⅜	1¼	14-4	50
5252ALGR	12GR-TB	½	1 9/16	1 7/16	14-4	50
5253ALGR	13GR-TB	¾	1¾	1 13/16	14-4	50
5254ALGR	1GR-TB	1	2 3/16	2 1/16	14-4	25

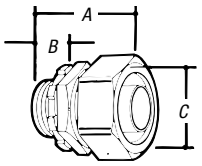
Liquidtight to Rigid External Ground Adapter



CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B	STD. CTN.
5271GR	⅜	1 5/32	14-4	50
5272GR	½	1⅜	14-4	50
5273GR	¾	1 21/32	14-4	50
5274GR	1	1⅞	14-4	25

Liquidtight Flexible Metallic Conduit Fittings: Zinc Die Cast

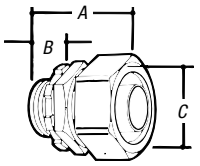
Straight Connectors — Die-Cast Zinc



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. CTN.
LT-200	⅜	1.81	.50	1.06	100
LT-201	½	1.88	.61	1.19	100
LT-202	¾	2.03	.56	1.44	100
LT-203	1	2.28	.63	1.75	50
LT-204	1¼	2.59	.69	2.44	40
LT-205	1½	2.78	.78	2.75	20
LT-206	2	3.22	.78	3.53	20
LT-207	2½	3.53	.84	4.28	1
LT-208	3	3.91	.88	4.72	1
LT-209	3½	4.04	.91	5.42	1
LT-210	4	4.16	.94	5.91	1

UL File No. E-23018.

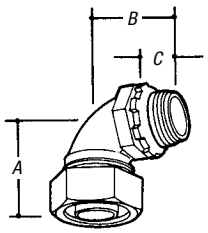
Straight Connectors — Die-Cast Zinc with Insulated Throat



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. CTN.
LT-800	⅜	1.81	.50	1.06	100
LT-801	½	1.88	.61	1.19	100
LT-802	¾	2.03	.56	1.44	100
LT-803	1	2.28	.63	1.75	50
LT-804	1¼	2.59	.69	2.44	40
LT-805	1½	2.78	.78	2.75	20
LT-806	2	3.22	.78	3.53	20
LT-807	2½	3.53	.84	4.28	1
LT-808	3	3.91	.88	4.72	1
LT-809	3½	4.04	.91	5.42	1
LT-810	4	4.16	.94	5.91	1

CSA File No. LR-12798.

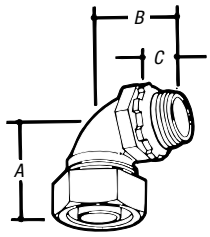
90° Connectors — Die-Cast Zinc



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. CTN.
LT-290	⅜	1.88	1.38	.50	100
LT-291	½	2.00	1.41	.50	100
LT-292	¾	2.19	1.66	.56	100
LT-293	1	2.56	1.88	.63	50
LT-294	1¼	3.00	2.00	.69	40
LT-295	1½	3.38	2.56	.78	20
LT-296	2	4.06	3.00	.78	10
LT-297	2½	5.03	3.72	.84	1
LT-298	3	5.63	4.66	.88	1
LT-299	3½	6.10	4.82	.91	1
LT-2910	4	6.56	4.97	.94	1

UL File No. E-23018.

90° Connectors — Die-Cast Zinc with Insulated Throat



CAT. NO.	CONDUIT SIZE (IN.)	DIMENSIONS (IN.) A	B	C	STD. CTN.
LT-890	⅜	1.88	1.38	.50	100
LT-891	½	2.00	1.41	.50	100
LT-892	¾	2.19	1.66	.56	100
LT-893	1	2.56	1.88	.63	50
LT-894	1¼	3.00	2.00	.69	20
LT-896	2	4.06	3.00	.78	10
LT-897	2½	5.03	3.72	.84	1

UL File No. E-23018.

Sealing O-Rings



CAT. NO.	CONDUIT SIZE (IN.)	STD. CTN.
SR 101	½	500
SR-102	¾	500
SR-103	1	500
SR-104	1¼	250
SR-105	1½	250
SR-106	2	250

Material: Neoprene

Thomas&Betts

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Technical Services
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Red•Dot® Commercial Rigid Fittings



In this section...

Red•Dot® Commercial Rigid Fittings

Conduit Bodies E-554–E-561
Fittings and Accessories E-562–E-564

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Conduit Bodies, Covers and Gaskets

Application

- Junction for branch conduits —"A" Series bodies for Rigid and IMC conduit maintain a weather-resistant conduit system when used with covers and gaskets
- "B" Series bodies for thin wall conduit (EMT) saves cost of connector and labor in indoor applications
- Spacious, accessible wiring chamber provides a convenient location to pull conductors and make splices
- Aluminum conduit bodies can be used with rigid metal conduit — NEC® 342 and 344, and Steel EMT, NEC® 358

Features/Benefits

- Copper-free* aluminum provides increased corrosion resistance
- Precision-cast and machined surfaces permit safer wire pulling
- Clean cover edges provide good gasket sealing
- Precision NPT threaded and set screw hubs enable trouble-free field installation for rigid, IMC or EMT conduit
- Retained deep-slotted stainless steel cover screws for faster installation
- Clear UL, CSA and cubic-content markings speed approval by inspectors

Standard Finish:

Conduit bodies and die-cast covers: powder coated

Stamped covers: Natural

Standard Materials:

Conduit Bodies: Die-cast aluminum alloy A360 with less than .004% copper content (copper-free)

Covers: (CV Series) Die-cast aluminum alloy A360 with less than .004% copper content (copper-free), and stainless steel screws

Covers: (SCV Series) Stamped aluminum alloy with less than .004% copper content (copper-free), and stainless steel screws

Gaskets: (GKN Series) Neoprene

Gaskets: (GKV Series) Composition

Compliances:

UL® Listed

CSA Certified

Federal Spec. W-C-586

NEC® Article 314.28

Sample Specifications:

Conduit bodies shall be die-cast copper-free* aluminum alloy A360. All conduit stops shall be free of rough edges. Conduit bodies shall be finished with powder-coated paint. Conduit bodies shall be Red•Dot® Catalog No.

Less than .004% copper content

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ALB



ALL



BT



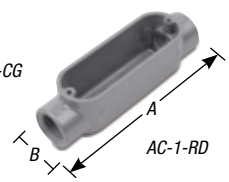
Conduit Bodies, Covers and Gaskets — A Series

C Style

- Fittings, covers and gaskets are interchangeable with those produced by other leading manufacturers
- Finish: Powder-coated urethane



DAC-1-CG



AC-1-RD

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
AC-1-RD	½	3⅞	1 21/64	50
AC-2-RD	¾	4⅝	1 17/32	50
AC-3	1	5⅜	1¾	25
AC-4-RD	1¼	7¼	2½	10
AC-5	1½	7¼	2⅛	10
AC-6-RD	2	9½	3½	5
AC-7*	2½	12¼	4½	1
AC-8*	3	12¼	4½	1
AC-9*	3½	15	5½	1
AC-10-RD*	4	15	5½	1

CAT. NO.	HUB SIZE (IN.)	STD. CTN.
***D-PAK*® **		
DAC-1-CG	½	12
DAC-2-CG	¾	15
DAC-3-CG	1	8
DAC-4-CG	1¼	6
DAC-5-CG	1½	5
DAC-6-CG	2	2
DAC-7-CG	2½	2
DAC-8-CG	3	2
DAC-9-CG	3½	2
DAC-10-CG	4	2

Shipped with cover. Price includes cost of cover and body.
UL File No. E-28688.

Thomas&Betts

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Fax: 901.252.1354

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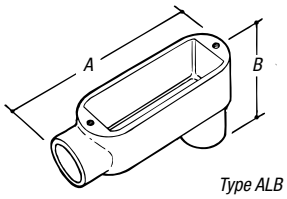
Conduit Bodies

Conduit Bodies, Covers and Gaskets — A Series *(continued)*

LB Style


DALB-1-CG


ALB-1



Type ALB

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
ALB-1	½	3⅞	2 1/16	50
ALB-2	¾	4⅝	2 7/16	50
ALB-3	1	5⅜	2¾	25
ALB-4	1¼	7¼	3 3/16	10
ALB-5	1½	7¼	3 13/16	10
ALB-6	2	9½	4½	5
ALB-7*	2½	12¼	5¼	1
ALB-8*	3	12¼	5⅞	1
ALB-9*	3½	15	6 15/16	1
ALB-10*	4	15	6 15/16	1

CAT. NO.	HUB SIZE (IN.)	STD. CTN.
*D-PAK® **		
DALB-1-CG	½	25
DALB-2-CG	¾	16
DALB-3-CG	1	6
DALB-4-CG	1¼	5
DALB-5-CG	1½	5
DALB-6-CG	2	2
DALB-7-CG	2½	2
DALB-8-CG	3	2
DALB-9-CG	3½	2
DALB-10-CG	4	2

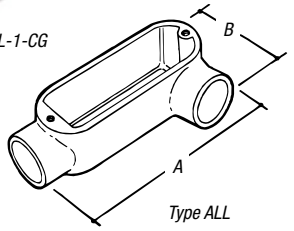
** Shipped with cover. Price includes cost of cover and body.*
UL File No. E-28688.

LL Style

- Die-cast copper-free aluminum construction
- Provide access for pulling, splicing and maintenance
- For rigid conduit/IMC applications
- UL Listed


DALL-1-CG


ALL-1



Type ALL

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
ALL-1	½	3⅞	2	50
ALL-2	¾	4⅝	2 15/16	50
ALL-3	1	5⅜	2½	25
ALL-4	1¼	7¼	3⅜	10
ALL-5	1½	7¼	3⅜	10
ALL-6	2	9½	3 15/16	5
ALL-7*	2½	12¼	5½	1
ALL-8*	3	12¼	5½	1
ALL-9*	3½	15	6½	1
ALL-10*	4	15	6½	1

CAT. NO.	HUB SIZE (IN.)	STD. CTN.
*D-PAK® **		
DALL-1-CG	½	12
DALL-2-CG	¾	15
DALL-3-CG	1	5
DALL-4-CG	1¼	4
DALL-5-CG	1½	5
DALL-6-CG	2	2
DALL-7-CG	2½	2
DALL-8-CG	3	2
DALL-9-CG	3½	2
DALL-10-CG	4	2

** Shipped with cover. Price includes cost of cover and body.*
UL File No. E-28688

Conduit Bodies, Covers and Gaskets — A Series *(continued)*

LR Style

- Die-cast copper-free aluminum construction
- Provide access for pulling, splicing and maintenance
- For rigid conduit/IMC applications
- Fittings, covers and gaskets are interchangeable with those produced by other leading manufacturers
- Finish: Powder-coated urethane

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
ALR-1	½	3⅞	2	50
ALR-2	¾	4⅝	2 15/16	50
ALR-3	1	5⅜	2½	25
ALR-4	1¼	7¼	3⅜	10
ALR-5	1½	7¼	3⅜	10
ALR-6	2	9½	3 15/16	5
ALR-7*	2½	12¼	5½	1
ALR-8*	3	12¼	5½	1
ALR-9*	3½	15	6½	1
ALR-10*	4	15	6½	1

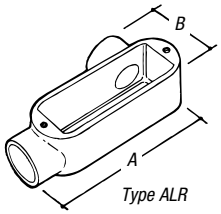
** Threaded and shipped with cover. Price includes cost of cover and body.*
UL File No. E-28688.

CAT. NO.	HUB SIZE (IN.)	STD. CTN.
D-PAK® *		
DALR-1-CG	½	12
DALR-2-CG	¾	15
DALR-3-CG	1	5
DALR-4-CG	1¼	4
DALR-5-CG	1½	4
DALR-6-CG	2	2
DALR-7-CG	2½	2
DALR-8-CG	3	2
DALR-9-CG	3½	2
DALR-10-CG	4	2

UL Listed.


DALR-1-CG


ALR-1



Type ALR

T Style

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
AT-1	½	3⅞	2 1/16	50
AT-2	¾	4⅝	2 11/32	50
AT-3	1	5⅜	2⅝	25
AT-4	1¼	7¼	3 17/32	10
AT-5	1½	7¼	3 17/32	10
AT-6	2	9½	4	5
AT-7*	2½	12¼	5 25/32	1
AT-8*	3	12¼	5 25/32	1
AT-9*	3½	15	6 13/16	1
AT-10*	4	15	6 13/16	1

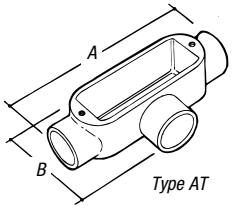
** Threaded and shipped with cover. Price includes cost of cover and body.*
UL File No. E-28688.

CAT. NO.	HUB SIZE (IN.)	STD. CTN.
D-PAK® *		
DAT-1-CG	½	12
DAT-2-CG	¾	14
DAT-3-CG	1	5
DAT-4-CG	1¼	5
DAT-5-CG	1½	5
DAT-6-CG	2	2
DAT-7-CG	2½	2
DAT-8-CG	3	2
DAT-9-CG	3½	2
DAT-10-CG	4	2

UL Listed.


DAT-1-CG


AT-1



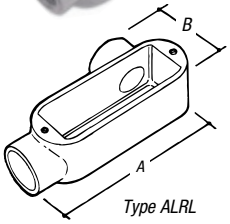
Type AT

LRL Style

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
ALRL-1	½	3⅞	2	50
ALRL-2	¾	4⅝	2 15/16	50
ALRL-3	1	5⅜	2½	25
ALRL-4	1¼	7¼	3⅜	10
ALRL-5	1½	7¼	3⅜	10
ALRL-6	2	9½	3 15/16	5

** Threaded and shipped with cover. Price includes cost of cover and body.*
UL File No. E-28688.


ALRL-1



Type ALRL

Dead End

- Retained stainless steel cover screws
- Cubic capacity UL and CSA clearly shown
- Smooth throats for easy wire pulling
- Ultra-high pressure die-cast copper-free aluminum
- UL Listed, CSA Certified



CAT. NO.	HUB SIZE (IN.)
AE-1	½
AE-2	¾

Thomas&Betts

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Fax: 901.252.1354

Technical Services
Tel: 888.862.3289

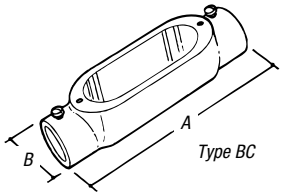
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Conduit Bodies

Aluminum Conduit Bodies, Covers and Gaskets — B Series

C Style


BC-1-RD



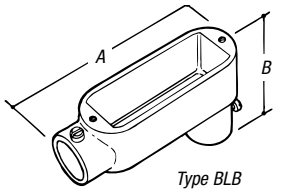
Type BC

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
BC-1-RD	½	3⅞	1 21/64	50
BC-2-RD	¾	4⅝	1 17/32	50
BC-3	1	5⅜	1¾	25
BC-4	1¼	7¼	2½	10
BC-5	1½	7¼	2½	10
BC-6	2	9½	3⅛	5

UL File No. E-28688.

LB Style


BLB-1



Type BLB

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
BLB-1	½	3⅞	2 1/16	50
BLB-2	¾	4⅝	2 7/16	50
BLB-3	1	5⅜	2¾	25
BLB-4	1¼	7¼	3 3/16	10
BLB-5	1½	7¼	3 13/16	10
BLB-6	2	9½	4½	5
BLB-7*	2½	12¼	5¼	1
BLB-8*	3	12¼	5⅞	1
BLB-9*	3½	15	6 15/16	1
BLB-10*	4	15	6 15/16	1

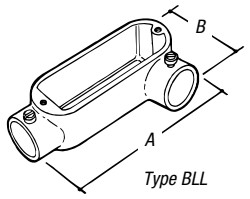
D-PAK® *

CAT. NO.	TRADE SIZE (IN.)	STD. CTN.
DBLB-1-C*	½	25
DBLB-2-C*	¾	16
DBLB-3-C*	1	6

** Threaded Hubs shipped with cover. Price includes cost of cover and body.*
UL File No. E-28688.

LL Style


BLL-1



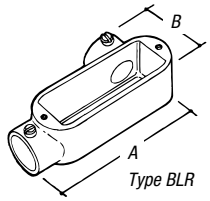
Type BLL

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
BLL-1	½	3⅞	2	50
BLL-2	¾	4⅝	2 5/16	50
BLL-3	1	5⅜	2½	25

UL File No. E-28688.

LR Style


BLR-1

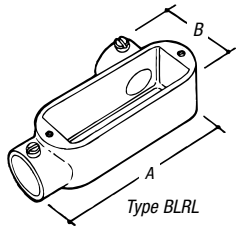


Type BLR

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
BLR-1	½	3⅞	2	50
BLR-2	¾	4⅝	2 5/16	50
BLR-3	1	5⅜	2½	25

UL File No. E-28688.

LRL Style



Type BLRL

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
BLRL-1	½	3⅞	2	50
BLRL-2	¾	4⅝	2 15/16	50
BLRL-3	1	5⅜	2½	25
BLRL-4	1¼	7¼	3⅜	10
BLRL-5	1½	7¼	3⅜	10
BLRL-6	2	9½	3 15/16	5

Shipped with cover. Price includes cost of cover and body.
UL File No. E-28688.

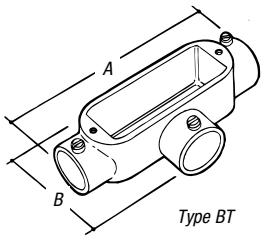
Conduit Bodies

Aluminum Conduit Bodies, Covers and Gaskets — B Series *(continued)*

T Style



BT-1



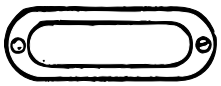
Type BT

CAT. NO.	TRADE SIZE (IN.)	A (IN.)	B (IN.)	STD. CTN.
BT-1	½	3⅞	2 1⁄16	50
BT-2	¾	4⅝	2 11⁄32	50
BT-3	1	5⅜	2⅝	25
BT-4	1¼	7¼	3 17⁄32	10
BT-5	1½	7¼	3 17⁄32	10
BT-6	2	9½	4	5
BT-7*	2½	12¼	5 25⁄32	1
BT-8*	3	12¼	5 25⁄32	1
BT-9*	3½	15	6 13⁄16	1
BT-10*	4	15	6 13⁄16	1

** Threaded Hubs shipped with cover. Price includes cost of cover and body.*
UL File No. E-28688.

Aluminum Covers with Stainless Steel Screws

- CV = Die-cast aluminum
- SCV = Stamped aluminum
- Steel zinc-plated screws



CAT. NO.	CONDUIT SIZE (IN.)	STD. CTN.
CV-1	½	250
CV-2	¾	250
CV-3	1	250
CV-4	1¼–1½	50
CV-5	2	25
CV-6	2½–3	5
CV-7	3½–4	5
SCV-1	½	250
SCV-2	¾	250
SCV-3	1	250
SCV-4	1¼–1½	250
SCV-5	2	100

UL File No. E-28688

Gaskets — Composition



Fiber Gasket

CAT. NO.	CONDUIT SIZE (IN.)	STD. CTN.
GKV-1	½	100
GKV-2	¾	50
GKV-3	1	25
GKV-4	1¼–1½	25
GKV-5	2	25
GKV-6	2½–3	5
GKV-7	3½–4	5

Gaskets — Neoprene

- Fiber or neoprene material



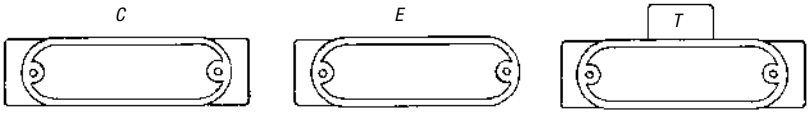
Neoprene Gasket

CAT. NO.	CONDUIT SIZE (IN.)	STD. CTN.
GKN-1	½	100
GKN-2	¾	50
GKN-3	1	25
GKN-4	1¼–1½	25
GKN-5	2	25
GKN-6	2½–3	5
GKN-7	3½–4	5

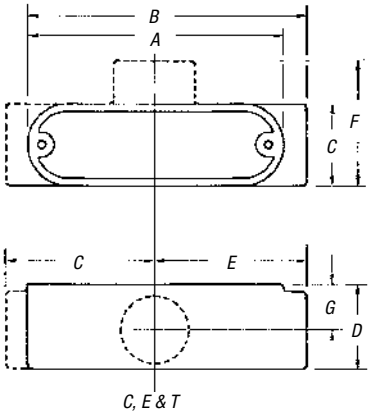
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Conduit Bodies

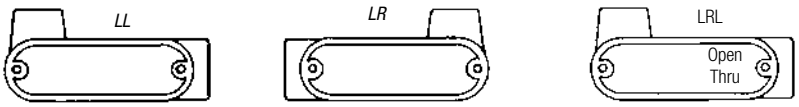
C, E and T Dimensions



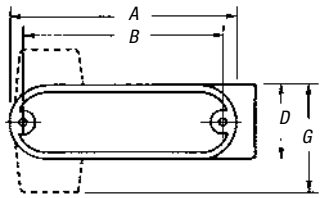
SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D	E	F	G	CI
½	3⅞	4⅜	1	1⅜	2 13/32	2 1/16	13/16	4.3
¾	4⅝	5⅛	1 17/32	1⅝	2 25/32	2 11/32	15/16	7.3
1	5⅜	5 15/16	1¾	1⅞	3½	2⅝	1	11.8
1¼	7¼	7⅛	2½	2½	4 3/16	3 17/32	1⅜	32.0
1½	7¼	7⅛	2½	2¾	4 3/16	3 17/32	1½	32.0
2	9½	10 3/16	3⅛	3 3/16	5 13/32	4	1	69.5
2½	12¼	13	4½	4½	6⅞	5 25/32	2 7/16	190.0
3	12¼	13	4½	4½	6⅞	5 25/32	2 7/16	190.0
3½	15	16 5/16	5½	5 9/16	8 13/16	6 13/16	3	366.0
4	15	16 5/16	5½	5 9/16	8 13/16	6 13/16	3	366.0



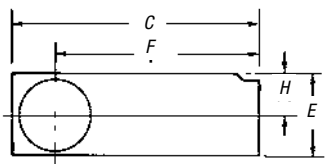
LL, LR and LRL Dimensions



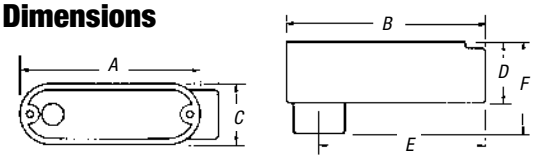
SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	CI	CI	LRL STYLE ONLY
½	3⅞	3½	4 5/16	1 5/16	1⅜	3 9/16	2	25/32	4.3	4.8	—
¾	4⅝	4⅛	5⅛	1 17/32	1⅝	4⅛	2 5/16	⅞	7.3	7.5	—
1	5⅜	4⅞	5 5/16	1¾	1⅞	4⅞	2½	1	11.8	12.5	—
1¼	7¼	6½	7⅛	2½	2¾	6 5/16	3⅜	1½	32.0	36.5	—
1½	7¼	6½	7⅛	2½	2¾	6 5/16	3⅜	1½	32.0	36.5	—
2	9½	8 9/16	10 3/16	3⅛	3 7/16	8 3/16	3 15/16	1 15/16	69.5	73.8	—
2½	12¼	11¼	13	4½	4½	10¼	5½	2⅞	190.0	—	—
3	12¼	11¼	13	4½	4½	10¼	5½	2⅞	190.0	—	—
3½	15	14 7/16	16¼	5½	5½	12¾	6½	3	366.0	—	—
4	15	14 7/16	16¼	5½	5½	12¾	6½	3	366.0	—	—



LL, LR & LRL



LB Dimensions



SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D	E	F	CI
½	3⅞	4 9/32	1 5/16	1 5/16	3½	2 1/16	4.3
¾	4⅝	5⅛	1 17/32	1⅝	4¼	2 7/16	7.3
1	5⅜	5 15/16	1¾	1⅞	4 15/16	2¾	11.8
1¼	7¼	7⅛	2½	2½	6½	3 9/16	32.0
1½	7¼	7⅛	2½	2¾	6 9/16	3 13/16	32.0
2	9½	9 13/16	3⅛	3 7/16	8	4½	69.5
2½	12¼	13	4½	3⅞	10 27/32	5¼	190.0
3	12¼	13	4½	4½	10½	5⅞	190.0
3½	15	16 5/16	5½	5 9/16	13½	6 15/16	366.0
4	15	16 5/16	5½	5 9/16	13½	6 15/16	366.0

Conduit Body Wiring Table* — Style of Fitting

TRADE SIZE (IN.)	LB	C	T	LL, LR, LRL
¾	#6 AWG	#6 AWG	#6 AWG	#6 AWG
1	#4 AWG	#4 AWG	#4 AWG	#4 AWG
1¼	#2 AWG	#2 AWG	#2 AWG	#2 AWG
1½	1/0 AWG	1/0 AWG	#1 AWG	1/0 AWG
2	4/0 AWG	2/0 AWG	1/0 AWG	4/0 AWG
2½	300 kcmil	250 kcmil	2/0 AWG	300 kcmil
3	400 kcmil	250 kcmil	2/0 AWG	500 kcmil
3½	500 kcmil	350 kcmil	250 kcmil	500 kcmil
4	500 kcmil	350 kcmil	250 kcmil	500 kcmil

*The maximum number and size of wire that can be safely pulled is based on three type XHHW wires or equal.

Conduit Bodies

Mogul Pulling Elbow/Service Entrance Bodies

Application

- Raintight junction for bringing electrical service into a location
- Accessible wiring chamber provides a convenient location to pull conductors and make splices

Features/Benefits

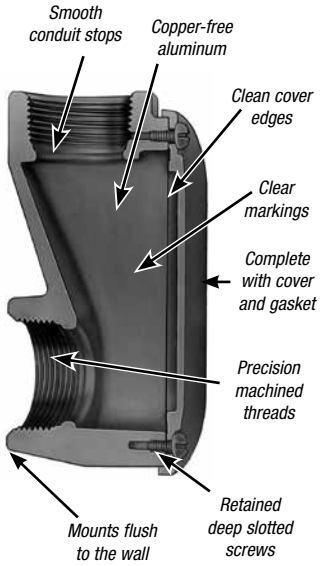
- Copper-free* aluminum provides increased corrosion resistance
- Precision-cast and machined surfaces permit safer wire pulling
- Clean cover edges provide good gasket sealing
- Precision NPT threaded hubs enable trouble-free field installation for rigid and IMC conduit
- Retained deep-slotted stainless steel cover screws for faster installation
- Clear UL®, CSA and cubic content markings speed approval by inspectors



ASLB-XL



ASLB-1



Standard Materials:

Service Entrance Bodies: Die-cast aluminum alloy A360 with less than .004% copper content (copper-free)

Covers ½" and ¾": Stamped aluminum alloy and stainless steel screws

Covers 1" through 4": Die-cast aluminum alloy A360 with less than .004% copper content (copper-free) and stainless steel screws

Gaskets: Composition

Standard Finish:

Powder-coated gray

Compliances:

UL® Listed

CSA Certified

Federal Spec. W-C-586

NEC® Section 314.28

Sample Specifications:

Service Entrance Fittings shall be die-cast copper-free* aluminum alloy A360. All conduit stops shall be free of rough edges. Service Entrance Fittings shall be Red•Dot® Catalog No. _____

**Less than .004% copper content*

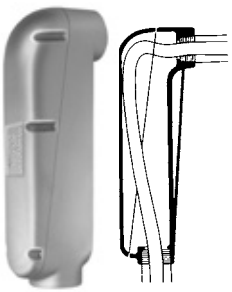
Aluminum Mogul Pulling Elbows

Spacious, accessible wiring chamber for pulling conductors, making splices and bringing electrical service into a location.



MALB-6

- Dome cover — extra bending room
- Deep-slotted stainless steel cover screws
- "I" beam construction adds strength
- Smooth throats for easy wire pulling
- Extra wiring room
- Meets NEC® Section 314.28
- Ultra-high pressure die-cast aluminum
- UL® Listed, CSA Certified
- Copper-free aluminum, less than .004% copper content



Bodies with Covers and Gaskets

CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
MALB-3	1"	1	10	174
MALB-4	1¼"	2	10	160
MALB-5	1½"	1	1	400
MALB-6	2"	1	1	375
MALB-7	2½"	1	1	1100
MALB-8	3"	1	1	1060
MALB-9	3½"	1	1	1900
MALB-10	4"	1	1	1800



Replacement Covers and Gaskets

COVER CAT. NO.	GASKET CAT. NO.	HUB SIZE	UNIT QTY.	STD. PKG.	WT. LBS. PER 100
—	MGKV-5	1¼"	1	5	4
MALB-56CV	MGKV-5	1½" to 2"	1	5	4
MALB-78CV	MGKV-6	2½" to 3"	1	5	5
MALB-90CV	MGKV-7	3½" to 4"	1	5	5

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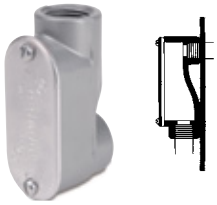
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Conduit Bodies

Service Entrance Fittings

Accessible junctions for bringing electrical service into a location.

- Mounts flush to wall
- Standard and extra-long configurations
- Retained deep-slotted stainless steel cover screws
- Smooth throats for easy wire pulling
- Ultra-high pressure die-cast aluminum
- Meets NEC® Article 370-28
- UL® Listed, CSA Certified
- Copper-free aluminum, less than .004 copper content



ASLB-1



DASLB-1

½"–2" Bodies with Covers and Gaskets

CAT. NO.	HUB SIZE (IN.)	COVER ONLY
ASLB-1	½	ASLB1CV
ASLB-2	¾	ASLB2CV
ASLB-3	1	ASLB3CV
ASLB-4	1¼	ASLB4CV
ASLB-5	1½	ASLB5CV
ASLB-6	2	ASLB6CV

D-PAK® *

CAT. NO.	HUB SIZE (IN.)
DASLB-1	½
DASLB-2	¾
DASLB-3	1

* Cover only.



ASLB



SALB

2½"–4" Bodies with Covers and Gaskets

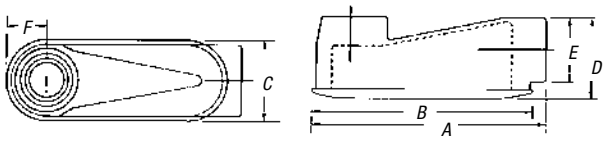
CAT. NO.	HUB SIZE (IN.)
SALB-7	2½
SALB-8	3
SALB-9	3½
SALB-10	4

Extra-Long Bodies with Covers and Gaskets

CAT. NO.	HUB SIZE (IN.)	COVER ONLY
ASLB-XL4	1¼	ASLBXL4CV*
ASLB-XL6	2	ASLBXL6CV*

Note: *Raintight when used with appropriate Red•Dot® covers.*

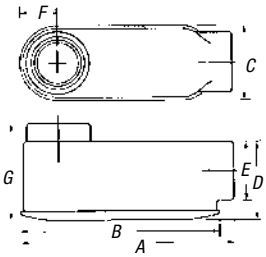
ASLB and ASLB-XL Dimensions



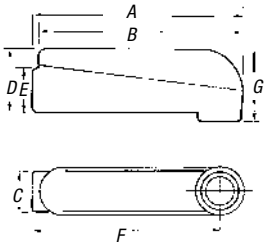
ASLB & ASLB-XL

SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D	E	F	CI
ASLB							
½	3 1/16	2 3/4	1 1/4	1 9/16	1 1/8	1 1/16	2.0
¾	3 15/16	3 1/4	1 1/2	1 3/4	1 3/8	3/4	3.0
1	4 1/4	3 7/8	1 3/4	2 3/16	1 3/4	1 1/16	5.5
1¼	5 1/2	5 1/4	2 3/8	3	2 3/16	1 1/4	13.0
1½	6 1/4	6	2 7/16	3 1/4	2 7/16	1 1/2	18.8
2	6 3/4	6 1/2	3 1/8	4	2 7/8	1 5/8	38.8
ASLB-XL							
1¼	8	7 1/2	2 1/2	2 3/4	27/32	1 5/16	24.5
2	9 15/16	9 3/4	33/8	3 3/4	2 15/16	1 5/8	58.0

SALB and MALB Dimensions



SALB



MALB

SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D	E	F	G	CI
SALB								
2½	13	12 5/8	4 13/16	4 1/2	3 3/8	2 1/4	5 7/8	190
3	13	12 5/8	4 1/2	5 1/4	4 1/8	2 7/16	6 7/16	190
3½	16 1/2	15 3/8	5 1/2	6 1/4	5 1/8	2 3/4	7 9/16	366
4	16 1/2	15 3/8	5 1/2	6 1/4	5 1/8	2 3/4	7 9/16	366
MALB								
1	9 5/8	9 1/16	2 1/2	2 3/4	2 1/16	8 1/2	3 5/8	40
1¼	9 5/8	9 1/16	2 1/2	2 3/4	2 1/16	8 1/2	3 5/8	40
1½	14 17/32	14 1/4	2 3/4	4	2 13/16	13	5 7/32	128
2	14 17/32	14 1/4	2 3/4	4	2 13/16	13	5 7/32	128
2½	21 17/32	21 19/32	4 1/2	5 5/8	4 1/8	18	7 23/32	398
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3½	28 5/8	28 17/32	5 1/2	6 1/2	5 1/8	24	9 23/32	766.7
4	28 5/8	28 17/32	5 1/2	6 1/2	5 1/8	24	9 23/32	766.7

Zinc Concrete Slab Inserts, Elbows and Plugs





Application

- Permits in-slab ceiling drops and floor mounts in poured concrete
- Provides flush threaded conduit hub for mounting, pulling and future access to conduit systems
- Design permits prefabrication of in-slab conduit system

Features/Benefits

- Flush design leaves no broken or bent stubs for easy removal of undamaged forms
- Flush design permits simplified in-slab work
- Flush design leaves a neat, uncluttered job
- Offered in straight ES configuration for straight-through conduit runs and mounting of floor boxes in slabs over 6" thick
- Offered in ESL configuration to eliminate bending of conduit in slabs over 4" thick
- Precision-cast and machined surfaces permit safer wire pulling
- ZAMAK 3 Zinc can be embedded in concrete

Standard Material:

Die-cast zinc alloy ZAMAK 3. Certified by the Certified Zinc Alloy Plan (CZAP)

Standard Finish:

Natural

Compliances:

UL® Listed

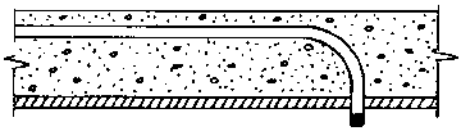
CSA Certified

Sample Specifications:

Concrete Slab Inserts shall be die-cast Zinc Alloy* ZAMAK 3. All conduit stops shall be coined and free of rough edges. Service Entrance Fittings shall be Red•Dot® Catalog No.

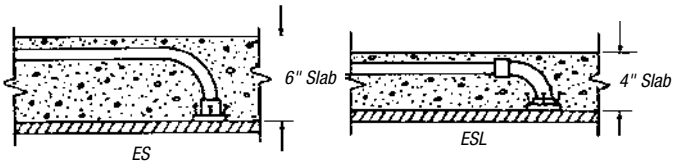
** Certified by the American Die Casting Institute*

Old Way



Conduit running in a cement slab is bent 90° to run through a hole drilled in the form. Drilling takes time and damages the form. Stripping form often damages conduit stubs. Varying length of stubs requires individual measuring and cutting of conduit drops.

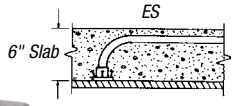
Red•Dot® Way

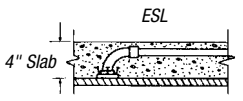


Conduit running in a cement slab is attached to a 90° concrete slab insert or conduit is bent 90° and is threaded to a straight insert. Nail or screw fitting to wood or metal forms. After concrete is poured and forms stripped, conduit drops quickly into fittings from floor below. Drops are easily measured from ceiling line to switch or outlet height and cut in uniform lengths.

Threaded Rigid/IMC Conduit Inserts

Concrete slab inserts permit in-slab ceiling drops and floor mounts in poured concrete.





- For Rigid and IMC
- Slab insert is nailed to form prior to pour
- Removable seal keeps threads cement free
- ESL eliminates:
  - — Bends in 4" concrete slabs
  - — Damage to form
  - — Cutting off conduit stubs
- UL® Listed, CSA Certified







CAT. NO.	HUB SIZE (IN.)
Straight	
ES-1	½
ES-2	¾
ES-3	1
90°	
ESL-1	½
ESL-2	¾
ESL-3	1

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Elbows and Plugs

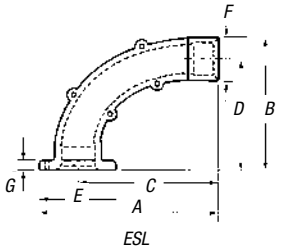
Female-to-Female Aluminum Elbows





CAT. NO.	CAT. NO.	HUB SIZE (IN.)
Corner Rigid IMC	*EMT*	
ACE-1	BCE-1	½
ACE-2	BCE-2	¾
Pulling Rigid IMC	*EMT*	
APEF-1	BPEF-1	½
APEF-2	BPEF-2	¾

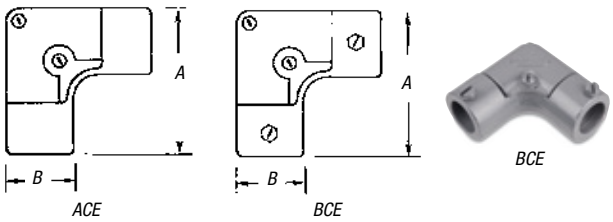
ESL Dimensions



ESL

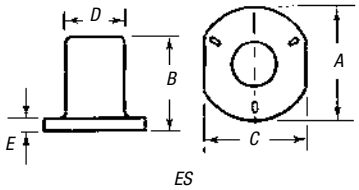
CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D	E	F	G
ESL-1	½	4 27/32	3 45/64	3 29/32	3 3/16	1 7/8	1 1/32	¼
ESL-2	¾	5 11/16	3 23/32	4 1/8	3 3/32	2 1/8	1 1/4	¼
ESL-3	1	5 5/32	3 3/4	3 15/16	2 63/64	2 7/16	1 17/32	¼

ACE and BCE Dimensions



SIZE (IN.)	DIMENSIONS (IN.) A	B
½	2 3/8	1 1/8
¾	2 21/32	1 5/16

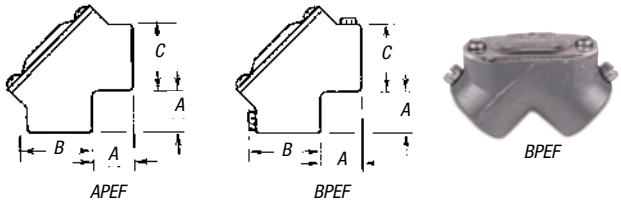
ES Dimensions



ES

CAT. NO.	SIZE (IN.)	DIMENSIONS (IN.) A	B	C	D	E
ES-1	½	1 19/16	1 9/16	1 23/32	1 1/32	¼
ES-2	¾	2 11/64	1 5/8	1 31/32	1 1/4	¼
ES-3	1	2 9/16	2	2 5/16	1 17/32	¼

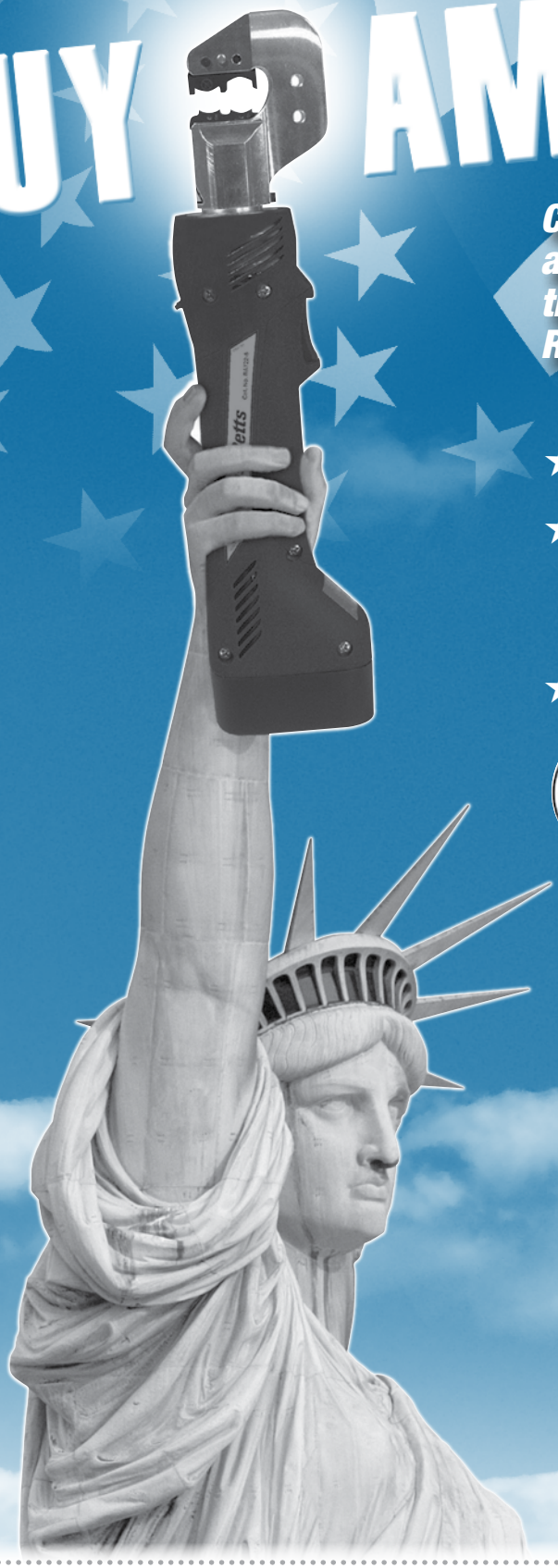
APEF and BPEF Dimensions



SIZE (IN.)	DIMENSIONS (IN.) A	B	C
½	1 1/16	7/32	1 1/8
¾	1 3/16	9/16	1 23/64

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