
CATALOGUE

Ty-Rap® Fastening solutions

Easily bundle, secure and
manage your cables

Ty-Rap®



First developed to solve the problem of bundling the miles of wiring found inside commercial aircrafts, Ty-Rap® cable ties can now be found virtually everywhere – from high performance racing engines to backyard tool sheds. Self-fastening and extremely durable in demanding applications, the ground-breaking design of the Ty-Rap® cable tie demonstrates how to solve a complex problem with simple technology.

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Ty-Rap®

Fastening solutions, how it all started

When you choose a Ty-Rap® cable tie, you can count on quality, longevity, performance and innovation to make your work easier.

First developed to solve the problem of bundling the miles of wiring found inside commercial aircraft, Ty-Rap® cable ties can now be found virtually everywhere – from high performance racing engines to backyard tool sheds. Self-fastening and extremely durable in demanding applications, the ground-breaking design of the Ty-Rap® cable tie demonstrates how to solve a complex problem with simple technology.

The marine-grade stainless steel locking device inside the tie head provides proven performance for more resilience to the elements and easier installation. Ty-Rap® has a cable tie offering for the most adverse conditions: humidity, heat, cold, UV radiation, aggressive chemicals, radiation and other harsh conditions.

Engineered for labor savings and high performance, Ty-Rap® cable ties are commonly used in a variety of applications.

For the cable tie, the proverbial light bulb came on over Maurus Logan's head while touring a Boeing aircraft manufacturing facility in 1956. Aircraft wiring was a cumbersome and detailed undertaking, involving thousands of feet of wire organized on sheets of 50-foot long plywood and held in place with knotted, waxcoated, braided nylon cord. Each knot had to be pulled tight by wrapping the cord around one's finger which sometimes cut the operator's fingers until they developed thick calluses or 'hamburger hands'. Logan was convinced there had to be an easier, more forgiving, way to accomplish this critical task. For the next couple of years, Logan experimented with various tools and materials.

On June 24 1958, a patent for the longlasting, easy-to-use Ty-Rap® cable tie was issued. The rest, as they say, is history.



"My dad didn't have a lot of formal education, but he was the most ingenious person I have ever met", said Robert Logan, Maurus' son. "He never thought the customary way of doing things was good enough and when he looked at anything, he thought about ways to improve it. The invention of the cable tie is an excellent example of how he worked."

Robert Logan, son of Maurus Logan
Ty-Rap® Inventor

Ty-Rap® high performance cable ties

Introduction

First patented in 1958 as a way to bundle wiring in airplanes, the Ty-Rap® cable tie brand remains a benchmark of excellence and innovation in wire management.

ABB's broad offering of Ty-Rap® cable ties makes the task of fastening, bundling, clamping and managing wires easier and quicker for industrial applications, construction, communications, utility and OEM professionals, as well as home improvement specialists and do-it-yourself enthusiasts. When strength, aesthetics, reliability and performance are required, knowledgeable professionals turn to Ty-Rap® – the original source for cable ties and accessories.

What gives a Ty-Rap® cable tie its exceptional strength? The corrosion-resistant, non-magnetic stainless steel locking barb in its head grips tightly and allows for a completely adjustable fit. Its raised tail makes it easy to pick up, even with gloved hands. And the easy-grip tail surface makes it easy to pull tight, even in wet or cold conditions.

Engineered for high-performance, Ty-Rap® cable ties are available in standard nylon or in materials that are specially formulated to withstand the most adverse conditions, from UV exposure to extreme cold or heat. They have even been designed to withstand the rigors of space.

Ty-Rap® cable ties – The right choice when performance really matters.

ABB is a leading power and automation technology group, active in more than 100 countries with about 150,000 employees worldwide.

ABB's portfolio includes the following product lines and flagship brands:

- Wire & Cable Management – Ty-Rap® and Ty-Met® cable ties, Shrink-Kon® heat shrink, T&B Cabletray
- Cable Protection Systems – nylon & metallic incl. brands: PMA, Adaptaflex, Kopex, Harnessflex
- Low Power Connection & Control – Furse lightning & surge protection, Elastimold, Joslyn Hi-Voltage
- Emergency lighting – emergency lighting, battery systems incl. VanLien, Kaufel, Emergi-Lite brands
- Hazardous location products – DTS explosion proof light & boxes, Kopex-Ex conduits & fittings



Ty-Rap® the perfect fastening solution where performance really matters
All-in-one tool for fastening, bundling clamping and managing cable.



Product selection guide

How to choose the right fastener

Demanding applications							
							
Type	Ty-Rap® Heat stabilized	Ty-Rap® Heat stabilized + UV-resistant	Ty-Rap® Extra high temperatures	Ty-Rap® Flame retardant	Ty-Rap® Low Smoke	Ty-Rap® UV-resistant black	Ty-Rap® Extreme Outdoor
	High temperatures			Smoke & flame resistance		UV resistance	
Applications	Transportation, Automotive	Transportation, Automotive	Transportation, Automotive	Rail, Aerospace HVAC	HVAC plenum installations High-performance smoke & flame requirements	Outdoor	Solar, Transportation
Material	HS PA6.6	PA6.6HSIUUV	HT PA6.6	FR PA6.6	ECTFE	UV PA6.6	UV PA12
Product series	TYH*M	TY*MX-A	TYHT*M	TY*MFR	TYV*M	TY*MX	TYC*MX
Max. product series	780N	540N	540N	540N	220N	780N	378N
Operating temperature	-60 to 105°C	-60 to 105°C	-40°C to 150°C	-20 to 65°C	-60 to 160°C	-60 to 105°C	-40 to 105°C
Max length	770mm	340mm	617mm	360mm	185mm	1140mm	760mm
Max wire bundle diameter	229mm	100mm	177mm	100mm	44mm	330mm	228mm
UV-resistance	●	● ● ●	●	●	● ● ● ● ●	● ● ●	● ● ● ●
UL flammability rating	V-2	V-2	V2	V-0	V-0	V-2	V-2
Colors							
Easy to install	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
Installation tools	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	ERG50 ERG120
See page	21	22	23	24	27	16	30

See material specifications section on pages 138 to 147.

* See product code structure page 13 for the right suffix.

Demanding applications					Simplicity & design		
							
Ty-Rap® Chemical Resistant	Ty-Rap® Extreme Environment	Ty-Rap® Detectable	Deltec®	Ty-Met®	Ty-Rap®	Ty-Fast®	Col-Ty®
	Chemical resistance	Contaminant Resistance	Utilities & telecom	Extreme environments	Customization & performance	Essential	UV resistance Double headed
Chemical processing, Autoclave sterilizing	Nuclear, Power plants, Space industry, Environments with risk of smoke generation	Food and beverage, Cosmetic, Any business using detection equipment	Utilities, Packaging	Marine, Rail, Oil & gas, Industrial	Standard applications	OEM, General bundling	Outdoor, Industrial
Polypropylene	ETFE	DET PA6.6 DET PP	Acetal +UV	Stainless Steel	PA6.6	PA6.6	UV PA12
TYP*MX	TYZ*M	TY*M*-NDT TY*M*-PDT	TYD-*, CSS*	YLS-*-* YLD-*-* YLR-*-* RS-*-* YBR-*-*	TY*M*	TY*	CTP*
265N	540N	540N	1100N	4000N	780N	1100N	600N
-60 to 80°C	-45°C to 150°C	-60 to 85°C -40 to 85°C	-40 to 85°C	-40 to 300°C	-60 to 85°C	-40 to 85°C	-40 to 80°C
360mm	360mm	360mm	305m	1400mm	1143mm	1200mm	760mm
100mm	100mm	100mm	4m	425mm	330mm	380mm	220mm
● ● ●	● ● ● ● ●	● ●	● ● ● ●	● ● ● ● ●	● ● ●	● ●	● ● ● ●
HB	V-0	HB	HB	Absolutely fireproof	V-2	V-2, V-0	HB
							
● ● ● ●	● ● ● ●	● ● ● ●	● ● ●	●	● ● ● ●	● ● ●	● ● ● ● ●
ERG50 ERG120	ERG50 ERG120	ERG50 ERG120	WT3D	CT3 CT7 CT8 DAS-250	ERG50 ERG120	ERG50 ERG120	No tool needed
29	28	31	33	44	19	60	75

Environmental considerations

Impact on product life

Chemical resistance

ABB Fastening Products are developed to meet the needs of a variety of demanding environments. Whether a chemical processing facility, nuclear power plant, or the wash-down in food processing, there is a range of material choices that will extend the fastener's life and avoid costly maintenance or the introduction of foreign debris.



UV resistance

UV radiation is a formidable force that has a damaging effect on nearly everything it touches. ABB Fastening Products are formulated to withstand a variety of conditions from desert to rainforest.

Hot / cold resistance

No matter the installation, there is an ABB Fastening Product to meet the need. From the hot chambers in engine compartments to the extreme cold of winter, the unique design and performance of our products offer some of the broadest range of operating temperatures and lowest installation temperatures.





Storage and installation

Impact on product performance



Moisture Resistance

Most fastening products are made with variants of nylon because nylon offers a great combination of flexibility, strength, durability and economical pricing. Nylon, like many materials, absorbs and releases moisture depending on the external relative humidity. This can have a detrimental impact on the durability of cable ties. If the moisture content gets too low, cable ties become brittle and can break during installation.

ABB Fastening Products addresses those challenges by using high grades of nylon and offers products in moisture resistant materials for easier installation and resilience in cold or dry conditions.

Storage

For best results, fastening products should be stored in the sealed packaging until used and should not be stored in direct sunlight or near a heat source. Ideal storage conditions are 23°C and 50% relative humidity.



Installation

For best results, a compatible ABB Cable Tie Installation Tool should be used to fasten and trim cable ties. Installations must always be tested on the application to ensure proper interaction with the bundle as the type of installation and environmental conditions will vary greatly and impact performance. A properly installed cable tie will be tightened and trimmed so the tail remains flush to the cable tie head. If the tail retracts more than 1mm inside the head, the cable tie has been tightened more than recommended and may cause premature failure.



Ty-Rap® high performance cable ties

Features and benefits

When strength, aesthetics, reliability and performance are required, knowledgeable professionals turn to the original and the best source for cable ties and accessories. Ty-Rap® fastening systems include a full range of cable ties, identification ties, clamps, mounting bases, harnessing aids and installing tools.

Using Ty-Rap® fastening systems for any bundle application will improve the reliability of the installation, effectively reducing the total cost of ownership. Ty-rap's carefully designed features will also speed installation and provide the highest level of precision, safety and comfort.

Safety and reliability

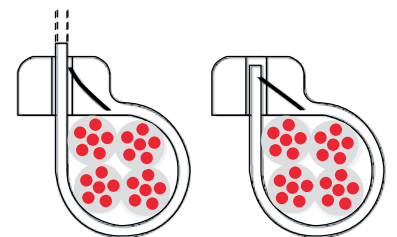
The oval head with rounded edges protects adjacent bundles and improves product life.

Durability

Solid body construction reduces stress points, increasing durability.

"The Grip of Steel"

Corrosion resistant marine grade stainless steel barb provides secure lock.



Protects bundle

The smooth, rounded body with molded ribs and stipples firmly grips the bundle while protecting conductors from damage.

Easy handling

The turned up tail makes orientation and handling easy, even in blind installations or tight locations.

Easy installation

The specially designed thin tail with grips makes installing the ties easy, even when wearing gloves.

Extensive range of approvals and certifications:

Lloyd's Register of Shipping, DNV-GL, Mil Specification, American Bureau of Shipping (ABS), CE declaration, compliant to the low voltage directive, EN/IEC 62275, UL 62275, CSA 62275, MS3367/3368 and EN45545.



E49405



E49405

Wide range of size combinations: several lengths up to 1143mm, in 6 typical widths with a tensile strength up to 780N, to fasten cable bundles with a diameter up to 330mm.

Performance Installation Tools: Industry-leading tools tighten and cut the loose end of cable ties with precision for repeatable, consistent installations that leave a safe, clean edge.

Most extensive choice of special materials:

in addition to Polyamide 6.6 (standard, UV-resistant, heat stabilized, flame retardant, heat stabilized / UV-resistant), Polyamide 4.6 (extra high temperature) and Polyamide 12, the Ty-Rap® ties are available in Polypropylene, Fluoropolymer (ECTFE), Fluoropolymer (ETFE) and the recently introduced Detectable Polyamide 6.6 and Detectable Polypropylene. UL 94 V-0, UL 94 V-2 and UL 94 HB.

Different types of packaging, including the unique “workbench boxes” for fast working without problems or losses. Recyclable packaging for a better contribution to the environment.

Outstanding range of special ties, all with the famous stainless steel locking device: ties with mounting hole or integrated peg/nail, panel mounting ties, identification ties with integrated label.

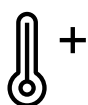
Broad range of mounting bases and accessories. Bundling the wire is just one step. ABB offers a wide range of solutions to mount the bundle to a variety of applications as well as specialty solutions for clamping and protecting wire, cable, tube and hoses.



UV-resistant



Flame retardant



Heat resistant



Low temperature flexibility



Weather-proof



Chemical resistant



Radiation resistant



Low smoke

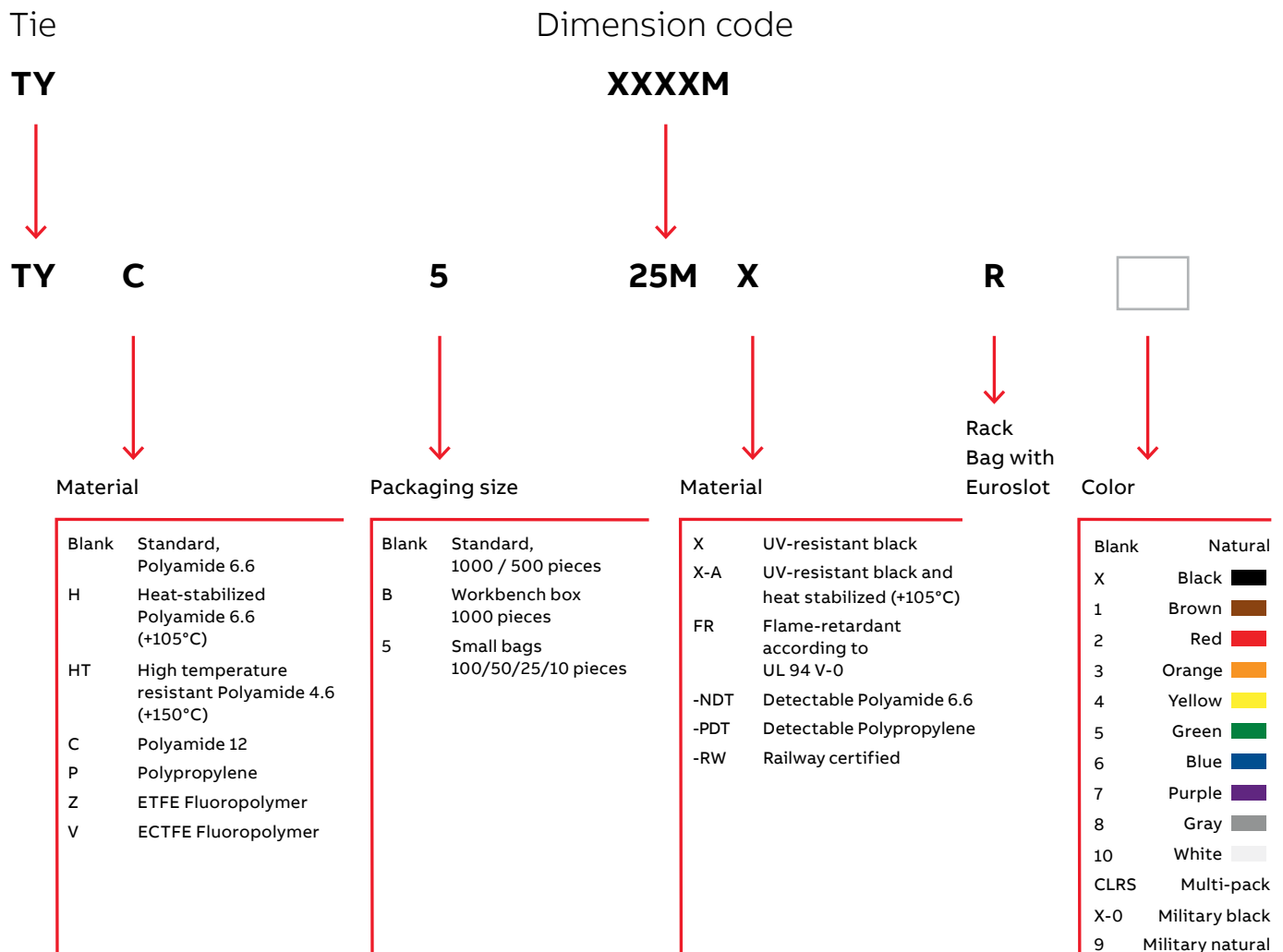


Detectable



Ty-Rap® high performance cable ties

Product code structure



Note: Nylon (Polyamide) is inherently susceptible to environmental conditions. Ty-Rap® cable ties are moisturized to optimum performance levels at machine-side and should be stored in cool dry areas out of direct sunlight. Cable ties are packaged in plastic bags to contain moisture and should remain sealed until ready for use.

Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Natural



Characteristics

- Standard (Polyamide 6.6), to cover most indoor applications
- Several lengths and 6 typical widths with a tensile strength up to 780N, to cover the most demanding applications
- Packaging: OEM bulk quantities in recyclable polythene bags
- Also available in workbench boxes (see page 18)
- R = Rack bag with Euroslot
- Mounting bases available

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +85°C
- Min. Installation Temp.: -20°C
- Color: Natural
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Polyamide 6.6 cable ties – Natural



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Pack quantity [pieces]
Standard pack size						
TY523MR	7TCG009030R0085	1.5 - 16	92	2.3	80	100
TY52315M	7TAG009020R0050	1.3 - 32	178	2.3	80	100
TY5232MR	7TCG009030R0080	1.5 - 51	203	2.3	80	100
TY5234M	7TAG009020R0052	1.5 - 102	356	2.3	80	100
TY524MR	7TCG009110R0026	2 - 35	137	3.6	180	100
TY5242MR	7TCG009110R0021	2 - 51	208	3.6	180	100
TY526MR	7TCG009450R0177	2 - 76	284	3.6	130	100
TY5244MR	7TCG009110R0023	2 - 102	368	3.6	130	100
TY525MR	7TCG009200R0021	3 - 48	186	4.8	220	100
TY5253MR	7TCG009200R0017	3 - 78	290	4.8	220	100
TY528MR	7TCG009450R0183	3 - 102	361	4.8	220	100
TY5271MR	7TCG009450R0180	6 - 31	150	6.9	540	50
TY5272MR	7TCG009460R0102	6 - 51	223	6.9	540	50
TY527MR	7TCG009310R0017	6 - 102	340	7.0	540	50
TY5275M	7TAG009290R0004	6 - 127	457	7.0	540	50
TY5277M	7TAG009290R0005	6 - 177	617	7.0	540	50
TY529M	7TAG009280R0004	6 - 229	771	6.9	540	50
TY53510M	7TCG009380R0001	to 254	889	8.2	780	50
TY54513M	7TCG009380R0003	to 330	1143	8.2	780	50

* Add "-9" for items certified to MS3367. See pages 134 - 136 for more details.

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

Some approvals may not be applicable to all product codes. Contact your Sales Office for approvals limitations.

Mounting bases overview/segmentation tables see pages 80 to 111.

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) cable ties. See pages 122 - 131.



ERG120

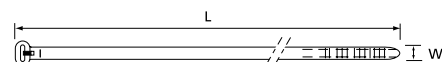
For use with 4.8mm to 7.6mm (220N to 540N) cable ties. See pages 122 - 131.



WT3D

For use with 4.8mm to 12.7mm (220N to 1110N) cable ties. See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Natural

Polyamide 6.6 cable ties – Natural



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Pack quantity [pieces]
Bulk pack size						
TY23M	7TAG009040R0009	1.5 - 16	92	2.3	80	1000
TYB2315M	7TAG009050R0002	1.3 - 32	178	2.3	80	1000
TY232M	7TAG009040R0005	1.5 - 51	203	2.3	80	1000
TY234M	7TAG009050R0000	1.5 - 102	356	2.3	80	1000
TY24M	7TAG009130R0007	2 - 35	137	3.6	180	1000
TY242M	7TAG009120R0000	2 - 51	208	3.6	180	1000
TY26M	7TAG009120R0002	2 - 76	284	3.6	134	1000
TY244M	7TCG009130R0005	2 - 102	368	3.6	130	1000
TY25M	7TAG009210R0042	3 - 48	186	4.8	220	1000
TY253M	7TAG009220R0001	3 - 78	290	4.8	220	1000
TY28M	7TAG009210R0048	3 - 102	361	4.8	220	1000
TY271M	7TCG009450R0162	6 - 31	150	6.9	540	500
TY272M	7TAG009340R0002	6 - 51	223	6.9	540	500
TY27M	7TAG009320R0003	6 - 102	340	7.0	540	500
TY275M	7TAG009330R0009	6 - 127	457	7.0	540	500
TY277M	7TAG009340R0003	6 - 177	617	7.0	540	500
TY29M	7TAG009330R0012	6 - 229	771	6.9	540	500

* Add "-9" for items certified to MS3367. See pages 134 - 136 for more details.

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

Some approvals may not be applicable to all product codes. Contact your Sales Office for approvals limitations.

Mounting bases overview/segmentation tables see pages 80 to 111.

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) cable ties.
See pages 122 - 131.



ERG120

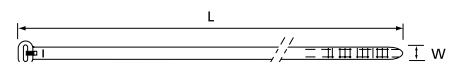
For use with 4.8mm to 7.6mm (220N to 540N) cable ties.
See pages 122 - 131.



WT3D

For use with 4.8mm to 8.2mm (220N to 780N) cable ties.
See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – UV-resistant black



Characteristics

- UV-resistant
- Recommended for outdoor applications
- Several lengths and 6 typical widths with a tensile strength up to 780N, to cover the most demanding applications
- Packaging: OEM bulk quantities in recyclable polythene bags
- Also available in workbench boxes (see page 18)
- R = Rack bag with Euroslot
- Mounting bases available

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +105°C
- Min. Installation Temp.: -30°C
- Color: Black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free, Silicone free

Polyamide 6.6 cable ties – UV-resistant black



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Pack quantity [pieces]
Standard pack size						
TY523MXR	7TCG009450R0168	1.5 - 16	92	2.3	80	100
TY52315MX	7TAG009020R0051	1.5 - 32	178	2.3	80	100
TY5232MXR	7TCG009030R0082	1.5 - 51	203	2.3	80	100
TY5234MX	7TAG009010R0011	1.5 - 102	356	2.3	80	100
TY524MXR	7TCG009450R0172	2 - 35	137	3.6	133	100
TY5242MXR	7TCG009110R0022	2 - 51	208	3.6	180	100
TY526MXR	7TCG009450R0178	2 - 76	284	3.6	130	100
TY5244MXR	7TCG009110R0025	2 - 102	368	3.6	130	100
TY525MXR	7TCG009200R0023	3 - 48	186	4.8	220	100
TY5253MXR	7TCG009200R0019	3 - 78	290	4.8	220	100
TY528MXR	7TCG009200R0025	3 - 102	361	4.8	220	100
TY5271MXR	7TCG009450R0181	6 - 31	150	6.9	540	50
TY5272MXR	7TCG009460R0103	6 - 51	223	6.9	540	50
TY527MXR	7TCG009310R0020	6 - 102	340	7.0	540	50
TY5275MX*	7TAG009280R0000	6 - 127	457	7.0	540	50
TY5277MX*	7TAG009290R0006	6 - 177	617	7.0	540	50
TY529MX	7TAG009280R0004	6 - 229	771	6.9	540	50
TY53510MX	7TCG009380R0002	to 254	889	8.2	780	50
TY54513MX	7TCG009380R0005	to 330	1143	8.2	780	50

* Add "-9" for items certified to MS3367. See pages 134 - 136 for more details.

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

Some approvals may not be applicable to all product codes. Contact your Sales Office for approvals limitations.

Mounting bases overview/segmentation tables see pages 80 to 111.

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) cable ties.
See pages 122 - 131.



ERG120

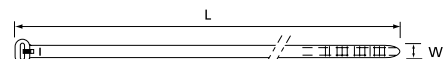
For use with 4.8mm to 7.6mm (220N to 540N) cable ties.
See pages 122 - 131.



WT3D

For use with 4.8mm to 8.2mm (220N to 780N) cable ties.
See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – UV-resistant black

Polyamide 6.6 cable ties – UV-resistant black



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Pack quantity [pieces]
Bulk pack size						
TY23MX	7TAG009040R0011	1.5 - 16	92	2.3	80	1000
TYB2315MX	7TAG009050R0003	1.5 - 32	178	2.3	80	1000
TY232MX	7TAG009040R0007	1.5 - 51	203	2.3	80	1000
TY234MX	7TAG009050R0001	1.5 - 102	356	2.3	80	1000
TY24MX	7TAG009130R0009	2 - 35	137	3.6	133	1000
TY242MX	7TAG009130R0004	2 - 51	208	3.6	180	1000
TY26MX	7TAG009120R0004	2 - 76	284	3.6	130	1000
TY244MX	7TCG009130R0006	2 - 102	368	3.6	130	1000
TY25MX	7TAG009210R0045	3 - 48	186	4.8	220	1000
TY253MX	7TAG009220R0003	3 - 78	290	4.8	220	1000
TY28MX	7TAG009210R0050	3 - 102	361	4.8	220	1000
TY271MX	7TCG009450R0163	6 - 31	150	6.9	540	500
TY272MX	7TAG009330R0007	6 - 51	223	6.9	540	500
TY27MX*	7TAG009320R0004	6 - 102	340	7.0	540	500
TY275MX*	7TAG009320R0001	6 - 127	457	7.0	540	500
TY277MX*	7TAG009330R0010	6 - 177	617	7.0	540	500
TY29MX	7TAG009330R0014	6 - 229	771	6.9	540	500

* Add "-9" for items certified to M53367. See pages 134 - 136 for more details.

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

Some approvals may not be applicable to all product codes. Contact your Sales Office for approvals limitations.

Mounting bases overview/segmentation tables see pages 80 to 111.

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) cable ties.
See pages 122 - 131.



ERG120

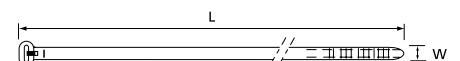
For use with 4.8mm to 7.6mm (220N to 540N) cable ties.
See pages 122 - 131.



WT3D

For use with 4.8mm to 8.2mm (220N to 780N) cable ties.
See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Workbench boxes



Characteristics

- An attractive packaging option for high volume manual assembly: 1000 pieces in a workbench box - easy to reach and timesaving
- This user-friendly packaging allows quicker work and easier assembly since all cable ties packed with the heads up for better access
- Mounting bases available

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range:
 - 60°C to +85°C (natural),
 - 60°C to +105°C (black)
- Min. Installation Temp.:
 - 20°C (natural),
 - 30°C (black)
- Color: Natural or UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free, UV-resistant (black)

Polyamide 6.6 cable ties – Workbench boxes



Product code	GID No.	Color	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
TYB23M	7TCG009450R0186	Natural	1.5 - 16	92	2.3	80	1000
TYB23MX	7TCG009960R0068	UV-resistant black	1.5 - 16	92	2.3	80	1000
TYB232M	7TCG009020R0054	Natural	1.5 - 51	203	2.3	80	1000
TYB232MX	7TCG009020R0055	UV-resistant black	1.5 - 51	203	2.3	80	1000
TYB24M	7TCG009140R0019	Natural	2 - 35	140	3.6	178	1000
TYB24MX	7TCG009960R0069	UV-resistant black	2 - 35	140	3.6	180	1000
TYB25M	7TCG009450R0193	Natural	3 - 48	186	4.8	220	1000
TYB25MX	7TCG009450R0198	UV-resistant black	3 - 48	186	4.8	133	1000

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

For tooling specifications: see pages 122 to 131.

Mounting bases overview/segmentation tables see pages 80 to 111.

Tooling



ERG50

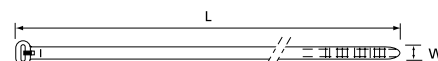
For use with 2.3mm to 4.8mm (80N to 220N) cable ties.
See pages 122 - 131.



ERG120

For use with 4.8mm to 7.6mm (220N to 540N) cable ties.
See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Colored



Characteristics

Ty-Rap® cable ties in Polyamide 6.6 are available in 10 different colors.

- Multi-color packs contain 10 different colors, 10 cable ties of each color
- Standard packaging is 100 pieces

Technical information

- Material - Moulding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +85°C
- Min. Installation Temp.: -20°C
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Colour code

Blank	Natural
X	Black
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Purple
8	Gray
10	White
X-0	Military black
9	Military natural

Polyamide 6.6 cable ties – Variety Packs



Product code	GID No.	Color	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Pack quantity [pieces]
TY525M-CLRS	7TAG009270R0037	Assorted	3 - 48	186	4.8	220	100

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

* For availability of other colors, please contact your local sales office

Tooling



ERG50

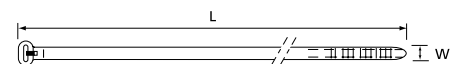
For use with 2.3mm to 4.8mm (80N to 220N) cable ties.
See pages 122 - 131.



ERG120

For use with 4.8mm to 7.6mm (220N to 540N) cable ties.
See pages 122 - 131.

Dimensions



Ty-Rap® professional kit

High performance cable ties



Characteristics

- A handy kit containing a professional selection of Ty-Rap® fastening products in one convenient box

Technical information

- One ergonomic fastening tool ERG50 with exclusive features for quick set-up and fast installation
- 500 Ty-Rap® cable ties TY525MR
- 500 UV-resistant Ty-Rap® cable ties TY525MXR
- 1 handy, lightweight re-usable ABB dispenser in black

Ty-Rap® professional kit

Product code	GID No.	Description
TYRAP PROF KIT	7TCA131140R0038	Kit containing a professional selection of Ty-Rap® fastening products

Ty-Rap® dispenser

High performance cable ties

Characteristics

- Save time by using Ty-Rap® cable tie dispenser

Technical information

- Durable, lightweight polyester exterior and tough vinyl interior construction
- Rugged diamond-shaped cutout for easy access to cable ties (up to 203mm, 280mm - 356mm) and rectangular-shaped (for 102mm)
- Handy belt clip and chrome steel loop for easy attachment
- Reasonable hook-and-loop for easy refill
- Includes 100 genuine Ty-Rap® cable ties

Ty-Rap® dispenser

Product code	GID No.	Description
TY-TOTE 23	7TAG009930R0011	Ty-Rap® Tote® 102mm cable tie dispenser (includes 1 package TY523M)
TY-TOTE 25	7TAG009930R0012	Ty-Rap® Tote® 203mm cable tie dispenser (includes 1 package TY525M)
TY-TOTE 28	7TAG009930R0014	Ty-Rap® Tote® 360.5mm cable tie dispenser (includes 1 package TY525M)

Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Heat stabilized



Characteristics

- Heat stabilized for applications up to 105°C

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +105°C
- Min. Installation Temp.: -30°C
- Color: Natural (may have a greenish tint)
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Polyamide 6.6 cable ties – Heat stabilized



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Thickness [mm]	Min. tensile strength [N]	Quantity [pieces]
TYH23M	7TCG009590R0002	1.5 - 16	92	2.4	1.0	80	1000
TYH232M	7TCG009590R0001	1.5 - 51	203	2.4	1.0	80	1000
TYHB23M**	7TCG009460R0111	1.5 - 16	92	2.4	1.0	80	1000
TYH24M	7TAG009590R0004	2 - 35	140	3.6	1.1	180	1000
TYH242M*	7TCG009590R0003	2 - 51	208	3.6	1.1	180	1000
TYH26M	7TCG009590R0007	2 - 76	284	3.6	1.1	130	1000
TYH25M	7TAG009590R0006	3 - 48	186	4.7	1.3	220	1000
TYH253M*	7TAG009590R0005	3 - 76	290	4.8	1.2	220	1000
TYH28M	7TAG009590R0010	3 - 102	360	4.8	1.3	220	1000
TYH272M*	7TCG009590R0008	4.8 - 51	222	7.6	1.6	540	500
TYH27M	7TAG009590R0009	4.8 - 102	340	7.0	1.6	540	500
TYH29M*	7TCG009590R0011	4.8 - 229	771	6.9	1.5	540	500

* Not UL recognised.

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

Mounting bases overview/segmentation tables see pages 80 to 111.

For tooling specifications: see pages 122 to 131.

Tooling



ERG50

For use with 2.4mm to 4.8mm (80N to 220N) cable ties. See pages 122 - 131.



ERG120

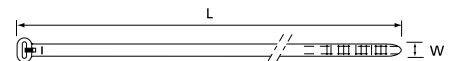
For use with 4.7mm to 7.6mm (220N to 540N) cable ties. See pages 122 - 131.



L-500-EU

For use with 6.9mm to 7.6mm (540N) cable ties. See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Impact and UV resistance + Heat stabilized



Characteristics

- Heat stabilised + UV-resistant version, for outdoor applications that also require a resistance to high temperature (+105°C)
- For OEM and MRO applications including: transport, lawn (garden/farm), construction equipment, recreational vehicles

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +105°C
- Min. Installation Temp.: -40°C
- Color: Black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, heat stabilized, Halogen free, Silicone free

Polyamide 6.6 cable ties – Heat stabilized + UV-resistant



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Thickness [mm]	Min. tensile strength [N]	Quantity [pieces]
TY23MX-A	7TAG009640R0000	4.8 - 16	92	2.3	0.9	80	1000
TY24MX-A	7TAG009640R0001	5.2 - 35	140	3.6	1.1	133	1000
TY25MX-A	7TAG009640R0002	6.2 - 48	186	4.8	1.2	220	1000
TY253MX-A	7TAG009640R0009	3 - 78	290	4.8	1.3	220	1000
TY27MX-A	7TAG009640R0003	8 - 95	340	6.9	1.6	540	500
TY28MX-A	7TAG009210R0051	3 - 102	361	4.8	1.3	220	1000

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

For tooling specifications: see pages 122 to 131.

Some approvals may not be applicable to all product codes.

Tooling



ERG50

For use with 2.3mm (80N) cable ties.
See pages 122 - 131.



ERG120*

For use with 2.3mm to 8.9mm (80N to 540N) cable ties.
See pages 122 - 131.

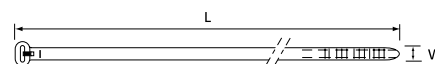
* ERG120 can not be used with TY23MX-A and TY24MX-A.



L-500-EU

For use with 4mm (270N) cable ties.
See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties

Polyamide 4.6 cable ties – Extra high temperature



Characteristics

- Extreme continuous temperature rating: -40°C to +150°C (in air)
- For high temperature environments in industrial, OEM, MRO and commercial construction applications such as: metal processing, paper mills, lighting, automotive

Technical information

- Material - Molding: Polyamide 4.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +150°C
- Min. Installation Temp.: -18°C
- Color: natural yellowed, may have a greenish tint
- Flammability rating: UL 94 V-2
- Other properties: Extra high temperature resistant, Halogen free, Silicon free

Polyamide 4.6 cable ties – Extra high temperature



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Thickness [mm]	Min. tensile strength [N]	Quantity [pieces]
TYHT23M	7TAG009590R0012	2 - 20	95	2.3	0.91	80	1000
TYHT24M	7TAG009590R0013	2 - 29	143	3.6	1.07	180	1000
TYHT25M	7TAG009590R0014	5 - 45	192	4.8	1.22	220	1000
TYHT28M	7TAG009590R0016	5 - 102	367	4.8	1.27	220	1000
TYHT27M	7TAG009590R0015	5 - 89	349	6.9	1.60	540	500

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

Some approvals may not be applicable to all product codes.

Mounting bases overview/segmentation tables see pages 80 to 111.

Tooling



ERG50

For use with 2.3mm to 4.8mm (80N to 220N) cable ties
See pages 122 - 131.

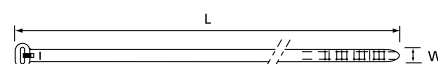


ERG120*

For use with 2.3mm to 7.6mm (80N to 540N) cable ties.
See pages 122 - 131.

* ERG120 can not be used with TYHT23M and TYHT24M

Dimensions



Ty-Rap® high performance cable ties

Polyamide 6.6 cable ties – Flame retardant



Characteristics

- Flame retardant. Ideal for use in locations where low flammability and low smoke are needed such as public transport, tunnels, etc.

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -20°C to +65°C
- Min. Installation Temp.: -0°C
- Color: White
- Flammability rating: UL 94 V-0
- Other properties: Halogen free, Silicone free

Polyamide 6.6 cable ties – Flame retardant



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Thickness [mm]	Min. tensile strength [N]	Quantity [pieces]
TY23MFR	7TAG009570R0002	1.5 - 16	92	2.4	1.0	80	1000
TY232MFR	7TAG009570R0000	1.5 - 51	203	2.4	1.0	80	1000
TY24MFR	7TAG009570R0003	2 - 35	140	3.6	1.1	135	1000
TY25MFR	7TAG009570R0004	3 - 48	186	4.6	1.1	220	1000
TY28MFR	7TAG009570R0007	3 - 102	360	4.6	1.1	180	500
TY27MFR	7TAG009570R0006	6 - 95	335	7.6	1.6	540	100

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

Some approvals may not be applicable to all product codes.

Mounting bases overview/segmentation tables see pages 80 to 111.

Tooling



ERG50

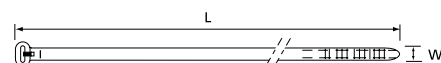
For use with 4.8mm
(220N) cable ties.
See pages 122 - 131.



ERG120

For use with 4.8mm
(220N) cable ties.
See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties for Railways

Polyamide 6.6 cable ties – EN 45545-2 Certified



Technical Information - UV-resistant

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +105°C
- Color: Black
- Flammability Rating: UL 94 V-2
- Certified according to EN 45545-2
- Certified to R22: HL1 and R23: HL1/HL2

Technical Information - Flame retardant

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -20°C to +65°C
- Min. Installation Temp.: 0°C
- Color: White
- Flammability rating: UL 94 V-0
- Certified to EN 45545-2
- Certified to R22/R23: HL1/HL2/HL3



Polyamide 6.6 cable ties – UV-resistant black

Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Pack quantity [pieces]
TY23MX-RW	7TCG009040R0015	1.5 - 22	92	2.4	80	1000
TY232MX-RW	7TCG009040R0014	1.5 - 51	203	2.4	80	1000
TY234MX-RW	7TAG009050R0005	1.5 - 102	356	2.4	80	1000
TY24MX-RW	7TCG009130R0010	2 - 35	140	3.6	180	1000
TY242MX-RW	7TCG009130R0011	2 - 51	208	3.6	180	1000
TY26MX-RW	7TCG009120R0006	2 - 76	284	3.6	130	1000
TY244MX-RW	7TCG009130R0012	2 - 102	368	3.6	130	1000
TY25MX-RW	7TCG009210R0085	3 - 48	186	4.8	220	1000
TY253MX-RW	7TCG009220R0011	3 - 78	290	4.8	220	1000
TY28MX-RW	7TCG009210R0086	3 - 102	361	4.8	220	1000
TY271MX-RW	7TCG009450R0226	6 - 31	150	7.6	540	500
TY272MX-RW*	7TAG009330R0008	6 - 51	223	6.9	540	500
TY277MX-RW*	7TAG009340R0003	6 - 177	617	7.0	540	500
TY27MX-RW*	7TAG009320R0006	6 - 102	340	6.9	540	500
TY29MX-RW*	7TCG009330R0012	6 - 229	771	8.2	540	500

Polyamide 6.6 cable ties – Flame retardant white

Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Pack quantity [pieces]
TY23MFR-RW	7TCG009570R0008	1.5 - 16	92	2.4	80	1000
TY232MFR-RW	7TCG009570R0013	1.5 - 51	203	2.4	80	1000
TY24MFR-RW	7TCG009570R0009	2 - 35	140	3.6	180	1000
TY25MFR-RW	7TCG009570R0010	3 - 48	186	4.8	220	1000
TY28MFR-RW	7TCG009570R0011	3 - 102	360	4.8	220	500
TY27MFR-RW	7TCG009570R0012	6 - 95	340	7.0	540	100

Description of materials and properties: see pages 138 to 147.

Tooling



ERG50
For use with 2.3mm to 4.8mm (80N to 220N) cable ties.
See pages 122 - 131.

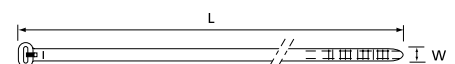


ERG120
For use with 4.8mm to 7.6mm (220N to 540N) cable ties.
See pages 122 - 131.



WT3D
For use with 4.8mm to 8.2mm (220N to 780N) cable ties.
See pages 122 - 131.

Dimensions





Ty-Rap® high performance cable ties

Fluoropolymer cable ties – ECTFE



Characteristics

- Outstanding performance of flame resistance and low smoke density when burned
- Recommended for applications where smoke generation is a concern, such as plenum areas
- Extreme resistance to UV degradation

Technical information

- Material - Molding: Fluoropolymer ECTFE
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +160°C
- Min. Installation Temp.: -60°C
- Color: Maroon
- Flammability rating: UL 94 V-0
- Other properties: low smoke

Fluoropolymer cable ties – ECTFE



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Standard pack size						
TYV523M	7TAG009610R0001	1.5 - 22	92	2.3	80	100
TYV525M	7TAG009610R0002	3.0 - 48	186	4.7	220	100
Bulk pack size						
TYV23M	7TAG009000R0330	1.5 - 22	92	2.3	80	1000
TYV25M	7TAG009610R0000	3.0 - 48	186	4.7	220	1000

Description of product code structure: see page 13.

Description of materials and properties: see pages 138-147.

Some approvals may not be applicable to all product codes.

Mounting bases overview/segmentation tables see pages 80 to 111.

Tooling



ERG50

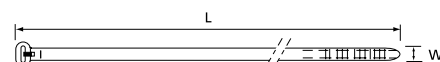
For use with 2.3mm to 4.7mm (80N to 220N) cable ties. See pages 122 - 131.



ERG120

For use with 4.7mm (220N) cable ties. See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties

Fluoropolymer cable ties – ETFE



Characteristics

- ETFE Fluoropolymer
- Resistant to chemicals and to radiation
- No outgassing prevents contamination of sensitive areas in a vacuum, zero gravity or radioactive environments
- Typical applications include: nuclear, power plants, space industry, etc.
- Extreme resistance to UV degradation
- Mounting base available

Technical information

- Material - Molding: Fluoropolymer ETFE
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -45°C to 150°C
- Min. Installation Temp.: -20°C
- Color: Aquamarine
- Flammability rating: UL 94 V-0
- Other properties: Silicone free, inert to most solvents and chemicals, hydrolytically stable, radiation resistant, non-outgassing

Fluoropolymer cable ties – ETFE



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Standard pack size						
TYZ523M	7TAG009620R0006	1.5 - 22	92	2.3	80	100
TYZ525M	7TAG009620R0007	3 - 48	186	4.3	220	100
TYZ528M	7TAG009620R0009	3 - 102	360	4.4	220	100
TYZ527M	7TAG009620R0008	6 - 95	340	6.8	540	50
Bulk pack size						
TYZ23M	7TAG009620R0000	1.5 - 22	92	2.3	80	1000
TYZ25M	7TAG009620R0002	3 - 48	186	4.3	220	1000
TYZ28M	7TAG009620R0005	3 - 102	360	4.4	220	500
TYZ27M	7TAG009620R0004	6 - 95	340	6.8	540	100

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

Some approvals may not be applicable to all product codes.

Mounting bases overview/segmentation tables see pages 80 to 111.

Tooling



ERG50

For use with 2.3mm to 4.3mm (80N to 220N) cable ties.
See pages 122 - 131.

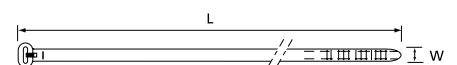


ERG120*

For use with 2.3mm to 6.8mm (80N to 540N) cable ties.
See pages 122 - 131.

*ERG120 not to be used on TYZ23M

Dimensions



Ty-Rap® high performance cable ties

Polypropylene cable ties – Chemical and weather resistant



Characteristics

- Polypropylene weather resistant
- Increased resistance to chemicals
- Resistant against inorganic acids, polyhydric alcohols, neutral and basic salts

Technical information

- Material - Molding: Polypropylene
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +80°C
- Min. Installation Temp.: -40°C
- Color: Black
- Flammability rating: UL 94 HB
- Other properties: UV-resistant, Halogen free, Silicone free

Polypropylene cable ties – Chemical and weather resistant

Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
TYP23MX	7TAG009600R0000	2 - 16	92	2.4	50	1000
TYP25MX	7TAG009600R0001	3.5 - 45	186	4.8	130	1000
TYP28MX	7TAG009600R0003	3.5 - 102	360	4.8	130	1000
TYP27MX*	7TAG009600R0002	6 - 90	340	7.0	270	500

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

Some approvals may not be applicable to all product codes.

Mounting bases overview/segmentation tables see pages 80 to 111.

* minimum operating temperature for this item is -40°C.

Tooling



ERG50

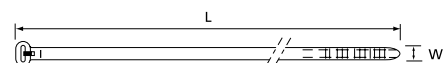
For use with 2.4mm to 4.8mm (50N to 130N) cable ties. See pages 122 - 131.



ERG120

For use with 7mm (270N) cable ties. See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties

Polyamide 12 cable ties – UV-resistant



Characteristics

- Polyamide 12 UV-resistant
- Remains flexible in cold & dry environments
- Ages better and has a better chemical resistance than Polyamide 6.6

Technical information

- Material - Molding: Polyamide 12
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +105°C
- Min. Installation Temp.: -40°C
- Color: Black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free, Silicone free

Polyamide 12 cable ties – UV-resistant

Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Standard pack size						
TYC525MX	7TCG009580R0006	3.5 - 45	186	4.70	180	100
TYC527MX	7TCG009580R0007	6 - 89	343	7.62	400	50
Bulk pack size						
TYC25MX	7TCG009580R0001	3.5 - 45	186	4.70	180	1000
TYC28MX	7TCG009580R0004	3.5 - 102	360	4.70	180	1000
TYC272MX*	7TCG009580R0002	6 - 51	222	7.60	380	500
TYC27MX	7TCG009580R0003	6 - 89	343	7.62	400	500
TYC29MX	7TCG009580R0005	6 - 229	771	7.60	400	500

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

Some approvals may not be applicable to all product codes.

Mounting bases overview/segmentation tables see pages 80 to 111.

* maximum operating temperature for this item is +85°C.

Tooling



ERG50

For use with 4.7mm to 7.6mm (155N to 380N) cable ties.

See pages 122 - 131.

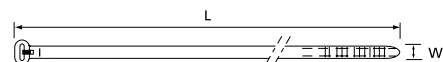


ERG120

For use with 4.7mm to 7.6mm (155N to 380N) cable ties.

See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties

Nylon detectable cable ties



Characteristics

The Ty-Rap® detectable cable ties from ABB incorporate a unique compound (patent pending) detectable by X-ray equipment and metal detectors. Bright blue color enhances visual detection. Recommended for applications in food, pharmaceutical and other contamination-sensitive industries using detection systems, where cable tie installation residuals (cut tails) are permitted in the finished product.

- Engineered to provide the highest detectability in metal detectors by size
- Specially formulated metallic particles provide high reflection in X-ray equipment
- Bright blue color for an easy visual detection
- Help achieve the HACCP EU-Directive
- Available in 6 different sizes in convenient small bags
- Mounting bases available

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -60°C to +85°C
- Min. Installation Temp.: -20°C
- Color: Bright blue
- Flammability rating: UL 94 HB
- Other properties: UV-resistant, halogen free, silicone free



Detectable cable ties

Product code	GID No.	Color	Material	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Detectable Polyamide 6.6								
TY523MR-NDT	7TCG009330R0027	Blue	Polyamide 6.6	2 - 16	93	2,3	50	100
TY524MR-NDT	7TCG009330R0028	Blue	Polyamide 6.6	2 - 35	140	3,6	133	100
TY525MR-NDT	7TCG009330R0026	Blue	Polyamide 6.6	3.5 - 45	186	4,6	222	100
TY528MR-NDT	7TCG009330R0025	Blue	Polyamide 6.6	3.5 - 102	361	4,8	222	100
TY527MR-NDT	7TCG009330R0029	Blue	Polyamide 6.6	6 - 102	345	6,9	534	50

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

Some approvals may not be applicable to all product codes. Mounting bases overview/segmentation tables see pages 80 to 111.

Tooling



ERG50

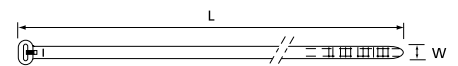
For use with 2.4mm to 4.8mm (50N to 220N) cable ties.
See pages 122 - 131.



ERG120

For use with 4.8mm to 7.6mm (180N to 540N) cable ties.
See pages 122 - 131.

Dimensions



Ty-Rap® high performance cable ties

Polypropylene detectable cable ties



Characteristics

The Ty-Rap® detectable cable ties from ABB incorporate a unique compound (patent pending) detectable by X-ray equipment and metal detectors and visual inspection equipment. Recommended for applications in food, pharmaceutical and other contamination-sensitive industries using detection systems, where cable tie installation residuals (cut tails) are permitted in the finished product.

- Engineered to provide the highest detectability in metal detectors by size
- Specially formulated metallic particles provide high reflection in X-ray equipment
- Bright blue color for an easy visual detection
- Help achieve the HACCP EU-Directive
- Available in 6 different sizes in convenient small bags
- Mounting bases available

Technical information

- Material - Molding: Polypropylene
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C
- Min. Installation Temp.: -40°C
- Color: Bright blue
- Flammability rating: UL 94 HB
- Other properties: Halogen free, silicone free

Detectable cable ties

Product code	GID No.	Color	Material	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Detectable Polypropylene								
TY523MR-PDT	7TCG009660R0107	Blue	Polypropylene	1.5 - 16	93	2.3	50	100
TY525MR-PDT	7TCG009660R0109	Blue	Polypropylene	3 - 45	186	4.6	135	100
TY527MR-PDT	7TCG009660R0108	Blue	Polypropylene	4.8 - 95	345	6.9	267	100
TY528MR-PDT	7TCG009660R0106	Blue	Polypropylene	4.8- 102	361	4.8	135	50

Description of product code structure: see page 13.
Description of materials and properties: see pages 138 - 147.
Some approvals may not be applicable to all product codes. Mounting bases overview/segmentation tables see pages 80 to 111.

Tooling

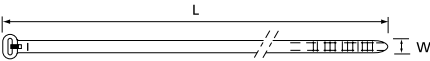


ERG50
For use with 2.4mm to 4.8mm (50N to 220N) cable ties.
See pages 122 - 131.



ERG120
For use with 4.8mm to 7.6mm (180N to 540N) cable ties.
See pages 122 - 131.

Dimensions



Heavy duty cable strap and accessories

Strap on reel and reel kits, double locking heads & pre-assembled Deltec® cable ties



Characteristics

- Designed to perform a minimum of 20 years outdoors
- Double locking head with corrosion resistant locking barbs in copper alloy
- No sharp edges: operator friendly, cable friendly!
- Easy to install, low installation costs
- Extremely robust ties, with high tensile strength (1110N) after fastening
- Available either in pre-cut and pre-assembled lengths, or on reels with separate heads for total flexibility
- Choice of specific spacers and accessories
- Month and year of manufacture stamped into strap material

Technical information

- Material - Strap & head: Toughened weatherable acetal
- Material - Locking barb: Marine grade, corrosion-resistant copper alloy
- Temperature range: -40°C to +85°C
- Flammability rating: UL 94 HB
- Color: Black
- Other properties: UV-resistant, Halogen free, superior resistance to moisture and salt environments

Strap on reel and reel kits

Product code	GID No.	Length per reel L [m]	Width W [mm]	Min. tensile strength [N]	Included heads [pieces]	Reel quantity [pieces]
TYD-50R	7TAA159090R0005	15.2	12.7	1110	0	1
696-41794	7TAA159090R0000	304.8	12.7	1110	0	1
CSS-5K	7TAA159120R0000	15.2	-	-	150	5
CSS-10K	7TAA159130R0001	15.2	-	-	300	5

Note: the recommended maximum continuous static loading for the Deltec® straps is 90 N per strap.

For best results, suggested spacing is 35 to 40cm. It is the responsibility of the user to determine if their installation provides sufficient load support.

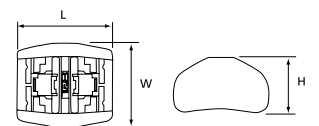
Reel kits (CSS-5K / CSS-10K) to be assembled with Deltec® strap on reel.

Double locking heads

Product code	GID No.	Length L [mm]	Width W [mm]	Height [mm]	Quantity [pieces]
TYD-LH	7TAA159090R0006	21.6	19.1	12.6	25
696-41795	7TAA159090R0001	21.6	19.1	12.6	1000

To be assembled with Deltec® strap on reel.

Dimensions



Pre-assembled Deltec® cable ties

Product code	GID No.	Max. bundle dia. [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
CSS-100	7TAA159110R0000	76	254	12.7	1112	25
CSS-135	7TAA159090R0003	89	343	12.7	1112	25
CSS-160	7TAA159170R0000	102	406	12.7	1112	50
CSS-270	7TAA159080R0000	203	686	12.7	1112	10

Tooling

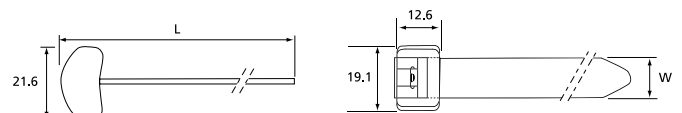


WT3D
For use with 12.7mm (1110N) cable ties.
See pages 122 - 131.



L-500-EU
For use with 12.7mm (1110N) cable ties.
See pages 122 - 131.

Dimensions



Heavy duty cable strap and accessories

Cable spacers & base and hanger



Characteristics

- Stackable height in 12,7mm increments, for any desired spacing and all cable sizes - no need to stock multiple sizes of individual height spacers
- Designed to retain strap on each side and cradle the cable, providing restricted movement of spacer and preventing damage to cable
- Suitable for coaxial cables
- Can be used for parallel routing or for perpendicular cables

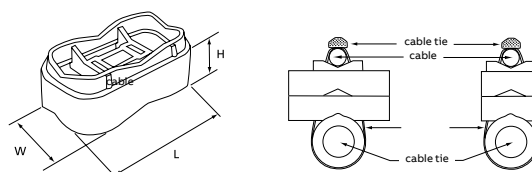
Technical information

- Material: Weather-resistant polypropylene
- Temperature range: -40°C to +85°C
- Flammability rating: UL 94 HB
- Color: Black
- Other properties: UV-resistant, Halogen free

Cable spacers

Product code	GID No.	Length	Width	Height	Quantity [pieces]
		L [mm]	W [mm]	[mm]	
TCP5255	7TAA159090R0004	53.3	30.5	12.7	25
TCP360	7TAA159160R0000	53.3	30.5	12.7	100

Dimensions



Characteristics

- To secure cables to all types of surfaces

Technical information

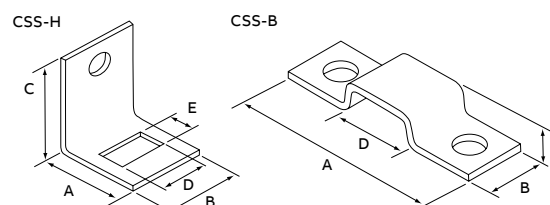
- Material: Zinc plated steel
- Color: Metallic
- Temperature range: -34°C to +65°C
- Flammability rating: fire-proof

Base and hanger

Product code	GID No.	Dimensions					Mounting hole diameter [mm]	Quantity [pieces]
		A [mm]	B [mm]	C [mm]	D [mm]	E [mm]		
CSS-B	7TAA159220R0000	48.4	14.3	7.1	15.1	5.6	6.7 (2x)	50
CSS-H	7TAA159180R0000	22.5	22.2	29.8	13.6	8.3	6.9	50

To be assembled with Deltec® strap on reel.

Dimensions



Special ties

Releasable 2-piece lashing ties, pre-assembled version



Characteristics

- Heavy-duty lashing ties, in cut lengths with pre-assembled heads
- Also available on reel with separate heads (see page 36)
- UV-resistant Polypropylene, ideal for applications where chemical resistance is important (heads in weatherable rigid Polyamide 6.6)
- Extremely robust (670N)
- Easily releasable & reusable
- 2 types of head:
 - type A: no mounting hole,
 - type B: with mounting hole
- Typical applications: Indoor and outdoor fastening of cables, pipes and other parts in industry, shipbuilding, chemical industry etc

Technical information

- Material - Tie: Weatherable Polypropylene
- Material - Head: Polyamide 6.6
- Temperature range:
 - Head: -40°C to +85°C
 - Tie: -55°C to +110°C
- Color: UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free

Releasable 2-piece lashing ties, pre-assembled version

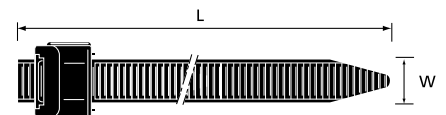
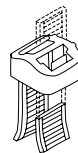
Product code	GID No.	Bundle ø from ... to [mm]	Diameter of mounting hole [mm]	Length L [mm]	Width W [mm]	Thickness [mm]	Min. tensile strength [N]	Quantity [pieces]
TY53418PX	7TAG009550R0019	45 - 127	6.9	457	13.2	1.9	670	25
TY5418PX	7TAG009550R0021	45 - 127	–	457	13.2	1.8	670	25
TY5424PX	7TAG009550R0022	10 - 178	–	610	13.2	1.8	670	25
TY5442PX	7TAG009550R0025	10 - 305	–	1067	13.2	1.8	670	10
TY5460PX	7TAG009550R0026	10 - 457	–	1524	13.2	1.8	670	10

Description of product code structure: see page 13.

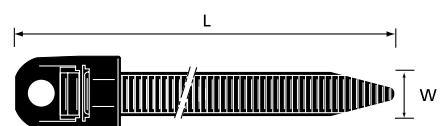
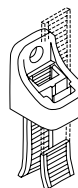
Description of materials and properties: see pages 138 - 147.

Dimensions

TY54XXPX



TY53418PX



Special ties with steel locking barb

Integrated mounting hole cable ties



Characteristics

- Can be mounted directly onto a support with screws, bolts or rivets
- Mounting and bundling in one maintenance-friendly assembly: mounts cables, tubes and part in all types and sizes of machines and installations
- Typical application: cable harness manufacture and pre- and end- mounting of bundles and parts
- Indoor and outdoor

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C
- Color: Natural or UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free

Integrated mounting hole cable ties

Product code	GID No.	Color	Bundle ø from ... to [mm]	Diameter of mounting hole [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Standard pack size								
TY533M	7TAG009520R0062	Natural	2 - 16	3.0	102	2.3	80	100
TY533MX	7TAG009520R0063	Black	2 - 16	3.0	102	2.3	80	100
TY534MX	7TAG009520R0065	Black	2 - 29	4.4	151	3.5	180	100
TY535M	7TAG009520R0068	Natural	3.5 - 45	5.1	199	4.7	220	100
TY535MX	7TAG009520R0069	Black	3.5 - 45	5.1	199	4.7	220	100
TY537M	7TAG009520R0070	Natural	6 - 90	6.7	356	7.7	540	50
TY537MX	7TAG009520R0071	Black	6 - 90	6.7	356	7.7	540	50
TYF535M	7TCG009520R0077	Natural	3.5 - 45	4.0	186	4.7	220	100
Bulk pack size								
TY33M	7TAG009520R0048	Natural	2 - 16	3.0	102	2.3	80	1000
TY33MX	7TAG009520R0048	Black	2 - 16	3.0	102	2.3	80	1000
TY34M	7TAG009520R0049	Natural	2 - 29	4.4	151	3.5	180	1000
TY34MX	7TAG009520R0050	Black	2 - 29	4.4	151	3.5	180	1000
TY635M	7TAG009520R0074	Natural	3.5 - 45	4.0	198	4.7	220	1000
TY635MX	7TAG009520R0075	Black	3.5 - 45	4.0	198	4.7	220	1000
TY35M	7TAG009520R0053	Natural	3.5 - 45	5.1	199	4.7	220	1000
TY35MX	7TAG009520R0056	Black	3.5 - 45	5.1	199	4.7	220	1000
TY1435M	7TAG009520R0045	Natural	3.5 - 45	6.7	198	4.7	220	1000
TY37M	7TAG009520R0057	Natural	6 - 90	6.7	356	7.7	540	500
TY37MX	7TAG009520R0060	Black	6 - 90	6.7	356	7.7	540	500
TYF35M	7TCG009520R0076	Natural	3.5 - 45	4.0	186	4.7	220	1000

Description of product code structure: see page 13. VG approved. VG95387 part 4, type B.
Some approvals may not be applicable to all product codes. Contact your Sales Office for approvals limitations.
Description of product code structure: see page 13.
Description of materials and properties: see pages 138 - 147.
For tooling specifications: see pages 120 to 129.

Tooling



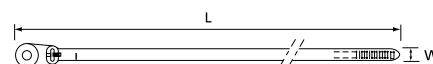
ERG50
For use with 2.3mm to 4.7mm (80N to 220N) cable ties.
See pages 122 - 131.



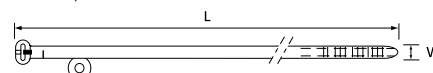
ERG120
For use with 4.7mm to 7.7mm (220N to 540N) cable ties.
See pages 122 - 131.

Dimensions

TY...M, TY...MX



TYF35M, TYF535M



Special ties with steel locking barb

Panel mounting cable ties



Characteristics

- Provides both fastening and clip-mounting
- Fast pre- or on-site-assembly for a range of panel thickness up to 4,0mm
- Fast and secure installation

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C
- Color: Natural or UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free

Panel mounting cable ties

Product code	GID No.	Color	Bundle ø from ... to [mm]	Diameter of mounting hole [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	For panel thicknesses from ... to [mm]	Quantity [pieces]
With wing									
TY54SM	7TCG009460R0104	Natural	2 - 32	4.5 - 5.2	150	3.5	130	0.1 - 2.5	1000
TY54SMX	7TCG009460R0105	UV-resistant black	2 - 32	4.5 - 5.2	150	3.5	130	0.1 - 2.5	1000
TY38M	7TAG009530R0005	Natural	3.5 - 44	6.4 - 6.7	200	4.7	220	1.0 - 4.0	1000
TY38MX	7TAG009530R0006	UV-resistant black	3.5 - 44	6.4 - 6.7	200	4.7	220	1.0 - 4.0	1000

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

For tooling specifications: see pages 122 - 131.

Tooling

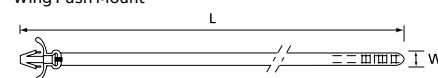


ERG50

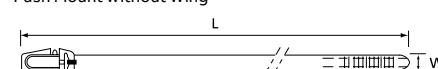
For use with 3.5mm to 4.8mm (220N) cable ties.
See pages 122 - 131.

Dimensions

Wing Push Mount



Push Mount without Wing



Special ties with steel locking barb

Blind mounting cable ties



Characteristics

- Suitable for hard-to-reach areas
- Fast hidden mounting on walls and vehicle chassis
- Twist off the locking head
- Pull the tie end through the fastening hole
- Place locking head on tie end
- Pull tight and cut off excess
- In the locked state, head neatly covers the mounting hole

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C
- Color: Natural or UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free

Blind mounting cable ties

Product code	GID No.	Color	Bundle ø from ... to [mm]	Diameter of mounting hole [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Standard pack size								
TYG534M	7TCG009520R0080	Natural	2 - 32	6.4 - 7.0	160	3.6	180	100
TYG534MX	7TCG009520R0081	UV-resistant black	2 - 32	6.4 - 7.0	160	3.6	180	100
Bulk pack size								
TYG34M	7TCG009520R0078	Natural	2 - 32	6.4 - 7.0	160	3.6	180	1000

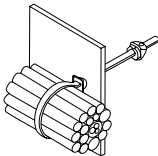
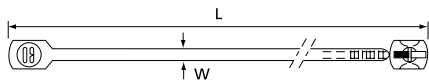
Description of product code structure: see page 13.
Description of materials and properties: see pages 138 to 147.
For tooling specifications: see pages 122 - 131.

Tooling



ERG50
For use with 4.8mm
(220N) cable ties.
See pages 122 - 131.

Dimensions



Special ties with steel locking barb

Integrated peg / nail cable ties



Characteristics

- TY545MX, with integrated nail for mounting onto wood or similar materials
- TY544MX, with integrated peg for mounting onto porous concrete or similar materials (masonry)
- Very simple application

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C
- Color: UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free, Silicone free

Integrated peg / nail cable ties

Product code	GID No.	Bundle ø from ... to [mm]	Diameter of mounting hole [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Mounting hole depth (min) [mm]	Quantity [pieces]
TY544MX	7TAG009530R0008	3.5 - 4.5	6.4	200	4.6	220	25	50
TY545MX	7TAG009520R0073	4.7 - 38.1	–	200	4.7	220	–	50

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

For tooling specifications: see pages 122 - 131.

Tooling



ERG50

For use with 2.3mm to 4.7mm (220N) cable ties.
See pages 122 - 131.

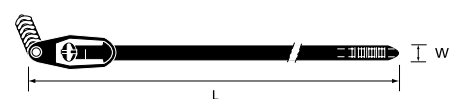


ERG120

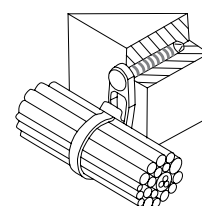
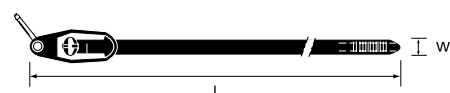
For use with 4.8-7.6mm (220N to 540N) cable ties.
See pages 122 - 131.

Dimensions

TY544MX



TY545MX



Special ties

Releasable cable ties



Characteristics

- For temporary but strong bundling, such as during control box wiring
- Very simple application
- Available in 2 lengths
- May be re-used many times
- No tooling necessary

Technical information

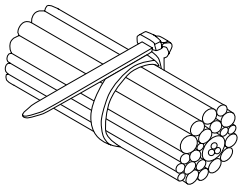
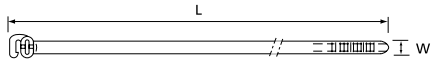
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Releasable cable ties

Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
TYR505	7TAG009540R0001	10 - 44	190	4.7	220	100
TYR508	7TAG009540R0002	10 - 102	364	4.7	220	100

Description of product code structure: see page 13.
Description of materials and properties: see pages 138 - 147.

Dimensions



Pull end of tie through head.
Turn tie end back on itself
and insert into side of clip.
To open, release tie end
from clip and open tie.

Special ties with steel locking barb

Cable ties with identification tag



Characteristics

- Identification ties with incorporated label for durable marking and tying
- Label forms onto the bundle for types TY512M, TY51M and protrudes for ties TY532M and TY53M
- Series 51M is MIL (MS-3368-5) approved
- Trouble-free installation
- All edges are rounded to make installation easier
- Available in bulk packaging (500/1000 pieces) or in small packaging (100 pieces)

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C
- Color: Natural
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free



Cable ties with identification tag

Product code	GID No.	Bundle ø	Length	Width	Thickness	Min. tensile strength	Label dimensions	Quantity
		from ... to	L	W			[mm]	
		[mm]	[mm]	[mm]	[mm]	[N]	[mm]	[pieces]
Standard pack size								
TY551M	7TAG009510R0065	10 - 16	92	2.4	1.0	80	25,4 x 7,9	100
TY5512M	7TAG009510R0064	10 - 51	210	2.4	1.0	80	25,4 x 7,9	100
TY553M	7TAG009510R0069	2 - 16	102	2.4	1.0	80	20,6 x 9,3	100
TY5532M	7TAG009510R0067	2 - 51	212	2.4	1.0	80	20,6 x 9,3	100
Bulk pack size								
TY51M*	7TAG009510R0046	10 - 16	92	2.4	1.0	80	25,4 x 7,9	500
TY512M*	7TAG009510R0044	10 - 51	210	2.4	1.0	80	25,4 x 7,9	1000
TY53M	7TAG009510R0052	2 - 16	102	2.4	1.0	80	20,6 x 9,3	500
TY532M	7TAG009510R0050	2 - 51	212	2.4	1.0	80	20,6 x 9,3	1000

*TY51M and TY512M are UL listed.

For other materials and colors contact your Sales Office.

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

For tooling specifications: see pages 122 - 131.

Tooling



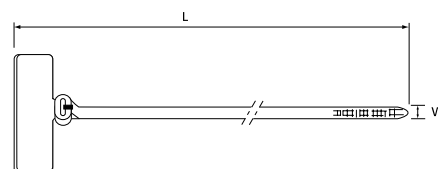
ERG50

For use with 2.4 mm to 4.8 mm (80N to 220N) cable ties.

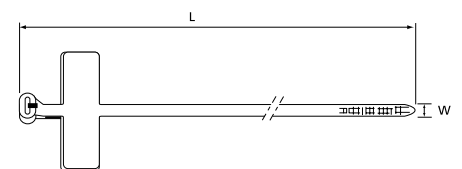
See pages 122 - 131.

Dimensions

TY53M, TY553M, TY532M, TY5532M

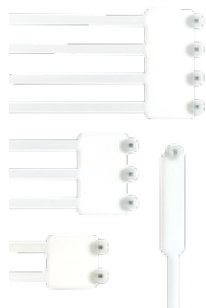


TY51M, TY551M, TY512M, TY5512M



Special ties with steel locking barb

Cable ties with identification tag



Characteristics

- Identification ties with incorporated label for durable marking and tying
- Label forms onto the bundle
- 5 different versions, up to 4 straps, in bulk and small packaging
- 4 versions (up to 3 straps) are Mil-specified
- Trouble free installation
- Labelling of bundles up to 102mm diameter
- All edges are rounded and surfaces smoothed to make installation easier

Technical information

- Material - Molding: Polyamide 6.6
- Material - Locking barb: 316 grade stainless steel
- Temperature range: -40°C to +85°C
- Color: Natural
- Approvals: MIL: MS-3368 -1, -2, -3, -4
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Cable ties with identification tag



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Thickness [mm]	Min. tensile strength [N]	Label dimensions [mm]	Quantity [pieces]
Standard pack size								
TY548M	7TAG009510R0063	19 - 102	360	4.8	1.1	220	13.1 x 57.2	100
TY546M	7TAG009510R0058	9.5 - 45	184	4.8	1.1	220	13.1 x 27.0	100
TY546MD	7TAG009510R0059	9.5 - 45	184	4.8	1.1	220 x 2	29.7 x 27.0	50
TY546MT	7TAG009510R0061	9.5 - 45	184	4.8	1.1	220 x 3	46.0 x 27.0	100
TY546MF	7TAG009510R0060	9.5 - 45	184	4.8	1.1	220 x 4	63.1 x 27.0	50
Bulk pack size								
TY48M*	7TAG009510R0039	19 - 102	360	4.8	1.1	220	13.1 x 57.2	1000
TY46M*	7TAG009510R0018	9.5 - 45	184	4.8	1.1	220	13.1 x 27.0	1000
TY46MD	7TAG009510R0025	9.5 - 45	184	4.8	1.1	220 x 2	29.7 x 27.0	500
TY46MT	7TAG009510R0033	9.5 - 45	184	4.8	1.1	220 x 3	46.0 x 27.0	500
TY46MF	7TAG009510R0031	9.5 - 45	184	4.8	1.1	220 x 4	63.1 x 27.0	250

* TY46M and TY48M are cURus certified.

For other materials and colors contact your Sales Office.

Description of product code structure: see page 13.

Description of materials and properties: see pages 138 - 147.

For tooling specifications: see pages 122 to 131.

Tooling



ERG50

For use with 2.4mm up to 4.8 mm (80N to 220N) cable ties. See pages 122 - 131.

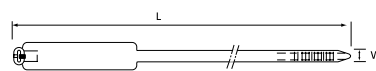


ERG120

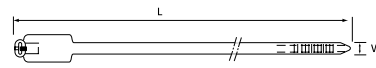
For use with 4.8mm up to 7.6 mm (220N to 540N) cable ties. See pages 122 - 131.

Dimensions

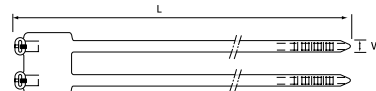
TY48M



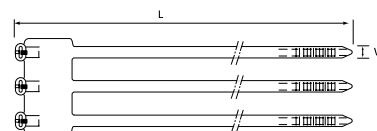
TY46M



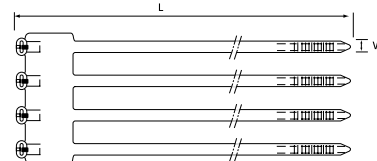
TY46MD

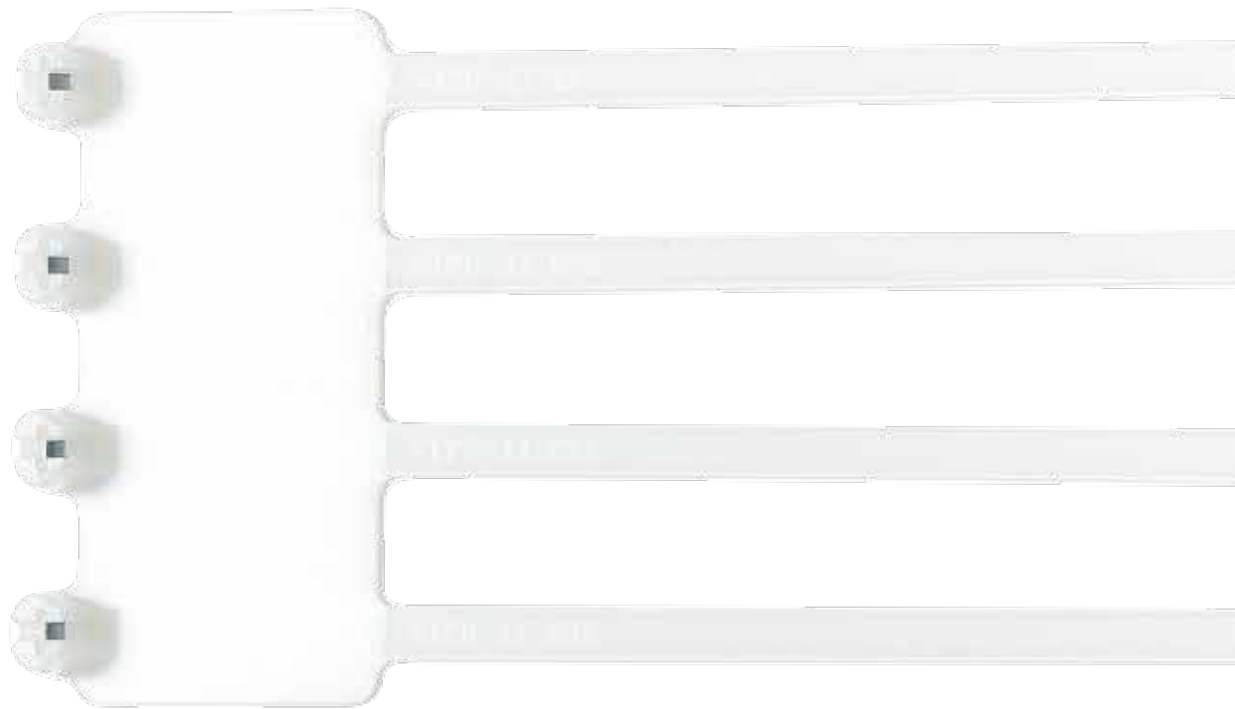


TY46MT



TY46MF





Ty-Met™ stainless steel cable ties

Stainless steel cable ties

Ty-Met™ stainless steel ties are the ultimate solution to install your cables in extreme conditions, indoor and outdoor, such as the petrochemical and food processing industries, power stations, mining, shipbuilding, offshore and other aggressive environments.

Ty-Met™ stainless steel ties provide a high mechanical strength combined with chemical durability and temperature resistance.

They are available in different types:

- **Ball-lock type:**
 - Easy application and strong self-locking mechanism (steel ball), with low insertion force
 - Uncoated or coated versions available
- **Ladder type:**
 - Self-locking mechanism (pawl and ratchet), low profile, flat head for easy installation
 - Uncoated or coated versions available
- **Releasable type:**
 - The unique buckle design allows the tie to be unfastened for re-use and installed by hand
 - Uncoated or coated versions available

- **Ball-lock retained tension type:**
 - Wave-form spring crimp eliminates movement, even in high-vibration applications
 - The ball-lock fastening mechanism with a spring crimp ensures tension after installation
- **Bands on reel with separate heads:**
 - 25 meters reels for a cost saving and customised installation, around all sizes and shapes of objects
 - Bands are fully covered with non-toxic, halogen free Polypropylene
- **Identification system:**
 - Durable identification system for tough environments and extreme conditions, indoor and outdoor
 - Dedicated carrier strips for 6, 10, 16, 20 or 30 characters that can be secured with Ty-Met™ ties

Ty-Met™ cable ties have international approvals such as UL, Lloyd's Register and DNV-GL.

All types are available in 316 grade (marine grade) stainless steel, perfect for securing cables and components in highly corrosive environments like marine (onshore and offshore) and chemical industries.

Available in uncoated version (for high temperature applications) or in fully coated version with non-toxic, halogen free polyester coating, for superior protection of cables and installer's hands and for an improved insulation between dissimilar materials.

A range of dedicated hand tools completes the product offering.



Ty-Met™ the ultimate solution to install your cable ties

Ideal for extreme conditions, hazardous areas and aggressive environments.

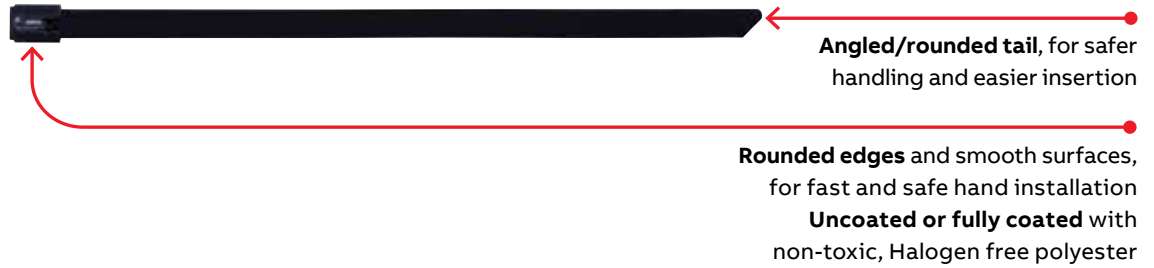


Ty-Met™ stainless steel cable ties

Features and benefits

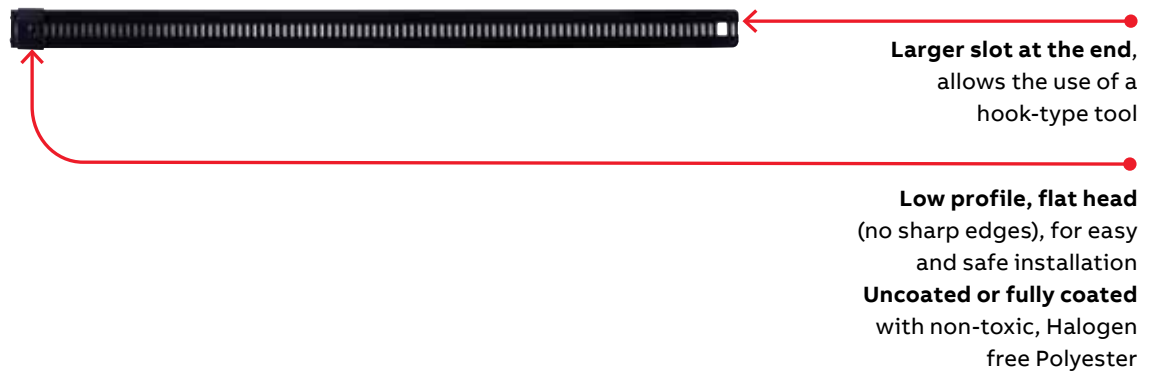
Ball-lock type

Easy application and strong self-locking mechanism (steel ball), with low insertion force



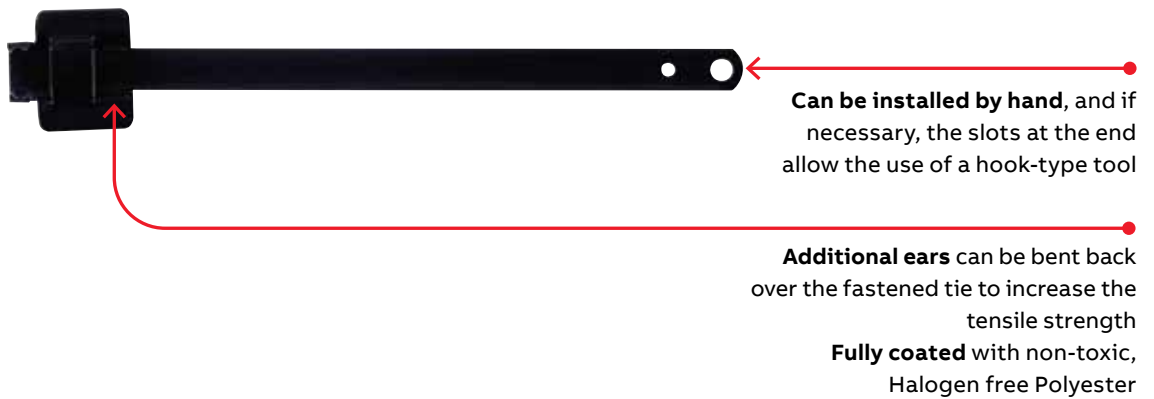
Ladder type

Self-locking mechanism (pawl and ratchet)



Releasable type

The unique buckle design allows the tie to be unfastened for re-use



Ball-lock retained tension type

Wave-form spring crimp eliminates movement – even in high-vibration applications



Convenience of a ball-lock fastening mechanism with a spring crimp that maintains tension after installation

Bands on reel with separate heads

Bands and separate heads are made of corrosion resistant 316 grade stainless steel, for high mechanical and chemical durability



Available in 5 widths up to 19.1mm, to suit a wide range of applications
25-metre reels for a cost saving and customised installation, around all sizes and shapes of objects

Bands are fully covered with non-toxic, halogen free Polypropylene

ID system

Durable identification system for tough environments and extreme conditions, indoor and outdoor



Dedicated carrier strips for 6, 10, 16, 20 or 30 characters
Carrier strips can be secured with Ty-Met™ stainless steel ties

Pre-embossed characters are easy to read, even when covered with dust, paint or dirt
Characters can be mounted on carrier strips or directly onto Ty-Met™ stainless steel ties

Characters and carrier strips are made of corrosion resistant 316 grade stainless steel, for high mechanical and chemical durability

Dedicated heads are easy to install

Ty-Met™ stainless steel cable ties

Quick selection chart

Selection chart & specifications

Type	Material	Coating	Series	Component	Width [mm]	Length [mm]	Tensile strength [N]	Operating temperature range	Installation tool	Page reference
Ball-lock										
Standard widths	304 grade stainless steel	Uncoated	YLS-4.6-*A	Cable tie	4.6	100 - 1400	778	-40°C to +300°C	CT3, DAS-250	51
			YLS-7.9-*A	Cable tie	7.9	100 - 1400	1112	-40°C to +300°C	CT3, DAS-250	51
	316 grade stainless steel, marine grade	Uncoated	YLS-4.6-*B	Cable tie	4.6	100 - 1400	778	-40°C to +300°C	CT3, DAS-250	51
			YLS-7.9-*B	Cable tie	7.9	100 - 1400	1112	-40°C to +300°C	CT3, DAS-250	51
	316 grade stainless steel	Coated (polyester)	YLS-4.6-*BC	Cable tie	4.6	100 - 1400	778	-60°C to +165°C	CT3, DAS-250	51
			YLS-7.9-*BC	Cable tie	7.9	100 - 1400	1112	-60°C to +165°C	CT3, DAS-250	51
Ball-lock										
Heavy-duty widths	316 grade stainless steel, marine grade	Uncoated	YLS-12-*B	Cable tie	12.0	200 - 1400	1117	-40°C to +300°C	CT3, CT7	52
			YLS-16-*B	Cable tie	16.0	200 - 1400	4005	-40°C to +300°C	CT7	52
	316 grade stainless steel, marine grade	Coated (polyester)	YLS-12-*BC	Cable tie	12.0	200 - 1400	1335	-60°C to +165°C	CT3, CT7	52
			YLS-16-*BC	Cable tie	16.0	200 - 1400	2002	-60°C to +165°C	CT7	52
Ladder										
	316 grade stainless steel, marine grade	Uncoated	YLD-7-*B	Cable tie	7.0	150 - 610	529	-40°C to +300°C	CT3	54
			YLD-12-*B	Cable tie	12.0	150 - 610	778	-40°C to +300°C	CT3	54
	316 grade stainless steel, marine grade	Coated (polyester)	YLD-7-*BC	Cable tie	7.0	150 - 610	529	-60°C to +165°C	CT3	54
			YLD-12-*BC	Cable tie	12.0	150 - 610	778	-60°C to +165°C	CT3	54
Releasable										
	316 grade stainless steel, marine grade	Coated (polyester)	YRL-5-*BC	Cable tie	5.0	150 - 900	1335	-60°C to +165°C	CT8	55
			YRL-10-*BC	Cable tie	10.0	150 - 900	1559	-60°C to +165°C	CT8	55
Ball-lock retained tension										
	304 grade stainless steel	Uncoated	RS-4.6-*A	Cable tie	4.6	200 - 680	890	+300°C	DAS-250	56
			RS-7.9-*A	Cable tie	7.9	200 - 680	2000	+300°C	DAS-250	56
	316 grade stainless steel, marine grade	Uncoated	RS-4.6-*B	Cable tie	4.6	200 - 680	890	+300°C	DAS-250	56
			RS-7.9-*B	Cable tie	7.9	200 - 680	2000	+300°C	DAS-250	56
Bands on reel with separate heads										
	316 grade stainless steel, marine grade	Coated (polyester)	YBR-*BC	Bands	6.4 - 9.5 - 12.7 - 15.9	25000	1491 - 4450	-40°C to +90°C	CT8	57
		Uncoated	YBRH-*	Heads	6.4 - 9.5 - 12.7 - 15.9	–	–	-40°C to +90°C	CT8	57
Identification system										
	316 grade stainless steel, marine grade	Uncoated	YID-STRIP-*	Strips	7.9	93 - 290	–	-40°C to +300°C	–	58
			YID-CHAR-*	Characters	–	–	–	-40°C to +300°C	–	59

Ty-Met™ stainless steel cable ties

Product code structure

Tie		Width (mm)		Length (mm)		Body, material and coating
YLS		X.X		XXX		X
↓		↓		↓		↓
YLS	–	4.6	–	680		A
↓		↓		↓		↓
Tie series		Tie width		Tie length		Body, material and coating
YLS = Ball-lock type YLD = Ladder type YLR = Releasable type RS = Ball-lock retained tension YBR = Band on reel with separate heads YID = Identification system				A = 304 SS, Uncoated B = 316 SS, Uncoated BC = 316 SS, Fully coated		

Ty-Met™ stainless steel cable ties

Ball-lock type



Materials / Finishes		Description		
Body				
304 grade stainless steel (non-magnetic):		Extreme conditions and aggressive environments		
316 grade stainless steel, marine grade (non-magnetic):		Aggressive environments with extra corrosion resistance (marine grade stainless steel) for exposure to harsh chemicals, saltwater, or extreme weather conditions		
Coating (for fully coated version)		Non-toxic, halogen free polyester		
Colour:	Uncoated version:	Metallic		
	Fully coated version:	Black		
Temperature ratings				
Uncoated version - operating range:		-40°C to +300°C		
Fully coated version - operating range:		-60°C to +165°C		
Minimum installation temperature:		-40°C		
Conforms to (*)	UL		DNV-GL	Lloyd's Register
	Yes/No	Type designation		
	•	2		
	•	2, 2S		
	•	2, 2S		
	•	2		
	•	2		
Installation tools				
4.6 and 7.9 mm widths:		CT3, DAS-250		
12 mm widths:		CT3, CT7		
16 mm widths:		CT7		

(*) Certification may vary depending on Part no.

Characteristics

The ball-lock type stainless steel ties are self-locking and require no time consuming crimping or folding operations:

- Strong self-locking mechanism (stainless steel ball), with low insertion force
- Fast, easy and reliable installation

Ty-Met™ stainless steel cable ties

Ball-lock type

Ball-lock type - Standard widths | 4.6 and 7.9 mm



304 Stainless Steel		316 Stainless Steel													
Uncoated		Uncoated		Fully coated		Min.	Max.	Tensile strength [N]					L	W	Pack
						bund.	bund.	316 SS			length	width			
Part no.	GID no.	Part no.	GID no.	Part no.	GID no.	[mm]	[mm]	304 SS	316 SS	un-	fully	[mm]	[mm]	[pcs]	
YLS-4.6-100A	7TCG009410R0010	YLS-4.6-100B	7TCG009410R0011	YLS-4.6-100BC	7TCG009410R0012	20	25	778	778	778	778	100	4.6	100	
YLS-4.6-125A	7TCG009410R0013	YLS-4.6-125B	7TCG009410R0014	YLS-4.6-125BC	7TCG009420R0089	20	25	778	778	778	778	125	4.6	100	
YLS-4.6-150A	7TCG009410R0015	YLS-4.6-150B	7TCG009420R0093	YLS4.6-150BC	7TCG009410R0034	20	35	778	778	778	778	150	4.6	100	
YLS4.6-200A	7TCG009410R0035	YLS4.6-200B	7TCG009410R0036	YLS-4.6-200BC	7TCG009420R0094	20	50	778	778	778	778	200	4.6	100	
YLS-4.6-300A	7TCG009410R0016	YLS-4.6-300B	7TCG009410R0017	YLS-4.6-300BC	7TCG009410R0018	20	83	778	778	778	778	300	4.6	100	
YLS4.6-360A	7TCG009410R0037	YLS4.6-360B	7TCG009410R0038	YLS-4.6-360BC	7TCG009420R0098	20	100	778	778	778	778	360	4.6	100	
YLS4.6-520A	7TCG009410R0039	YLS-4.6-520B	7TCG009410R0019	YLS-4.6-520BC	7TCG009420R0101	20	150	778	778	778	778	520	4.6	100	
YLS-4.6-680A	7TCG009410R0020	YLS-4.6-680B	7TCG009410R0021	YLS-4.6-680BC	7TCG009410R0022	20	200	778	778	778	778	680	4.6	100	
YLS-4.6-840A	7TCG009420R0102	YLS-4.6-840B	7TCG009420R0103	YLS-4.6-840BC	7TCG009420R0104	20	250	778	778	778	778	840	4.6	100	
YLS-4.6-1000A	7TCG009410R0009	YLS-4.6-1000B	7TCG009420R0084	YLS-4.6-1000BC	7TCG009420R0085	20	300	778	778	778	778	1000	4.6	100	
YLS-4.6-1200A	7TCG009420R0086	YLS-4.6-1200B	7TCG009420R0087	YLS-4.6-1200BC	7TCG009420R0088	20	365	778	778	778	778	1200	4.6	100	
YLS-4.6-1400A	7TCG009420R0090	YLS-4.6-1400B	7TCG009420R0091	YLS-4.6-1400BC	7TCG009420R0092	20	425	778	778	778	778	1400	4.6	100	
YLS-7.9-100A	7TCG009420R0107	YLS-7.9-100B	7TCG009420R0108	YLS-7.9-100BC	7TCG009420R0109	20	20	1559	1112	1112	1112	100	7.9	100	
YLS-7.9-125A	7TCG009420R0113	YLS-7.9-125B	7TCG009420R0114	YLS-7.9-125BC	7TCG009420R0115	20	22	1559	1112	1112	1112	125	7.9	100	
YLS-7.9-150A	7TCG009420R0119	YLS-7.9-150B	7TCG009420R0120	YLS-7.9-150BC	7TCG009410R0024	20	35	1559	1112	1112	1112	150	7.9	100	
YLS7.9-200A	7TCG009410R0040	YLS-7.9-200B	7TCG009410R0025	YLS-7.9-200BC	7TCG009420R0122	20	50	1559	1112	1112	1112	200	7.9	100	
YLS-7.9-300A	7TCG009410R0026	YLS-7.9-300B													

Tooling



CT3

For use with 4.6mm to 7.9mm (778N to 1112N) cable ties. See pages 122 - 131.



CT7

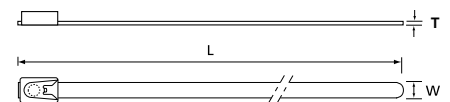
For use with 12mm to 16mm (1117N to 4005N) cable ties. See pages 122 - 131.



DAS-250

For use with 4.6mm to 7.9mm cable ties. See pages 122 - 131.

Dimensions



Ty-Met™ stainless steel cable ties

Ball-lock type

Ball-lock type - Heavy duty widths | 12 and 16 mm



316 Stainless Steel

Uncoated		Fully coated		Min. bundle dia.	Max. bundle dia.	Tensile strength [N]		L	W	Pack
Part no.	GID no.	Part no.	GID no.	[mm]	[mm]	316 SS uncoated	316 SS fully coated	length [mm]	width [mm]	quantity [pieces]
YLS-12-200B	7TCG009420R0038	YLS-12-200BC	7TCG009420R0039	25	50	1117	1335	200	12.0	50/100
YLS-12-300B	7TCG009420R0040	YLS-12-300BC	7TCG009420R0041	25	83	1117	1335	300	12.0	50
YLS-12-360B	7TCG009420R0042	YLS-12-360BC	7TCG009420R0043	25	100	1117	1335	360	12.0	50
YLS-12-440B	7TCG009420R0044	YLS-12-440BC	7TCG009420R0045	25	125	1117	1335	440	12.0	50/100
YLS-12-520B	7TCG009420R0046	YLS-12-520BC	7TCG009420R0047	25	150	1117	1335	520	12.0	50
YLS-12-600B	7TCG009420R0048	YLS-12-600BC	7TCG009420R0049	25	175	1117	1335	600	12.0	50
YLS-12-680B	7TCG009420R0050	YLS-12-680BC	7TCG009420R0051	25	200	1117	1335	680	12.0	50
YLS-12-760B	7TCG009420R0052	YLS-12-760BC	7TCG009420R0053	25	225	1117	1335	760	12.0	50
YLS-12-840B	7TCG009420R0054	YLS-12-840BC	7TCG009420R0055	25	250	1117	1335	840	12.0	50
YLS-12-920B	7TCG009420R0056	YLS-12-920BC	7TCG009420R0057	25	275	1117	1335	920	12.0	50
YLS-12-1000B	7TCG009420R0032	YLS-12-1000BC	7TCG009420R0033	25	300	1117	1335	1000	12.0	25
YLS-12-1200B	7TCG009420R0034	YLS-12-1200BC	7TCG009420R0035	25	365	1117	1335	1200	12.0	25
YLS-12-1400B	7TCG009420R0036	YLS-12-1400BC	7TCG009420R0037	25	425	1117	1335	1400	12.0	25
YLS-16-200B	7TCG009420R0064	YLS-16-200BC	7TCG009420R0065	40	50	4005	2002	200	16.0	50
YLS-16-300B	7TCG009420R0066	YLS-16-300BC	7TCG009420R0067	40	80	4005	2002	300	16.0	50
YLS-16-360B	7TCG009420R0068	YLS-16-360BC	7TCG009420R0069	40	100	4005	2002	360	16.0	50
YLS-16-440B	7TCG009420R0070	YLS-16-440BC	7TCG009420R0071	40	125	4005	2002	440	16.0	50
YLS-16-520B	7TCG009420R0072	YLS-16-520BC	7TCG009420R0073	40	150	4005	2002	520	16.0	50
YLS-16-600B	7TCG009420R0074	YLS-16-600BC	7TCG009420R0075	40	175	4005	2002	600	16.0	50
YLS-16-680B	7TCG009420R0076	YLS-16-680BC	7TCG009420R0077	40	200	4005	2002	680	16.0	50
YLS-16-760B	7TCG009420R0078	YLS-16-760BC	7TCG009420R0079	40	225	4005	2002	760	16.0	50/100
YLS-16-840B	7TCG009420R0080	YLS-16-840BC	7TCG009420R0081	40	250	4005	2002	840	16.0	50
YLS-16-920B	7TCG009420R0082	YLS-16-920BC	7TCG009420R0083	40	275	4005	2002	920	16.0	50
YLS-16-1000B	7TCG009420R0058	YLS-16-1000BC	7TCG009420R0059	40	300	4005	2002	1000	16.0	25
YLS-16-1200B	7TCG009420R0060	YLS-16-1200BC	7TCG009420R0061	40	365	4005	2002	1200	16.0	25
YLS-16-1400B	7TCG009420R0062	YLS-16-1400BC	7TCG009420R0063	40	425	4005	2002	1400	16.0	25

Tooling



CT3

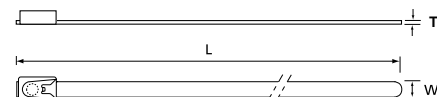
For use with 4.6mm to 7.9mm (778N to 1112N) cable ties.
See pages 122 - 131.



CT7

For use with 12mm to 16mm (1117N to 4005N) cable ties.
See pages 122 - 131.

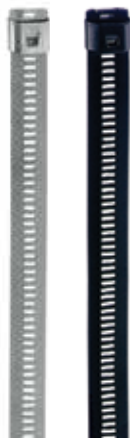
Dimensions





Ty-Met™ stainless steel cable ties

Ladder type



Materials / Finishes		Description
Body		
316 grade stainless steel, marine grade (non-magnetic):	Aggressive environments with extra corrosion resistance (marine grade stainless steel) for exposure to harsh chemicals, saltwater, or extreme weather conditions	
Coating (for fully coated version)		Non-toxic, halogen free polyester
Colour: Uncoated version:		Metallic
Fully coated version:		Black
Temperature ratings		
Uncoated version - operating range:		-40°C to +300°C
Fully coated version - operating range:		-60°C to +165°C
Minimum installation temperature:		-40°C
UL		
Conforms to (*)	Yes/No	Type designation
Uncoated, 7 mm width	•	2
Fully coated, 7 mm width	•	2
Uncoated, 12 mm width	•	2
Fully coated, 12 mm width	•	2
Installation tool		CT3

(*) Certification may vary depending on Part no.

Characteristics

The ladder type stainless steel ties have a flat, low profile head for easy application:

- Strong self-locking mechanism (pawl and ratchet), requires no time consuming crimping or folding operations

- Flat and low profile head (no sharp edge), for easy installation
- Increased usable length (slots up to the end of the tail), allows larger bundle diameters with the same tie length
- Larger slot at the end, allows the use of a hook-type tool



Ladder type

316 Stainless Steel

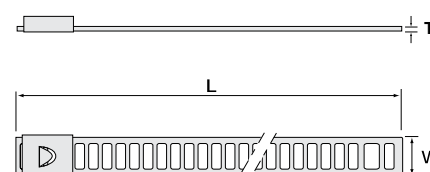
Uncoated		Fully coated		Min. bundle dia.	Max. bundle dia.	Tensile strength [N]		L length	W width	Pack quantity
Part no.	GID no.	Part no.	GID no.	[mm]	[mm]	316 SS uncoated	316 SS fully coated	[mm]	[mm]	[pieces]
YLD-7-150-B	7TCG009450R0217	YLD-7-150-BC	7TCG009450R0218	20	45	529	529	150	7.0	100
YLD-7-225-B	7TCG009450R0219	YLD-7-225-BC	7TCG009450R0220	20	70	529	529	225	7.0	100
YLD-7-300-B	7TCG009450R0221	YLD-7-300-BC	7TCG009450R0222	20	95	529	529	300	7.0	100
YLD-7-450-B	7TCG009460R0157	YLD-7-450-BC	7TCG009450R0223	20	140	529	529	450	7.0	100
YLD-7-610-B	7TCG009450R0224	YLD-7-610-BC	7TCG009450R0225	20	190	529	529	610	7.0	100
YLD-12-150-B	7TCG009460R0133	YLD-12-150-BC	7TCG009450R0210	20	43	778	778	150	12.0	100
YLD-12-225-B	7TCG009460R0136	YLD-12-225-BC	7TCG009450R0211	20	60	778	778	225	12.0	100
YLD-12-300-B	7TCG009450R0212	YLD-12-300-BC	7TCG009450R0213	20	80	778	778	300	12.0	100
YLD-12-450-B	7TCG009450R0214	YLD-12-450-BC	7TCG009450R0215	20	135	778	778	450	12.0	100
YLD-12-610-B	7TCG009460R0143	YLD-12-610-BC	7TCG009460R0144	20	185	778	778	610	12.0	100

Tooling



CT3
For use with 7.0mm to 12.0mm cable ties.
See pages 122 - 131.

Dimensions



Ty-Met™ stainless steel cable ties

Releasable type



Materials / Finishes		Description
Body		
316 grade stainless steel, marine grade (non-magnetic):	Aggressive environments with extra corrosion resistance (marine grade stainless steel) for exposure to harsh chemicals, saltwater, or extreme weather conditions	
Coating		Non-toxic, halogen free polyester
Colour:		Black
Temperature ratings		
Operating range:		-60°C to +165°C
Minimum installation temperature:		-40°C
UL		
	Yes/No	Type designation
	•	2, 25
Installation tool		CT8

(*) Certification may vary depending on Part no.

Characteristics

The releasable type stainless steel ties have a unique buckle design that allows the ties to be unfastened for re-use:

- Releasable and re-usable

- Fast, easy and reliable installation - can be installed by hand and if necessary, the slots at the end of the tie allow the use of a hook-type tool
- The additional ears can be bent back over the fastened tie to increase the tensile strength

Releasable type



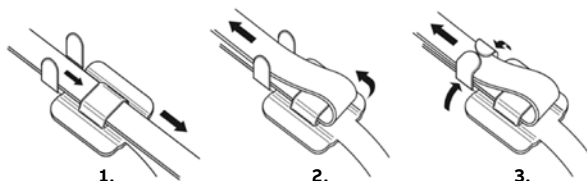
316 Stainless Steel

Fully coated		Min. bundle dia.	Max. bundle dia.	Tensile strength	L length	W width	Pack quantity
Part no.	GID no.	[mm]	[mm]	[N]	[mm]	[mm]	[pieces]
YRL-5-150-BC	7TCG009210R0075	30	36	1335	150	5.0	100
YRL-5-230-BC	7TCG009210R0077	30	60	1335	230	5.0	100
YRL-5-330-BC	7TCG009210R0079	30	95	1335	330	5.0	100
YRL-5-450-BC	7TCG009210R0081	30	130	1335	450	5.0	100
YRL-5-650-BC	7TCG009210R0083	30	190	1335	650	5.0	100
YRL-10-150-BC	7TCG009210R0062	38	38	1559	150	10.0	100
YRL-10-230-BC	7TCG009210R0064	38	60	1559	230	10.0	100
YRL-10-330-BC	7TCG009210R0066	40	95	1559	330	10.0	100
YRL-10-450-BC	7TCG009210R0068	40	130	1559	450	10.0	100
YRL-10-650-BC	7TCG009210R0070	40	190	1559	650	10.0	100
YRL-10-750-BC	7TCG009210R0072	40	230	1559	750	10.0	100
YRL-10-900-BC	7TCG009210R0074	40	275	1559	900	10.0	100

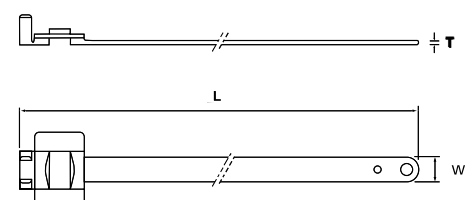
Tooling



CT8
For use with 6.4mm to 19.1mm cable ties.
See pages 122 - 131.



Dimensions



Ty-Met™ stainless steel cable ties

Ball-lock retained tension type



Materials / Finishes		Description
Body		
304 grade stainless steel (non-magnetic):	Extreme conditions and aggressive environments	
316 grade stainless steel, marine grade (non-magnetic):	Aggressive environments with extra corrosion resistance (marine grade stainless steel) for exposure to harsh chemicals, saltwater, or extreme weather conditions	
Colour:	Metallic	
Temperature ratings		
Maximum operating temperature:	+300°C	
UL		
Conforms to (*)	Yes/No	Type designation
	•	25
		DNV-GL
		Lloyd's Register
Installation tool		DAS-250

(*) Certification may vary depending on Part no.

Characteristics

Ty-Met™ vibration-resistant stainless steel cable ties combine the convenience of a ball-lock fastening mechanism with a spring crimp that maintains tension after installation. This feature helps to ensure that the ties won't slide down the cable bundle after they're installed – making them the ideal choice for high-vibration applications.

- Specially formed spring crimp creates consistent tension for firm positioning
- High wave-form crimp provides positive clamping in high-vibration applications
- Crimp channel offers a path for a trace wire with protection from crushing and shorts
- Ball-lock mechanism is easy to assemble and adjust for tension
- Wave-form spring crimp eliminates movement even in high-vibration applications



Ball-lock retained tension type

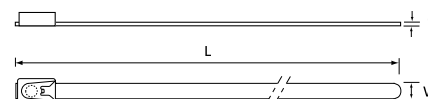
304 Stainless Steel		316 Stainless Steel		Min. bundle dia. [mm]	Max. bundle dia. [mm]	Tensile strength [N]		L width [mm]	W width [mm]	Pack quantity [pieces]
Uncoated		Uncoated				304 SS uncoated	316 SS uncoated			
Part no.	GID no.	Part no.	GID no.							
RS-4.6-200A	7TAG009420R0137	RS-4.6-200B	7TAG009420R0138	25.4	51	890	890	200	4.6	50
RS-4.6-260A	7TAG009420R0139	RS-4.6-260B	7TAG009420R0140	25.4	70	890	890	260	4.6	50
RS-4.6-360A	7TAG009420R0141	RS-4.6-360B	7TAG009420R0142	25.4	102	890	890	360	4.6	50
RS-4.6-520A	7TAG009420R0143	RS-4.6-520B	7TAG009420R0144	25.4	152	890	890	520	4.6	50
RS-4.6-680A	7TAG009420R0145	RS-4.6-680B	7TAG009420R0146	25.4	203	890	890	680	4.6	50
RS-7.9-200A	7TAG009420R0147	RS-7.9-200B	7TAG009420R0148	25.4	51	2000	2000	200	7.9	50
RS-7.9-360A	7TAG009420R0149	RS-7.9-360B	7TAG009420R0150	25.4	102	2000	2000	360	7.9	50
RS-7.9-520A	7TAG009420R0151	RS-7.9-520B	7TAG009420R0152	25.4	152	2000	2000	520	7.9	50
RS-7.9-680A	7TAG009420R0153	RS-7.9-680B	7TAG009420R0154	25.4	203	2000	2000	680	7.9	50

Tooling



DAS-250
For use with 4.6mm to 7.9mm cable ties.
See pages 122 - 131.

Dimensions



Ty-Met™ stainless steel cable ties

Bands on reel with separate heads



Materials / Finishes		Description
Body		
316 grade stainless steel, marine grade (non-magnetic):		Aggressive environments with extra corrosion resistance (marine grade stainless steel) for exposure to harsh chemicals, saltwater, or extreme weather conditions
Coating		Polypropylene
Colour:	Bands & heads:	Metallic
	Coating:	Black
Temperature ratings		
Operating range:		-40°C to +90°C
Minimum installation temperature:		-35°C
Installation tool		CT8

Characteristics

This range of stainless steel cable ties is made of bands on reel with separate heads, for a cost saving installation without waste:

- Bands and heads are made of corrosion resistant 316 grade stainless steel, for high mechanical and chemical durability
- Bands are fully covered with a non-toxic, halogen free black Polypropylene sheath, for a

superior protection of cables and installer's hands, and for an improved insulation between dissimilar materials

- Cost saving and flexible: the 25-metre reels allow a customized installation (no waste) around all sizes and shapes of objects
- Dedicated separate heads are easy to install
- Available in 5 widths up to 19.1mm, to suit a wide range of applications

Bands on reels, fully covered with polypropylene sheath

316 Stainless Steel							
Part no.	GID no.	Tensile strength	L length	W1	W2	T2	Pack quantity [pieces]
		[N]	[m]	[mm]	[mm]	[mm]	
YBR-6.4-25BC	7TCG009460R0129	1491	25	6.35	7.2	1.25	1 reel, 25 m
YBR-9.5-25BC	7TCG009460R0130	2247	25	9.53	10.3	1.25	1 reel, 25 m
YBR-12.7-25BC	7TCG009460R0126	2981	25	12.7	13.5	1.25	1 reel, 25 m
YBR-15.9-25BC	7TCG009460R0127	3738	25	15.88	16.7	1.25	1 reel, 25 m
YBR-19.1-25BC	7TCG009460R0128	4450	25	19.05	19.9	1.25	1 reel, 25 m

Separate heads, uncoated

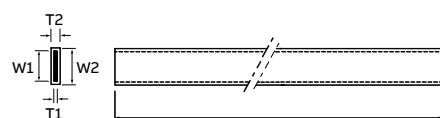
316 Stainless Steel					
Part no.	GID no.	For band Part no.	L	W	Pack quantity [pieces]
			[mm]	[mm]	
YBRH-6.4	7TCG009470R0062	YBR-6.4-25BC	15.9	9.3	100
YBRH-9.5	7TCG009470R0063	YBR-9.5-25BC	15.9	12.0	100
YBRH-12.7	7TCG009470R0059	YBR-12.7-25BC	22.3	16.5	100
YBRH-15.9	7TCG009470R0060	YBR-15.9-25BC	22.3	19.4	100
YBRH-19.1	7TCG009470R0061	YBR-19.1-25BC	22.3	21.7	100

Tooling

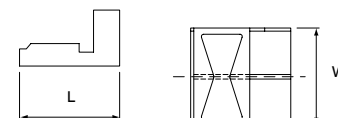


CT8
For use with 6.4mm to 19.1mm cable ties.
See pages 122 - 131.

Dimensions



Dimensions



Ty-Met™ stainless steel cable ties

Identification (ID) system



Materials / Finishes	Description
Body	
316 grade stainless steel, marine grade (non-magnetic):	Aggressive environments with extra corrosion resistance (marine grade stainless steel) for exposure to harsh chemicals, saltwater, or extreme weather conditions
Colour:	Metallic
Temperature ratings	
Operating range:	-40°C to +300°C
Minimum installation temperature:	-40°C

Characteristics

A durable identification system, ideally suited for tough environments and extreme conditions, indoor and outdoor:

- Sleeves with pre-embossed characters (letters, digits and symbols)
- Pre-embossed characters are raised above the surface of the sleeve, which makes them easy to read even when covered with dust, paint or dirt

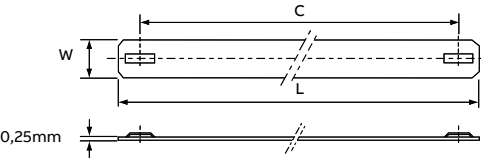
- Dedicated strips can carry 6, 10 or 16 sleeves
- The sleeves can be mounted onto the carrier strips (which will besecured by Ty-Met™ stainless steel ties) or directly onto Ty-Met™ stainless steel ties having a width up to 7.9mm

ID system - Carrier strips

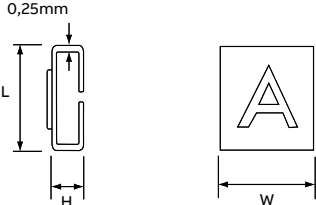
316 Stainless Steel							
Part no.	GID no.	Description	L length [mm]	W width [mm]	C [mm]	T thickness [mm]	Pack quantity [pieces]
YID-STRIP-6	7TCG009470R0111	Carrier strip for 6 sleeves	93	7.9	75	0.25	100
YID-STRIP-10	7TCG009470R0107	Carrier strip for 10 sleeves	133	7.9	115	0.25	50
YID-STRIP-16	7TCG009470R0108	Carrier strip for 16 sleeves	188	7.9	170	0.25	50
YID-STRIP-20	7TCG009470R0109	Carrier strip for 20 sleeves	200	7.9	182	0.25	50
YID-STRIP-30	7TCG009470R0110	Carrier strip for 30 sleeves	290	7.9	272	0.25	50

* Note: Strips can be secured with Ty-Met™ stainless steel ties having a width up to 7.9 mm.

Dimensions



Dimensions



Ty-Met™ stainless steel cable ties

Identification (ID) system

ID system - Sleeves with pre-embossed characters, letters

316 Stainless Steel

Part no.	GID no.	Description	L [mm]	W [mm]	H [mm]	T thickness [mm]	Pack quantity [pieces]
YID-CHAR-A	7TCG009470R0074	Letter "A"	9.2	8.0	2.5	0.25	100
YID-CHAR-B	7TCG009470R0075	Letter "B"	9.2	8.0	2.5	0.25	100
YID-CHAR-C	7TCG009470R0078	Letter "C"	9.2	8.0	2.5	0.25	100
YID-CHAR-D	7TCG009470R0079	Letter "D"	9.2	8.0	2.5	0.25	100
YID-CHAR-E	7TCG009470R0080	Letter "E"	9.2	8.0	2.5	0.25	100
YID-CHAR-F	7TCG009470R0082	Letter "F"	9.2	8.0	2.5	0.25	100
YID-CHAR-G	7TCG009470R0083	Letter "G"	9.2	8.0	2.5	0.25	100
YID-CHAR-H	7TCG009470R0084	Letter "H"	9.2	8.0	2.5	0.25	100
YID-CHAR-I	7TCG009470R0085	Letter "I"	9.2	8.0	2.5	0.25	100
YID-CHAR-J	7TCG009470R0086	Letter "J"	9.2	8.0	2.5	0.25	100
YID-CHAR-K	7TCG009470R0087	Letter "K"	9.2	8.0	2.5	0.25	100
YID-CHAR-L	7TCG009470R0088	Letter "L"	9.2	8.0	2.5	0.25	100
YID-CHAR-M	7TCG009470R0089	Letter "M"	9.2	8.0	2.5	0.25	100
YID-CHAR-N	7TCG009470R0091	Letter "N"	9.2	8.0	2.5	0.25	100
YID-CHAR-O	7TCG009470R0092	Letter "O"	9.2	8.0	2.5	0.25	100
YID-CHAR-P	7TCG009470R0093	Letter "P"	9.2	8.0	2.5	0.25	100
YID-CHAR-Q	7TCG009470R0095	Letter "Q"	9.2	8.0	2.5	0.25	100
YID-CHAR-R	7TCG009470R0096	Letter "R"	9.2	8.0	2.5	0.25	100
YID-CHAR-S	7TCG009470R0097	Letter "S"	9.2	8.0	2.5	0.25	100
YID-CHAR-T	7TCG009470R0100	Letter "T"	9.2	8.0	2.5	0.25	100
YID-CHAR-U	7TCG009470R0101	Letter "U"	9.2	8.0	2.5	0.25	100
YID-CHAR-V	7TCG009470R0102	Letter "V"	9.2	8.0	2.5	0.25	100
YID-CHAR-W	7TCG009470R0103	Letter "W"	9.2	8.0	2.5	0.25	100
YID-CHAR-X	7TCG009470R0104	Letter "X"	9.2	8.0	2.5	0.25	100
YID-CHAR-Y	7TCG009470R0105	Letter "Y"	9.2	8.0	2.5	0.25	100
YID-CHAR-Z	7TCG009470R0106	Letter "Z"	9.2	8.0	2.5	0.25	100

ID system - Sleeves with pre-embossed characters, digits

316 Stainless Steel

Part no.	GID no.	Description	L [mm]	W [mm]	H [mm]	T thickness [mm]	Pack quantity [pieces]
YID-CHAR-1	7TCG009470R0065	Digit "1"	9.2	8.0	2.5	0.25	100
YID-CHAR-2	7TCG009470R0066	Digit "2"	9.2	8.0	2.5	0.25	100
YID-CHAR-3	7TCG009470R0067	Digit "3"	9.2	8.0	2.5	0.25	100
YID-CHAR-4	7TCG009470R0068	Digit "4"	9.2	8.0	2.5	0.25	100
YID-CHAR-5	7TCG009470R0069	Digit "5"	9.2	8.0	2.5	0.25	100
YID-CHAR-6	7TCG009470R0070	Digit "6" or "9"	9.2	8.0	2.5	0.25	100
YID-CHAR-7	7TCG009470R0071	Digit "7"	9.2	8.0	2.5	0.25	100
YID-CHAR-8	7TCG009470R0072	Digit "8"	9.2	8.0	2.5	0.25	100
YID-CHAR-BLANK	7TCG009470R0076	Blank filler	9.2	8.0	2.5	0.25	100
YID-CHAR-PLUS	7TCG009470R0094	Symbol "+"	9.2	8.0	2.5	0.25	100
YID-CHAR-MINUS	7TCG009470R0090	Symbol "-"	9.2	8.0	2.5	0.25	100
YID-CHAR-SLASH	7TCG009470R0099	Symbol "/"	9.2	8.0	2.5	0.25	100
YID-CHAR-EARTH	7TCG009470R0081	Symbol "	9.2	8.0	2.5	0.25	100
YID-CHAR-SINE	7TCG009470R0098	Symbol "~"	9.2	8.0	2.5	0.25	100

* Note: For digit 9 use digit 6 upside down, for digit 0 (zero) use letter "O".

All plastic cable ties

Ty-Fast®, Col-Ty™ and Ty-Grip™

ABB offers a complete range of all plastic cable ties to cover even the most demanding applications.

Ty-Fast® all plastic ties

The all-plastic cable ties are available in lengths from 100mm to 1220mm and widths from 2.5mm to 12.4mm, offering a loop tensile strength up to 1200 N. These cable ties will satisfy bundling requirements up to 375.5mm. Made of halogen and silicone free Polyamide 6.6, Ty-Fast® cable ties are available in natural and black UV-resistant and heat stabilized material.

Ty-Fast® cable ties meet shipbuilding classification such as DNV-GL, Lloyd's Register of Shipping, Bureau Veritas. Ty-Fast® cable ties have a CE declaration, supported by compliance to the low voltage directive and EN/IEC 62275. On top the Ty-Fast® range is also compliant to UL 62275.

State-of-the-art robotic and raw material handling equipment assures product and material integrity throughout the manufacturing process. The integrally formed polyamide pawl combines low insertion and high locking strength.

The low profile head significantly reduces the potential for snagging during installation.

Quick and easy pull through increases productivity, reduces operator fatigue.

Tail with finger grip design that helps operator grasp and pull ties snugly.

Sure grip tab keeps the tail from popping out while being treated, then holds it securely for final tightening by hand or tool.

Heavy duty installation ties

Col-Ty™ - the heavy installation tie - is mainly used for securing and bundling of cables in the utility and construction industries.

Col-Ty™ is ideal for hazardous environments, low temperatures and humidity. Col-Ty™ has a low profile double locking head with serration on the outer side of the tie, which eliminates the risk of damage to the cable.

Hook & loop fasteners

Ty-Grip™ cable ties are very easy to release and re-use, making them ideal for applications where changes are anticipated or continuous access is required. There is no risk of over-tightening the cables, which makes the Ty-Grip™ hook & loop fasteners ideal for specific applications in fiber optics, computer network wiring, telecom cables, etc.

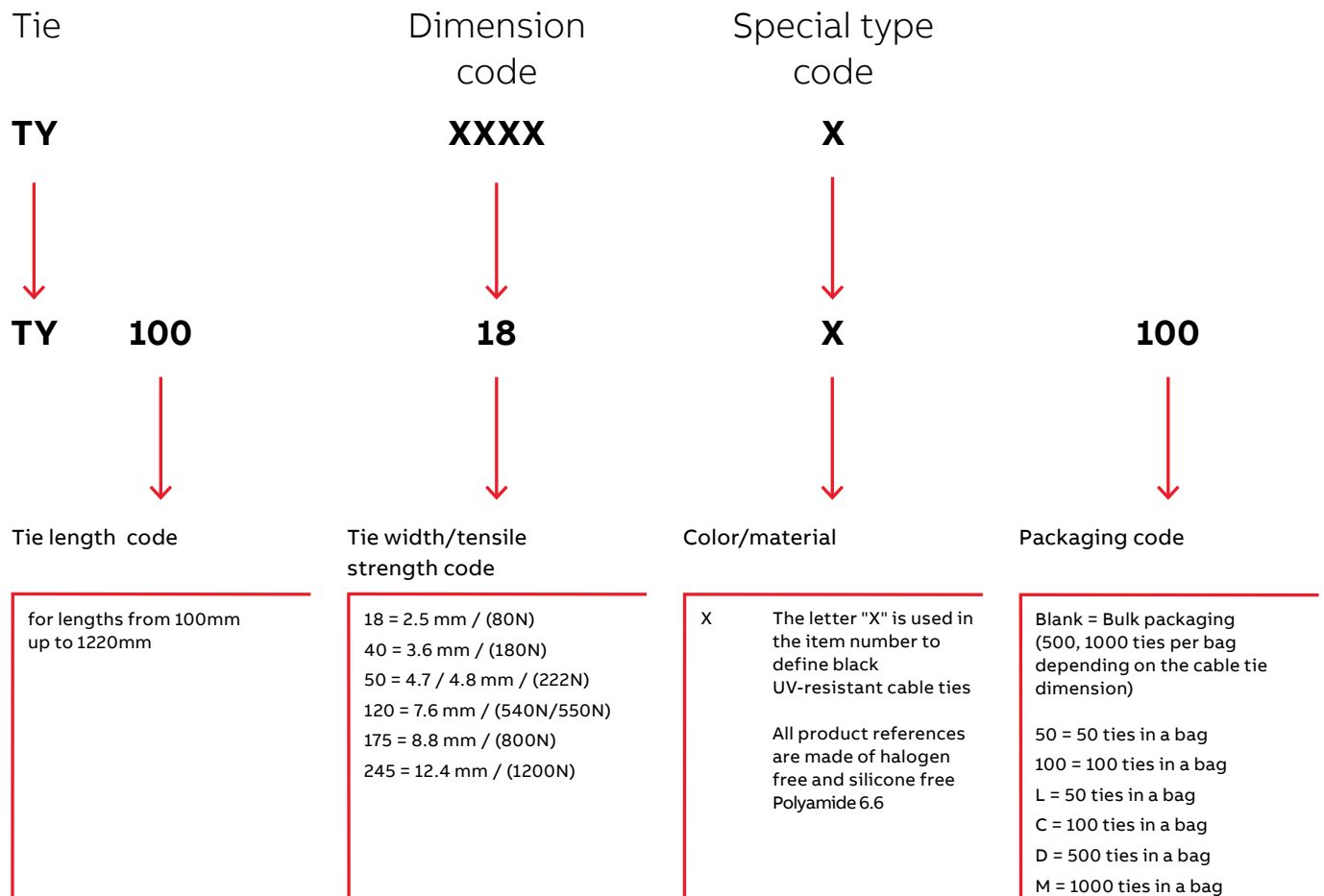


Ty-Fast cable ties for demanding applications
Ideal for use in shipbuilding, construction and hazardous environments.



All plastic cable ties

Ty-Fast® product code structure



Note: Nylon (Polyamide 6.6) is inherently susceptible to environmental conditions. Ty-Fast® cable ties are moisturised to optimum performance levels at machine-side and should be stored in cool dry areas out of direct sunlight. Cable ties are packaged in plastic bags to contain moisture and should remain sealed until ready for use.

Easy handling

The turned up tail makes orientation and handling easy, even in blind installations or tight locations.

Easy installation

The specially designed thin tail with grips makes installing the ties easy, even when wearing gloves.



The **integrally formed pawl** combines low insertion and high locking strength.

Ty-Fast® cable ties

Natural - Distribution packaging



Characteristics

- Suitable for indoor applications
- Material: Polyamide 6.6
- Color: Natural
- Halogen and silicone free
- Packaging: 50 pieces or 100 pieces per bag

Technical features

- Length: from 100mm to 1220mm
- Tensile strength: from 80N to 1200N
- Bundle diameter: from 1.5mm to 375.5mm
- Operating temperature: -40°C to 85°C
- Minimum installation temperature: -20°C
- Flammability rating: UL 94V-2

Natural - Distribution packaging



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Standard pack size						
TY100-18-C	7TCG054360R0420	1.5 - 20.5	100	2.5	80	100
TY125-18-C	7TCG054360R0422	1.5 - 36.5	150	2.5	80	100
TY200-18-C	7TCG054360R0424	1.5 - 52.5	200	2.5	80	100
TY125-40-100*	7TAG054360R0125	1.5 - 32	143	3.6	180	100
TY200-40-C	7TCG054360R0426	2.0 - 52.5	203	3.6	180	100
TY300-40-100	7TCG054360R0241	6.4 - 76	290	3.6	180	100
TY400-40-100	7TAG054360R0312	6.35 - 102	370	3.6	180	100
TY175-50-100	7TAG054360R0157	3.17 - 44	188	4.7	222	100
TY225-50-100	7TCG054360R0231	3.17 - 57	228	4.7	222	100
TY300-50-100	7TAG054360R0260	3.17 - 76	304	4.7	222	100
TY400-50-100	7TAG054360R0316	3.17 - 102	366	4.7	222	100
TY450-50-C	7TCG054290R0033	3.0 - 122.5	430	4.8	222	100
TY200-120-C	7TCG054360R0428	6.0 - 56	220	7.6	550	100
TY400-120-100	7TCG054360R0284	15 - 102	374	7.6	540	100
TY450-120-L	7TCG054410R0023	6.0 - 130.5	450	7.6	550	50
TY600-120-L	7TCG054410R0024	6.0 - 181.5	610	7.6	550	50
TY800-120-L	7TCG054410R0025	6.0 - 226	750	7.6	550	50
TY600-175-L	7TCG054530R0025	7.0 - 181.5	610	8.8	800	50
TY900-175-L	7TCG054510R0009	7.0 - 280	920	8.8	800	50
TY1000-175-L	7TCG054520R0005	7.0 - 295	1020	8.8	800	50
TY1200-175-L	7TCG054520R0006	7.0 - 375.5	1220	8.8	800	50
TY500-245-L**	7TCG054510R0010	9.0 - 156	530	12.4	1200	50
TY720-245-L**	7TCG054510R0011	9.0 - 216	730	12.4	1200	50
TY1050-245-L**	7TCG054510R0012	9.0 - 323	1030	12.4	1200	50

* Operating temperature: -30°C to +85°C.

** Minimum installation temperature: -10°C

Tooling



ERG50
For use with 2.4mm to 4.8mm (80N to 220N) cable ties.
See pages 122 - 131.

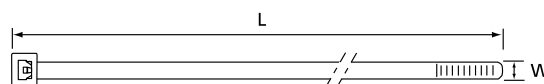


ERG120
For use with 4.8mm to 7.6mm (220N to 540N) cable ties.
See pages 122 - 131.



WT3D
For use with 7.6mm to 12.7mm (540N to 1200N) cable ties.
See pages 122 - 131.

Dimensions



Ty-Fast® cable ties

Natural - OEM packaging



Characteristics

- Suitable for indoor applications
- Material: Polyamide 6.6
- Color: Natural
- Halogen and silicone free
- Packaging: 500 pieces or 1000 pieces per bag

Technical features

- Length: from 100mm to 430mm
- Tensile strength: from 80N to 540N
- Bundle diameter: from 1.5mm to 122.5mm
- Operating temperature: -40°C to 85°C
- Minimum installation temperature: -20°C
- Flammability rating: UL 94V-2

Natural - OEM packaging



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Bulk pack size						
TY100-18-M	7TCG054360R0421	1.5 - 20.5	100	2.5	80	1000
TY125-18-M	7TCG054360R0423	1.5 - 36.5	150	2.5	80	1000
TY200-18-M	7TCG054360R0425	1.5 - 52.5	200	2.5	80	1000
TY125-40*	7TAG054360R0123	1.5 - 32	143	3.6	180	1000
TY200-40-M	7TCG054360R0427	2.0 - 52.5	203	3.6	180	1000
TY300-40	7TCG054360R0240	6.4 - 76	290	3.6	180	1000
TY400-40	7TAG054360R0311	6.35 - 102	370	3.6	180	1000
TY175-50	7TAG054360R0153	3.17 - 44	188	4.7	222	1000
TY225-50	7TCG054360R0230	3.17 - 57	228	4.7	222	1000
TY300-50	7TAG054360R0259	3.17 - 76	304	4.7	222	1000
TY400-50	7TAG054360R0315	3.17 - 102	366	4.7	222	1000
TY450-50-D	7TCG054290R0037	3.0 - 122.5	430	4.8	222	500
TY200-120-D	7TCG054360R0429	6.0 - 56	220	7.6	550	500
TY400-120	7TAG054360R0282	15 - 102	374	7.6	540	500

* Operating temperature: -30°C to +85°C.

Tooling



ERG50
For use with 2.4mm to 4.8mm (80N to 220N) cable ties.
See pages 122 - 131.

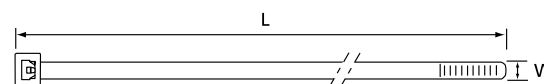


ERG120
For use with 4.8mm to 7.6mm (220N to 540N) cable ties.
See pages 122 - 131.



WT3D
For use with 7.6mm to 12.7mm (540N to 1200N) cable ties.
See pages 122 - 131.

Dimensions



Ty-Fast® cable ties

Black UV-resistant and heat stabilized - Distribution packaging



Characteristics

- Suitable for indoor and outdoor applications
- Heat stabilised + UV-resistant, for outdoor applications that also require a resistance to high temperature +115°C
- Material Polyamide 6.6
- Color: black
- Halogen and silicone free
- Packaging: 50 pieces or 100 pieces per bag

Technical information

- Length: from 100mm to 1220mm
- Tensile strength: from 80N to 120N
- Bundle diameter: from 1.5mm to 375.5mm
- Operating temperature: -40°C to 115°C
- All items without suffix L, C, M and D have a maximum operating temperature of 105°C
- Minimum installation temperature: -20°C
- Flammability rating: UL 94V-2

Black UV-resistant and heat stabilized



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Standard pack size						
TY100-18X-C	7TCG054360R0430	1.5 - 20.5	100	2.5	80	100
TY125-18X-C	7TCG054360R0432	3.0 - 36.5	150	2.5	80	100
TY200-18X-C	7TCG054360R0434	3.0 - 52.5	200	2.5	80	100
TY125-40X-100*	7TAG054360R0142	1.5 - 32	143	3.6	180	100
TY200-40X-C	7TCG054360R0436	3.0 - 52.5	203	3.6	180	100
TY300-40X-100	7TCG054360R0257	6.4 - 76	290	3.6	180	100
TY400-40X-100	7TAG054360R0314	6.35 - 102	370	3.6	180	100
TY175-50X-100	7TAG054360R0179	3.17 - 44	188	4.7	222	100
TY225-50X-100	7TCG054360R0237	3.17 - 57	228	4.7	222	100
TY300-50X-100	7TAG054360R0279	3.17 - 76	304	4.7	222	100
TY400-50X-100	7TAG054360R0337	3.17 - 102	366	4.7	222	100
TY450-50X-C	7TCG054290R0035	3.0 - 122.5	430	4.8	222	100
TY200-120X-C	7TCG054360R0438	6.0 - 56	220	7.6	550	100
TY400-120X-100	7TCG054360R0308	15 - 102	374	7.6	540	100
TY450-120X-L	7TCG054410R0026	6.0 - 130.5	450	7.6	550	50
TY600-120X-L	7TCG054410R0027	6.0 - 181.5	610	7.6	550	50
TY800-120X-L	7TCG054410R0028	6.0 - 226	750	7.6	550	50
TY600-175X-L	7TCG054530R0026	9.0 - 181.5	610	8.8	800	50
TY900-175X-L	7TCG054510R0013	9.0 - 280	920	8.8	800	50
TY1000-175X-L	7TCG054520R0007	9.0 - 295	1020	8.8	800	50
TY1200-175X-L	7TCG054520R0008	9.0 - 375.5	1220	8.8	800	50
TY500-245X-L	7TCG054510R0014	9.0 - 156	530	12.4	1200	50
TY720-245X-L	7TCG054510R0015	9.0 - 216	730	12.4	1200	50
TY1050-245X-L	7TCG054510R0016	9.0 - 323	1030	12.4	1200	50

* Operating temperature: -30°C to +105°C.

Tooling



ERG50
For use with 2.4mm to 4.8mm (80N to 220N) cable ties.
See pages 122 - 131.

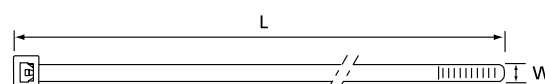


ERG120
For use with 4.8mm to 7.6mm (220N to 540N) cable ties.
See pages 122 - 131.



WT3D
For use with 7.6mm to 12.7mm (540N to 1200N) cable ties.
See pages 122 - 131.

Dimensions



Ty-Fast® cable ties

Black UV-resistant and heat stabilized - OEM packaging



Characteristics

- Suitable for indoor and outdoor applications
- Heat stabilised + UV-resistant, for outdoor applications that also require a resistance to high temperature +115°C
- Material Polyamide 6.6
- Color: black
- Halogen and silicone free
- Packaging: 500 pieces or 1000 pieces per bag

Technical features

- Length: from 100mm to 430mm
- Tensile strength: from 80N to 540N
- Bundle diameter: from 1.5mm to 122.5mm
- Operating temperature: -40°C to 115°C
- All items without suffix L, C, M and D have a maximum operating temperature of 105°C
- Minimum installation temperature: -20°C
- Flammability rating: UL 94V-2

Black UV-resistant and heat stabilized



Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Bulk pack size						
TY100-18X-M	7TCG054360R0431	1.5 - 20.5	100	2.5	80	1000
TY125-18X-M	7TCG054360R0433	3.0 - 36.5	150	2.5	80	1000
TY200-18X-M	7TCG054360R0435	3.0 - 52.5	200	2.5	80	1000
TY125-40X*	7TAG054360R0141	1.5 - 32	143	3.6	180	1000
TY200-40X-M	7TCG054360R0437	3.0 - 52.5	203	3.6	180	1000
TY300-40X	7TCG054360R0256	6.4 - 76	290	3.6	180	1000
TY400-40X	7TAG054360R0313	6.35 - 102	370	3.6	180	1000
TY175-50X	7TAG054360R0178	3.17 - 44	188	4.7	222	1000
TY225-50X	7TCG054360R0236	3.17 - 57	228	4.7	222	1000
TY300-50X	7TAG054360R0278	3.17 - 76	304	4.7	222	1000
TY400-50X	7TAG054360R0336	3.17 - 102	366	4.7	222	1000
TY450-50X-D	7TCG054290R0038	3.0 - 122.5	430	4.8	222	500
TY200-120X-D	7TCG054360R0439	6.0 - 56	220	7.6	550	500
TY400-120X	7TAG054360R0307	15 - 102	374	7.6	540	500

* Operating temperature: -30°C to +105°C.

Tooling



ERG50
For use with 2.4mm to 4.8mm (80N to 220N) cable ties.
See pages 122 - 131.

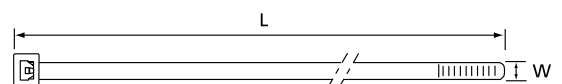


ERG120
For use with 4.8mm to 7.6mm (220N to 540N) cable ties.
See pages 122 - 131.



WT3D
For use with 7.6mm to 12.7mm (540N to 1200N) cable ties.
See pages 122 - 131.

Dimensions



All plastic cable ties

Heavy duty cable ties



- Characteristics

 - Robust construction (1120N), for demanding applications where superior tensile strength is required
 - Heavy duty cable ties are available in natural color for indoor applications and in UV-resistant black for outdoor applications
 - Releasable cable tie
- Technical information

 - Material: Polyamide 6.6
 - Temperature range: -40°C to +85°C
 - Color: Natural or UV-resistant black
 - Flammability rating: UL 94 V-2
 - Other properties: UV-resistant (black), Halogen free, Silicone free

Heavy duty cable ties



Product code	GID No.	Color	Bundle ø	Length	Width	Min. tensile strength [N]	Quantity [pieces]
			from ... to	L	W		
			[mm]	[mm]	[mm]		
Heavy-duty releasable cable ties							
TYL300M	7TCG054360R0353	Natural	75	300	13.2	1120	50
TYL300MX	7TCG054360R0354	UV-resistant black	75	300	13.2	1120	50
TYL546M	7TCG054360R0355	Natural	140	546	13.2	1120	50
TYL546MX	7TCG054360R0356	UV-resistant black	140	546	13.2	1120	50

Some approvals may not be applicable to all product codes.
Contact your Sales Office for approvals limitations.
Description of product code structure: see page 61.
Description of materials and properties: see pages 138 - 147.
For tooling specifications: see pages 122 - 131.

Tooling

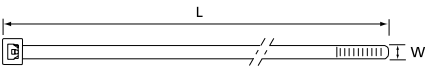


WT3D
For use with 8.6mm to 9.0mm (778N) cable ties.
See pages 122 - 131.



L-500-EU
For use with 8.6mm to 9.0mm (778N) cable ties.
See pages 122 - 131.

Dimensions



All plastic cable ties

UL 94 V-0 flame retardant cable ties



Characteristics

- Similar to our Ty-Rap® range of flame retardant ties, these all-plastic ties are made from low smoke flame retardant Polyamide 6.6 and meet the requirements of UL 94 V-0
- Ideal for use where low flammability and low smoke are needed such as public transport / buildings, tunnels etc.

Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Milky white
- Flammability rating: UL 94 V-0
- Other properties: Limited fire hazard (low smoke), Halogen free, Silicone free

UL 94 V-0 flame retardant cable ties

Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
TS1025HF	7TCG054360R0062	1.5 - 22	100	2.5	80	100
TS1435HF	7TCG054360R0063	2 - 33	140	3.6	178	100
TS2045HF	7TCG054360R0064	3 - 50	200	4.8	222	100
TS2845HF	7TCG054360R0065	3 - 70	280	4.8	222	100
TS3645HF	7TCG054360R0066	3 - 102	370	4.8	222	100
TS3675HF	7TCG054360R0067	7 - 102	370	7.6	534	100

Description of materials and properties: see pages 138 - 147.
For tooling specifications: see pages 122 - 131.

Tooling

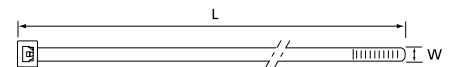


ERG50
For use with 2.5mm to 4.8mm (80N to 220N) cable ties.
See pages 122 - 131.



ERG120
For use with 7.6mm (540N) cable ties.
See pages 122 - 131.

Dimensions



Special all-plastic cable ties

Integrated mounting hole cable ties



- Characteristics**
- Cable tie can be directly mounted onto a support with screws, bolts or rivets
 - Mounting and bundling in one maintenance-friendly assembly
 - Cable harness manufacture and pre- and end-mounting of bundles and parts
 - UV-resistant version, especially recommended for outdoor applications
 - Offered in Europe only

- Technical information**
- Material: Polyamide 6.6
 - Temperature range: -40°C to +85°C
 - Color: Natural or UV-resistant black
 - Flammability rating: UL 94 V-2
 - Other properties: UV-resistant (black), Halogen free, Silicone free

Integrated mounting hole cable ties

Product code	GID No.	Bundle ø	Color	Length	Width	Fixing screw size	Min. tensile strength	Quantity [pieces]
		from ... to [mm]		L [mm]	W [mm]		[N]	
L-5-30MH-0-C*	7TAG054680R0014	2 - 32	black	152	3.3	M4	130	100
L-5-30MH-9-C*	7TAG054670R0008	2 - 32	natural	152	3.3	M4	130	100
L-11-50MH-0-C*	7TAG054670R0001	2 - 76	black	314	4.7	M5	220	100
L-11-50MH-9-C*	7TAG054670R0003	2 - 76	natural	314	4.7	M5	220	100
L-14-50MH-0-C	7TAG054680R0012	2 - 102	black	382	4.7	M5	220	100
L-14-50MH-9-C	7TAG054670R0006	2 - 102	natural	382	4.7	M5	220	100
L-14-120MH-0-C*	7TAG054670R0004	5 - 102	black	382	7.6	M6	540	100
L-14-120MH-9-C*	7TAG054670R0005	5 - 102	natural	382	7.6	M6	540	100

Description of materials and properties: see pages 138 - 147.
For tooling specifications: see pages 122 - 131.

Tooling

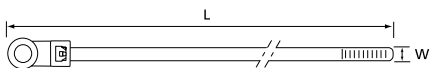


ERG50
For use with 3.3mm to 4.7mm (130N to 220N) cable ties.
See pages 122 - 131.



ERG120
For use with 4.7mm to 7.6mm (220N to 540N) cable ties.
See pages 122 - 131.

Dimensions



Special all-plastic cable ties

Standard and releasable panel mounting cable ties



Characteristics

- Fastening and clip-mounting in one, both fastens and clip mounts
- Fast pre- or on-site-assembly for a range of panel thickness up to 2,7mm
- Fast and secure clip-mounting
- For use in 6,35mm mounting hole
- Product codes containing xxx-PMR-xxx are releasable
- Offered in Europe only

Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural or UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free

Standard and releasable panel mounting cable ties

Product code	GID No.	Bundle ø from ... to [mm]	Color	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Standard panel mounting ties							
L-5-50PM-0-C*	7TAG054980R0640	2 - 25	UV-resistant black	147	4.8	220	100
L-5-50PM-9-D*	7TAG054710R0001	2 - 25	natural	147	4.8	220	500
L-7-50PM-0-C	7TAG054710R0004	2 - 44	UV-resistant black	208	4.8	220	100
L-7-50PM-9-C	7TAG054710R0005	2 - 44	natural	208	4.8	220	100

Description of materials and properties: see pages 138 - 147.
For tooling specifications: see pages 122 - 131.

Tooling

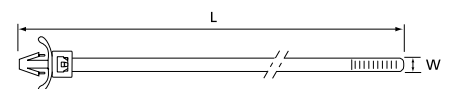


ERG50
For use with 4.8mm
(220N) cable ties.
See pages 122 - 131.



ERG120
For use with 4.8mm
(220N) cable ties.
See pages 122 - 131.

Dimensions



Special all-plastic cable ties

Releasable cable ties



Characteristics

- Easy releasable and re-usable. UV-resistant version, especially suited for outdoor applications

Technical information

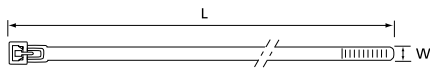
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural or UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant (black), Halogen free, Silicone free

Releasable cable ties

Product code	GID No.	Bundle ø	Color	Length	Width	Min. tensile strength	Quantity
		from ... to		L	W		
		[mm]		[mm]	[mm]	[N]	[pieces]
L-5-50R-0-C*	7TAG054750R0012	7 - 35	UV-resistant black	150	7.6	222	100
L-8-50R-0-C*	7TAG054750R0016	7 - 51	UV-resistant black	198	7.6	222	100
L-8-50R-9-C*	7TAG054750R0018	7 - 51	natural	198	7.6	222	100
L-10-50R-0-C	7TAG054750R0009	7 - 80	UV-resistant black	300	7.6	222	100
L-10-50R-9-C	7TAG054750R0011	7 - 80	natural	300	7.6	222	100

Description of materials and properties: see pages 138 - 147.
For tooling specifications: see pages 122 - 131.

Dimensions



Special all-plastic cable ties

Cable ties with identification tag



Characteristics

- Identification ties with incorporated label for durable marking and tying
- Simple marking on the roughened writing surface

Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Cable ties with identification tag



Product code	GID No.	Bundle ø max. [mm]	Length L [mm]	Width W [mm]	Label dimensions [mm]	Min. tensile strength [N]	Quantity [pieces]
Standard pack size							
L-4-18ID-9-C	7TAG054640R0001	19	102	2.5	7.9 x 24.7	80	100
L-7-50ID-9-C	7TAG054640R0003	44	200	4.7	30 x 13.3	220	100
Bulk pack size							
L-4-18ID-9-M	7TAG054640R0002	19	102	2.5	7.9 x 24.7	80	1000
L-7-50ID-9-M	7TAG054640R0004	44	200	4.7	30 x 13.3	220	1000

Description of materials and properties: see pages 138 - 147.

For tooling specifications: see pages 122 - 131.

Tooling

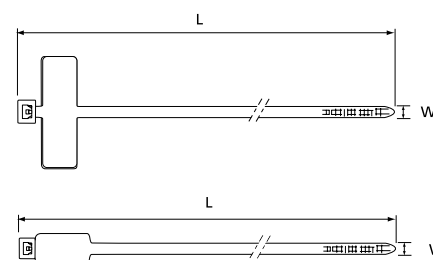


ERG50

For use with 2.5mm to 4.7mm (80N to 220N) cable ties.

See pages 122 - 131.

Dimensions



Special all-plastic cable ties

Special double-headed ties



Characteristics

- The double-headed ties allow the parallel routing of two bundles of cable with one single tie
- Available in 3 different lengths

Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Special double-headed ties

Product code	GID No.	Bundle diameter		Length L	Width W	Min. tensile strength [N]	Quantity [pieces]
		Loop 1 from ... to [mm]	Loop 2 from ... to [mm]				
TB-50RLDH	7TCG054360R0061	2.5 - 47	2.0 - 45	195	4.8	222	1000
TB-12-50RLDH	7TCG054360R0057	2.5 - 72	2.0 - 70	303	4.8	222	1000
TB-15-50RLDH	7TCG054360R0059	2.5 - 100	2.0 - 97	372	4.8	222	1000

Description of materials and properties: see pages 138 - 147.
For tooling specifications: see pages 122 - 131.

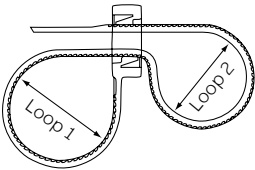
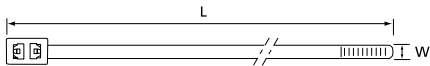
Tooling



ERG50

For use with 4.8mm (220N) cable ties.
See pages 122 - 131.

Dimensions



Special ties

Blind mounting cable ties



Characteristics

- Suitable for hard-to-reach areas
- Fast hidden mounting on walls and vehicle chassis
- Ideal for mounting on vehicle chassis and can still be released before final tensioning
- In the locked state, the locking head neatly covers the mounting hole

Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free, Silicone free

Blind mounting cable ties

Product code	GID No.	Bundle ø	Diameter of	Length	Width	Min. tensile	Quantity
		from ... to	mounting hole	L	W	strength	
		[mm]	[mm]	[mm]	[mm]	[N]	[pieces]
Standard pack size							
TY541M	7TAG009520R0072	5 - 60	8.1 - 17.3	244	5.7	300	50
Bulk pack size							
TY41M	7TAG009520R0061	5 - 60	8.1 - 17.3	244	5.7	300	500

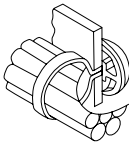
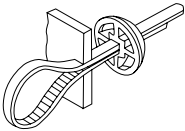
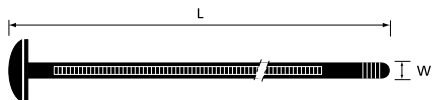
Description of product code structure: see page 13.
Description of materials and properties: see pages 138 - 147.
For tooling specifications: see pages 122 - 131.

Tooling



ERG120
For use with 5.7mm (300N) cable ties.
See pages 122 - 131.

Dimensions



Special ties

Releasable lashing ties with incorporated fastener



Characteristics

- For temporary but strong bundling, such as during control box wiring
- Very simple application
- Available in 2 lengths for different applications
- May be re-used many times
- No tooling necessary

Technical information

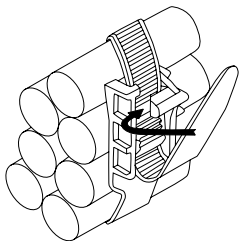
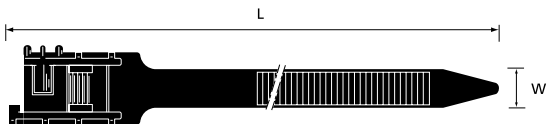
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: UV-resistant black
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Releasable lashing ties with incorporated fastener

Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Min. tensile strength [N]	Quantity [pieces]
Standard pack size						
TY5409	7TAG009550R0020	45 - 121	483	12.7	890	25
Bulk pack size						
TY409	7TAG009550R0018	45 - 121	483	12.7	890	100

Description of product code structure: see page 13.
Description of materials and properties: see pages 138 - 147.

Dimensions



Insert the cable tie tail into the lower slot in the head. Tighten the tie and pull it back. Slide in the tie under the catch from the side until it snaps into position.

Special cable ties

Col-Ty™ Heavy-duty double headed installation ties



Characteristics

- For securing and bundling of cables in the utility and construction industries
- Low profile double locking head*
- Serrations on the outer side of the tie eliminate the risk of damage to the cable
- Ideal for hazardous environments, low temperatures and humidity

Technical information

- Material: Polyamide 12
- Temperature range: -40°C to +80°C
- Color: Black
- Flammability rating: UL 94 HB
- Other properties: UV-resistant

Heavy-duty installation ties

Product code	GID No.	Bundle ø from ... to [mm]	Length L [mm]	Width W [mm]	Thickness [mm]	Min. tensile strength [N]	Quantity [pieces]
CTP-9-180-0-C*	7TCG009910R0048	10 - 42	180	9	1.8	320	100
CTP-9-260-0-C	7TCG009910R0049	15 - 62	260	9	2.0	500	100
CTP-9-360-0-C	7TCG009910R0050	25 - 92	360	9	2.0	500	100
CTP-9-500-0-C	7TCG009910R0051	74 - 140	510	9	2.4	600	100
CTP-9-750-0-C	7TCG009910R0052	74 - 220	760	9	2.4	600	100

* Product code CTP-9-180-0-C has a single locking head.
Description of materials and properties: see pages 138 - 147.
For tooling specifications: see pages 122 - 131.

Accessories



See page 106 for compatible accessories.

Tooling



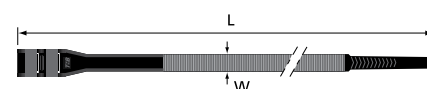
L-300-FR
For use with 9mm (320N - 600N) cable ties.
See pages 122 - 131.



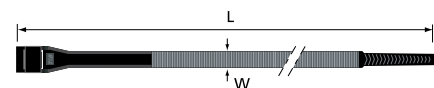
WT3D
For use with 9mm (320N - 600N) cable ties.
See pages 122 - 131.

Dimensions

Double locking head



Single locking head





Special cable ties

Ty-Grip™ hook & loop fasteners



FO series loop ties are ideal for wrapping pre-determined bundle diameters due to the convenient slotted head.



FOL series buckle ties provide added strength and stability due to the high performance polyamide buckle.

Characteristics

These handy ties are very easy to release and re-use, making them ideal for applications where changes are anticipated or continuous access is required.

- Quick bundling and re-adjustable tension
- Ideal for specific applications in fibre optics, computer network wiring, telecom cables, etc.
- Available in buckle straps, overlap straps and headless strips to suit many applications
- Screw-mount and self-adhesive mounting bases provide multiple mounting options
- Multiple colors available for identifying specific bundles

Technical information FO Series

- Material hook side: Polyamide
- Material loop side: Low density Polyethylene
- Temperature range: -20°C to +104°C
- Color: Standard color: black
- Flammability rating: UL 94 HB*
- Peel-off strength: 0.8N/cm

Technical information FOL Series

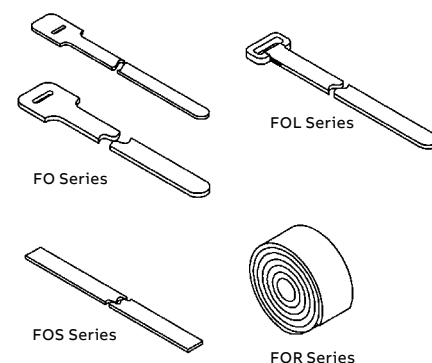
- Material hook side: Polyamide
- Temperature range: -20°C to +93°C
- Color: Standard color: black - see note after table
- Flammability rating: UL 94 HB
- Peel-off strength: 0.8N/cm
- Other properties: Halogen-free, Silicone free

Ty-Grip™ hook & loop fasteners

Product code	GID No.	Maximum bundle diameter [mm]	Length L [mm]	Width W [mm]	Tensile strength [N]	Quantity [pieces]
FO Series loop ties						
FO200-40-0	7TAG009630R0018	50.8	228.6	12.7	180	10
FO200-50-0	7TAG009630R0026	50.8	228.6	19.1	220	10
FO350-40-0	7TAG009630R0031	88.9	330.2	12.7	180	10
FO350-50-0	7TAG009630R0033	88.9	330.2	19.1	220	10
FOL Series buckle ties						
FOL300-50-0	7TAG009630R0036	76.2	304.8	19.1	220	10
FOL500-50-0	7TAG009630R0040	127.0	457.2	19.1	220	10

Additional colors available through special order. See sales representative for pricing, lead time and MOQ.

Dimensions



Special cable ties

Ty-Grip™ hook & loop fasteners



FOS series strip ties are pre-cut which makes bundling easy.



FOR series rolled hook and loop allows customers to conveniently cut pieces to desired lengths, eliminating waste.

Characteristics

These handy ties are very easy to release and re-use, making them ideal for applications where changes are anticipated or continuous access is required.

- Quick bundling and re-adjustable tension
- Hook and loop fasteners are gentle on cables making them ideal for specific applications in fibre optics, computer network wiring, telecom cables, etc.
- Available in pre-cut strips and rolls for a variety of applications
- Screw-mount and self-adhesive mounting bases provide multiple mounting options

Technical information FOS and FOR Series

- Material hook side: Polyamide
- Material loop side: Low density Polyethylene
- Temperature range: -20°C to +104°C
- Color: Standard color: black*
- Flammability rating: UL 94 HB
- Peel-off strength: 0,8N/cm
- Other properties: Halogen-free, Silicone free

Ty-Grip™ hook & loop fasteners

Product code	GID No.	Maximum bundle diameter [mm]	Length L [mm]	Width W [mm]	Tensile strength [N]	Quantity [pieces]
FOS Series strip ties						
FOS150-50-0	7TAG009630R0046	38.1	152.4	19.1	220	10
FOS320-50-0	7TAG009630R0048	81.3	304.8	19.1	220	10
FOS500-50-0	7TAG009630R0050	127.0	457.2	19.1	220	10
FOR Series rolled strip						
FOR180-50-0	7TAG009630R0041	Various	4572.0	19.1	220	1
FOR180-50-0-FR**	7TAG009370R0000	Various	4572.0	19.1	220	1

* Standard color: black.

** FOR180-50-0-FR is made of flame retardant material.

Contact your Sales Office for product availability in the other colors.



Ty-Rap® and Ty-Fast®

Accessories

To complement the range of premium cable ties, ABB has developed an extensive range of mounting bases, cable clamps and other fastening accessories, to provide a professional solution to the most demanding applications in cable management.

- 01 TC345 4-way entry mounting base.
- 02 TC375 multi-bundle mounting strip.
- 03 CPS series braided sleeving.
- 04 SRPE series.

ABB Installation Products invented the cable tie in 1958 and has spent the subsequent decades perfecting both the cable tie itself and a full complement of cable tie mounting bases. With an extensive variety of configurations, materials and mounting methods, our complete portfolio of mounting bases, clips, clamps and cable protection includes a solution for all your wire and cable fastening needs.

Features

- Standard nylon 6.6 material
- UV-resistant black nylon 6.6 for outdoor use
- Other materials for special environments
- Low-profile designs
- Easy to install with self-adhesive, screws or glue
- Many models are UL recognised

Applications

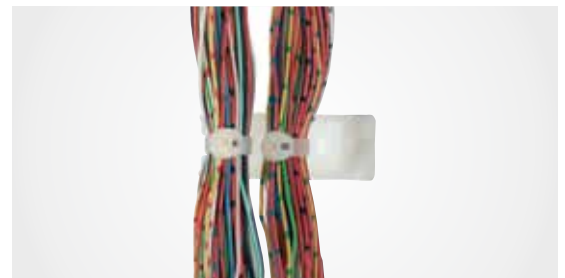
- Aircraft wiring
- Automation and control panels
- Machine control devices
- Building wiring
- Solar panel installations
- Vehicle wiring harnesses
- Wiring closets
- Office equipment and home appliances
- Lighting and electronic equipment
- Other indoor and outdoor wire and cable fastening applications

Typical surfaces

- Plastic
- Glass
- Wood
- Metal
- Paper
- Painted surfaces
- Ceramics



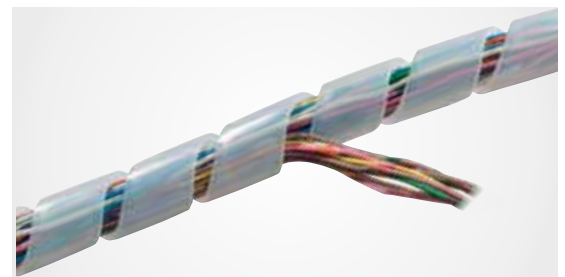
01



02



03



04



Segmentation table

Mounting bases

Operating temperature ratings (°C)			Type of mounting base	2-ways entry bases		4-ways entry bases		Low profile plates	
For cable ties width up to (mm)	Screw version	Self-adhesive version	Color	Screw/glue	Self-adhesive /screw	Screw/glue	Self-adhesive /screw	Glue	Self-adhesive
PA6.6									
2,4	from -40 to +85	from 0 to +65	Natural	X	X	X	X	X	X
3,6	from -40 to +85	from 0 to +65	Natural	X	X	X	X	X	X
4,8	from -40 to +85	from 0 to +65	Natural	X	X	–	X	X	X
5,2	from -40 to +85	from 0 to +65	Natural	X	X	–	X	–	–
7,6	from -40 to +85	from 0 to +65	Natural	X	X	–	X	–	–
PA6.6, UV-resistant									
2,4	from -40 to +85	from 0 to +65	Black	X	X	–	X	–	X
3,6	from -40 to +85	from 0 to +65	Black	X	X	–	X	–	X
4,8	from -40 to +85	from 0 to +65	Black	X	X	–	X	–	X
5,2	from -40 to +85	from 0 to +65	Black	X	X	–	X	–	–
7,6	from -40 to +85	from 0 to +65	Black	X	X	–	X	–	–
PA6.6, flame retardant									
2,4	from -40 to +85	–	Natural	X	–	–	–	–	–
3,6	from -40 to +85	–	Natural	X	–	–	–	–	–
4,8	from -40 to +85	–	Natural	X	–	–	–	–	–
5,2	from -40 to +85	–	Natural	X	–	–	–	–	–
7,6	from -40 to +85	–	Natural	X	–	–	–	–	–
PA6.6, weather resistant									
2,4	from -40 to +85	–	Black	–	–	–	–	–	–
3,6	from -40 to +85	–	Black	–	–	–	–	–	–
4,8	from -40 to +85	–	Black	–	–	–	–	–	–
5,2	from -40 to +85	–	Black	–	–	–	–	–	–
7,6	from -40 to +85	–	Black	–	–	–	–	–	–
7,9	from -40 to +85	–	Black	–	–	–	–	–	–
9,0	from -40 to +85	–	Black	–	–	–	–	–	–
12,7	from -40 to +85	–	Black	–	–	–	–	–	–
ETFE									
2,4	from -40 to +150	from 0 to +65	Aquamarine	X	–	–	–	–	–
3,6	from -40 to +150	from 0 to +65	Aquamarine	X	–	–	–	–	–
4,8	from -40 to +150	from 0 to +65	Aquamarine	X	–	–	–	–	–
5,2	from -40 to +150	from 0 to +65	Aquamarine	X	–	–	–	–	–
7,6	from -40 to +150	from 0 to +65	Aquamarine	X	–	–	–	–	–
PA6.6 and PP, detectable									
2,4	from -40 to +85	from 0 to +65	Blue	–	X	–	X	–	X
3,6	from -40 to +85	from 0 to +65	Blue	–	X	–	X	–	X
4,8	from -40 to +85	from 0 to +65	Blue	–	X	–	–	–	X
5,2	from -40 to +85	from 0 to +65	Blue	–	X	–	–	–	–
7,6	from -40 to +85	from 0 to +65	Blue	–	X	–	–	–	–
PA11/12									
2,4	from -40 to +80	–	Black	–	–	–	–	–	–
3,6	from -40 to +80	–	Black	–	–	–	–	–	–
4,8	from -40 to +80	–	Black	–	–	–	–	–	–
5,2	from -40 to +80	–	Black	–	–	–	–	–	–
7,6	from -40 to +80	–	Black	–	–	–	–	–	–
7,9	from -40 to +80	–	Black	–	–	–	–	–	–
9,0	from -40 to +80	–	Black	–	–	–	–	–	–
PA6.6, colored									
2,4	from -40 to +85	–	Colored	–	–	–	–	–	–
3,6	from -40 to +85	–	Colored	–	–	–	–	–	–
4,8	from -40 to +85	–	Colored	–	–	–	–	–	–
Aluminum									
2,4	from -100 to +450	from 0 to +65	Metallic	–	–	–	–	–	–
3,6	from -100 to +450	from 0 to +65	Metallic	–	–	–	–	–	–
4,8	from -100 to +450	from 0 to +65	Metallic	–	–	–	–	–	–
Zinc plated steel									
2,4	from -34 to +65	–	Metallic	–	–	–	–	–	–
3,6	from -34 to +65	–	Metallic	–	–	–	–	–	–
4,8	from -34 to +65	–	Metallic	–	–	–	–	–	–
5,2	from -34 to +65	–	Metallic	–	–	–	–	–	–
7,6	from -34 to +65	–	Metallic	–	–	–	–	–	–
7,9	from -34 to +65	–	Metallic	–	–	–	–	–	–
9,0	from -34 to +65	–	Metallic	–	–	–	–	–	–
12,7	from -34 to +65	–	Metallic	–	–	–	–	–	–

Mounting bases

2-way entry



Characteristics

- Versatile design allows one mount to be used for heavy duty ties up to 7,6mm width in a two-way style or tie up to 4,8mm width in a four-way style
- Choice of 3 materials: standard Polyamide 6.6 (natural), UV-resistant Polyamide 6.6 (black), Polyamide 6.6 flame retardant and ETFE Fluoropolymer (aquamarine)
- Supplied on either a rubber based (synthetic polymer) closed cell foam adhesive (installation: self-adhesive and/or screw) or without self-adhesive (installation: screw and/or 2-component glue)

Technical information

TC347, TC347A, TC5347AR, TC347X and TC5347AX

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
(Self-adhesive version: 0°C to +65°C)
- Flammability rating: UL 94 V-2

- Color: (see table)
- Other properties: UV-resistant (black), Halogen free, Silicone free

TC347FR (Flame retardant)

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Flammability rating: UL 94 V-0
- Color: Natural
- Other properties: Halogen free, Silicone free

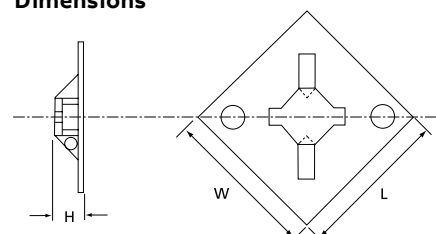
TCZ347 (Fluoropolymer)

- Material: ETFE Fluoropolymer
- Temperature range: -46°C to +150°C
- Flammability rating: UL 94 V-0
- Color: Aquamarine
- Other properties: Silicone free, inert to most solvents and chemicals, hydrolytically stable, radiation resistant

2-way entry

Product code	GID No.	Color	Mounting method	Dimensions			For tie width up to	Mounting hole diameter	Quantity
				L	W	H			
				[mm]	[mm]	[mm]			
Standard pack size									
TC5347A	7TAG009800R0007	Natural	Self-adhesive/ screw	29.0	29.0	8.5	7.6	4.4 (2x)	100
Bulk pack size									
TC347	7TAG009820R0050	Natural	Screw/glue*	28.6	28.6	7.8	7.6	4.4 (2x)	1000
TC347X	7TAG009820R0054	UV-resistant black	Screw/glue*	28.6	28.6	7.8	7.6	4.4 (2x)	1000
TC347FR	7TAG009820R0053	Natural/ flame retardant	Screw/glue*	28.6	28.6	7.8	7.6	4.4 (2x)	1000
TCZ347	7TAG009820R0055	Aquamarine	Screw/glue*	28.6	28.6	7.8	7.6	4.4 (2x)	500
TC347A	7TAG009820R0051	Natural	Self-adhesive/ screw	29.0	29.0	8.5	7.6	4.4 (2x)	1000
TC5347AX	7TCG009800R0008	UV-resistant black	Self-adhesive/ screw	29.0	29.0	8.5	7.6	4.4 (2x)	100

Dimensions



Mounting bases

4-way entry - high performance



Characteristics

- Design & materials, for increased performance
- Low profile shape (height: 5,1mm, to save space and reduce the torque forces on the mounting base)
- Ramped cable tie entries, for easier insertion of the cable tie
- Longer struts (up to the edges of the base), for better adhesion
- Special adhesive formulation (specifically for Nylon mounting bases) for high pull-off strength
- 2 kinds of self-adhesive material:
 - rubber-based, for immediate adhesion (15 minutes set-up time)
 - acrylic based, to have the possibility of repositioning the mounting base initially (set-up time: 24 to 72 hours)

- Two holes to have the ability or potential to use additional screws, for even stronger installations when required
- Supplied on two-up lining, for easy removal of the lining

Technical information

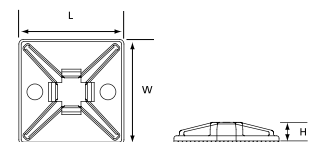
- Material - Molding: Polyamide or UV-resistant Polyamide
- Material - Self-adhesive: Rubber based
- Temperature range: -60°C to +85°C
Self-adhesive version: 0°C to +70°C
- Flammability rating: UL 94 V-2
- Colors: Natural or UV-resistant black
- Other properties: UV-resistant black, Halogen free, Silicone free



4-way entry - high performance

Product code	GID No.	Color	Mounting method	Dimensions			For tie width up to	Mounting hole diameter	Qty
				L	W	H			
				[mm]	[mm]	[mm]			
For tie width up to 5.2mm									
Standard pack size									
TC5345A	7TAG009800R0002	Natural	Self-adhesive (rubber based)/screws	28.6	28.6	5.1	5.2	4.0	100
Bulk pack size									
TC345	7TAG009820R0041	Natural	Glue*/screws	28.6	28.6	5.1	5.2	4.0	1000
TC345A	7TAG009820R0045	Natural	Self-adhesive (rubber based)/screws	28.6	28.6	5.1	5.2	4.0	1000
TC345AX	7TAG009820R0048	UV Black	Self-adhesive (rubber based)/screws	28.6	28.6	5.1	5.2	4.0	1000
For tie width up to 3.6mm									
Standard pack size									
TC5344	7TAG009790R0010	Natural	Screw/glue*	19.1	19.1	4.9	3.6	3.0	100
TC5344AR-C	7TCG009795R0004	Natural	Self-adhesive/screw	19.1	19.1	4.9	3.6	3.0	100
TC5344AX-C	7TCG009795R0005	UV Black	Self-adhesive/screw	19.1	19.1	4.9	3.6	3.0	100
Bulk pack size									
TC344	7TAG009810R0008	Natural	Screw/glue*	19.1	19.1	4.9	3.6	3.0	1000
TC344A-M	7TCG009815R0002	Natural	Self-adhesive/screw	19.1	19.1	4.9	3.6	3.0	1000
For tie width up to 3.0mm									
TC050x050AX-C	7TAG009830R0001	UV Black	Self-adhesive	12.7	12.7	4.5	3.0	–	100

Dimensions



Mounting bases

4-way entry - for wide cable ties



Characteristics

- Supplied on either a rubber based (synthetic polymer) closed cell foam adhesive or without self adhesive (installation: screw and/or 2 component glue)
- Available in standard Polyamide 6.6 (natural) or UV-resistant Polyamide 6.6 (black)

Technical information

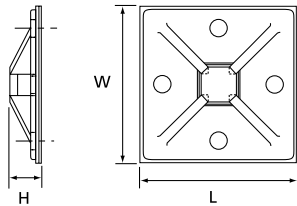
- Material: Polyamide 6.6
- Temperature range:
Glue version: -40°C to +85°C
Self-adhesive version: 0°C to +70°C
- Flammability rating: UL 94 V-2
- Colors: Natural or UV-resistant black
- Other properties: UV-resistant black, Halogen free, Silicone free

4-way entry - for wide cable ties



Product code	GID No.	Color	Mounting method	Dimensions			For tie width up to	Mounting hole diameter	Quantity
				L [mm]	W [mm]	H [mm]			
TC150x150A	7TAG009840R0009	Natural	Self-adhesive / screw	38.1	38.1	7.4	7.9	4.3	500
TC200x200AX	7TAG009840R0013	UV-resistant black	Self-adhesive / screw	50.8	50.8	7.4	7.9	4.3	500

Dimensions



Mounting bases

Low profile plates



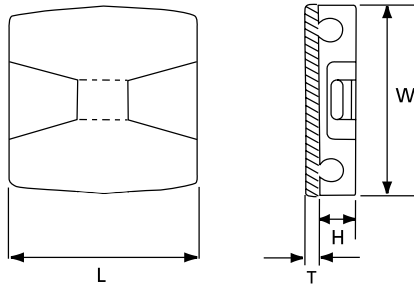
- Characteristics**
- Low profile
 - Easy to use
 - Self-adhesive or to be glued with 2-component glue

- Technical information**
- Material: Polyamide 6.6
 - Temperature range:
-40°C to +85°C
Self-adhesive version: 0°C to +65°C
 - Color: Natural or UV-resistant black
 - Flammability rating: UL 94 V-2
 - Other properties: Halogen free, Silicone free, UV-resistant black

Low profile plates

Product code	GID No.	Color	Mounting method	Dimensions				For tie width up to	Quantity
				H	T	W	L		
				[mm]	[mm]	[mm]	[mm]		
Standard pack size									
TC5342A	7TAG009800R0000	Natural	Self-adhesive	5.7	0.8	29.0	29.0	4.8	100
Bulk pack size									
TC342	7TAG009820R0036	Natural	Glue	5.7	–	29.0	29.0	4.8	1000
TC342A	7TAG009820R0037	Natural	Self-adhesive	5.7	0.8	29.0	29.0	4.8	1000
TC342A-X	7TAG009820R0038	UV-resistant black	Self-adhesive	5.7	0.8	29.0	29.0	4.8	1000

Dimensions



Mounting bases

Saddle support



Characteristics

- Tie mounting bases with supporting saddle
- For screw- or rivet-mounting
- The prism-shape of the saddle prevents twisting around the fixture
- High strength through compact design
- Non-conductive, non-corrosive, resistant to fuels, lubricants and most chemicals
- Available in natural nylon, UV-resistant nylon or heat stabilized black version

Technical information

- Material: Polyamide 6.6 or heat stabilized Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural or UV-resistant black
- Mounting method: Screw
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free, UV-resistant black

Saddle support

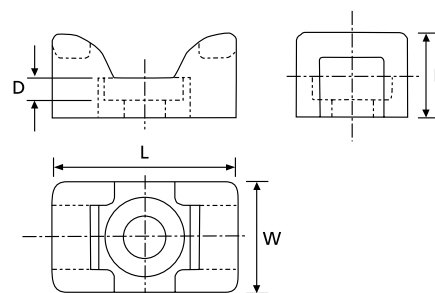


			Dimensions				For tie width up to	Mounting hole diameter	Quantity
Product code	GID No.	Color	H [mm]	W [mm]	L [mm]	D [mm]			
Standard pack size									
TC5140	7TAG009840R0017	Natural	6.7	8.7	14.2	1.8	2.4	3.0	100
TC5141	7TAG009870R0002	Natural	7.5	11.1	17.0	2.3	4.8	3.8	100
TC5142	7TAG009870R0003	Natural	10.7	14.2	23.4	2.9	7.6	5.2	100
TC5142X*	7TAG009840R0018	UV-resistant black / heat stabilized	10.7	14.2	23.4	2.9	7.6	5.2	100
Bulk pack size									
TC140	7TAG009880R0005	Natural	6.7	8.7	14.2	1.8	2.4	3.0	500
TC141	7TAG009880R0006	Natural	7.5	11.1	17.0	2.3	4.8	3.8	500
TC142	7TAG009880R0007	Natural	10.7	14.2	23.4	2.9	7.6	5.2	500
TC142X*	7TAG009840R0007	UV-resistant black / heat stabilized	10.7	14.2	23.4	2.9	7.6	5.2	500

* Are not UL recognised.

For other colors and quantities, please contact your Sales Office.

Dimensions





Mounting bases

Weather resistant - Heavy-duty



Characteristics

- Tie mounting base for outdoor installation
- A strong, weatherproof and durable outdoor fastening solution for pipes, hoses, cables, etc.
- For screw-fastening
- Ergonomically shaped for ease of installation

Technical information

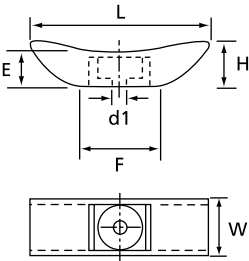
- Material: UV-stabilized Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Black
- Mounting method: Screw (for product code TC5355 to TC5357 only)
- Flammability rating: UL 94 V-2
- Other properties: UV-resistant, Halogen free, Silicone free

Weather resistant - Heavy-duty



Product code	GID No.	Dimensions					For tie width up to	Mounting hole diameter	Quantity [pieces]
		H [mm]	W [mm]	L [mm]	E [mm]	F [mm]			
TC5355	7TAG009870R0004	15.9	19.1	44.5	11.1	28.6	12.7	4.6	25
TC5356	7TAG009870R0005	15.9	19.1	44.5	11.1	28.6	12.7	5.2	25
TC5357	7TAG009870R0006	15.9	19.1	44.5	11.1	28.6	12.7	6.7	25

Dimensions



Mounting bases

Saddle-type mounting base



Characteristics

The saddle-type mounting bases allow 3 possible cable mounting:

- the cables can be attached to a flat surface on which the base is screwed
- the cable bundles can be mounted in parallel
- the cable bundles can be mounted crosswise

Can also be used for the mounting of cylindrical objects having a diameter between 12.7mm and 31.8mm.

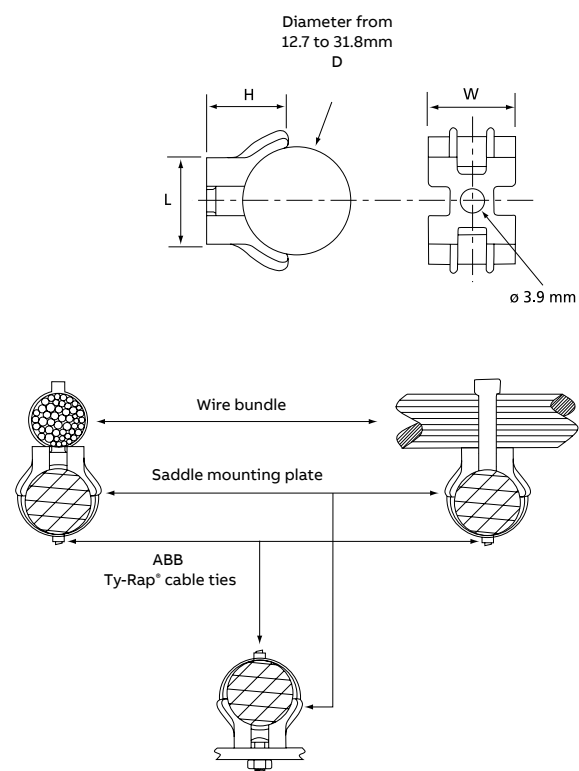
Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural
- Mounting method: Screw
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Saddle-type mounting base

Product code	GID No.	Dimensions				For tie width up to	Mounting hole diameter	Quantity
		H [mm]	W [mm]	L [mm]	D [mm]			
TC92	7TAG009910R0088	14.3	15.1	15.1	12.7 - 31.8	4.8	3.9	100

Dimensions



Mounting bases

Screw-mounted miniature bases



- Characteristics**
- Low profile mounting base
 - For screw- or rivet-mounting
 - Easy to use due to the cable tie insertion guide

- Technical information**
- Material: Polyamide 6.6
 - Temperature range: -40°C to +85°C
 - Color: Natural
 - Mounting method: Fillister-head screw (miniature base), screw or rivet
 - Flammability rating: UL 94 V-2
 - Other properties: Halogen free, Silicone free

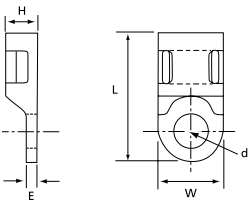
Screw-mounted miniature bases



Product code	GID No.	Dimensions				For tie width up to	Mounting hole diameter	Quantity
		H	W	L	D			
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[pieces]
TC814-TB	7TAG009880R0011	4.8	9.5	19.1	2.0	4.8	3.3	1000
TC112-TB	7TAG009880R0004	4.8	9.5	19.1	2.0	4.8	4.4	1000
TC812-TB	7TAG009880R0009	4.8	9.5	19.1	2.0	4.8	5.1	1000

For other colors and quantities, please contact your Sales Office.

Dimensions



Mounting bases

Bases for crosswise fastening



Characteristics

- Extremely low profile
- For screw- or rivet-mounting
- Easy to use due to the cable tie insertion guide
- Two ties can be fastened crosswise to securely fix cable intersections

Technical information

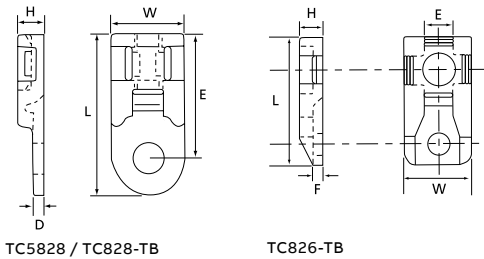
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural
- Mounting method: Screw or rivet
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Screw-mounted - for crosswise fastening

Product code	GID No.	Dimensions					For tie width up to	Mounting hole diameter	Quantity
		H	W	L	D	E			
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[pieces]
TC5828	7TAG009870R0007	3.8	10.1	22.5	1.5	17.4	4.8	4.3	100
TC828-TB	7TAG009880R0015	3.8	10.1	22.5	1.5	17.4	4.8	4.3	1000
TC826-TB	7TAG009880R0014	5.7	12.7	23.8	5.3	2.0	4.8	4.4	1000

For other colors and quantities, please contact your Sales Office.

Dimensions



Mounting bases

Screw-mounted miniature bases



Characteristics

- Extremely low profile
- For screw- or rivet-mounting
- Easy to use due to the cable tie insertion guide

Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural
- Mounting method: Screw or rivet
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free



Screw-mounted miniature bases

Product code	GID No.	Dimensions			For tie width up to	Mounting hole diameter		Quantity [pieces]
		H	W	L		Diameter D1	Diameter D2	
		[mm]	[mm]	[mm]		[mm]	[mm]	
Small pack size								
TC502***	7TAG009870R0000	3.2	12.7	19.1	4.8	4.4	8.7	100
Standard pack size								
TC804-TB**	7TAG009880R0008	2.4	7.9	10.2	2.4	2.3	4.7	1000
TC104*	7TAG009880R0003	2.4	7.9	10.3	2.4	3.4	6.5	1000
TC102*	7TAG009880R0001	3.2	12.7	19.1	4.8	4.4	8.7	1000

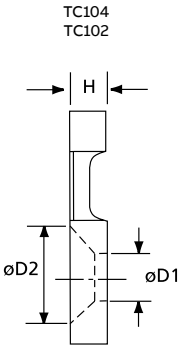
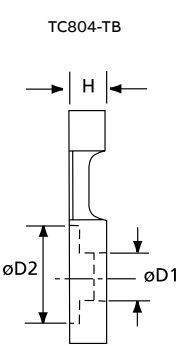
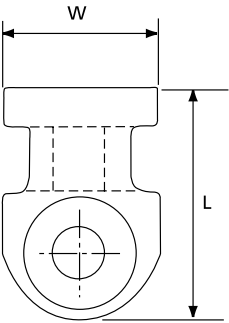
Please contact your sales office for availability of UV-resistant version.

* UL listed only.

** cURus certified only.

*** not UL certified.

Dimensions



Mounting bases

Screw-mounted - for wide cable ties



- Characteristics**
- Extremely low profile
 - For screw- or rivet-mounting
 - Easy to use due to the cable tie insertion guide
 - Secure fixing with 2 fastening holes

- Technical information**
- Material: Polyamide 6.6
 - Temperature range: -40°C to +85°C
 - Color: Natural
 - Mounting method: 2 screws
 - Flammability rating: UL 94 V-2
 - Other properties: Halogen free, Silicone free

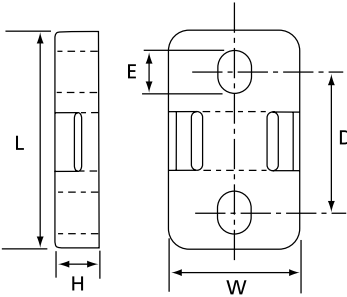
Screw-mounted - for wide cable ties



Product code	GID No.	Dimensions					For tie width up to	Mounting hole diameter	Quantity [pieces]
		H [mm]	W [mm]	L [mm]	D [mm]	E [mm]			
TC815-TB	7TAG009880R0012	6.4	19.1	31.2	19.9	6.4	7.6	5.3	500

For other colors and quantities, please contact your Sales Office.

Dimensions





Mounting bases

Screw-mounted supporting bases



Characteristics

- Supporting mounting base with strong hold due to 2 mounting holes
- Can be screwed or riveted
- Allows double and/or crosswise (two ties) fixing
- For parallel and through mounting with support
- Suitable for large bundle diameters

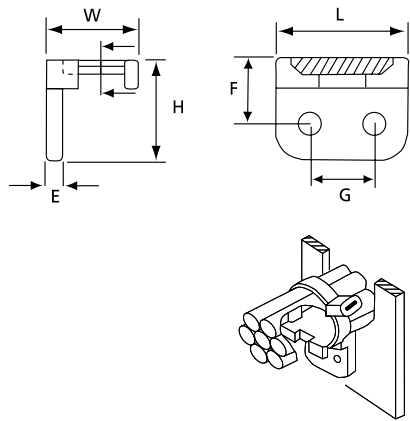
Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural
- Mounting method: 2 screws or 2 rivets
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Screw-mounted supporting bases

Product code	GID No.	Dimensions						For tie width up to	Mounting hole diameter (x2)	Quantity
		H [mm]	W [mm]	L [mm]	G [mm]	E [mm]	F [mm]			
TC106	7TAG009910R0071	25.4	19.1	25.4	12.7	4.6	16.5	7.6	3.3	200

Dimensions



Mounting bases

Aluminium plates & mounting base adhesive



Characteristics

- Very strong mounting base for gluing or screw mounting or self-adhesive mounting
- Low profile
- Soft material can be shaped onto any support
- Lightweight
- Does not age under extreme temperatures

Technical information

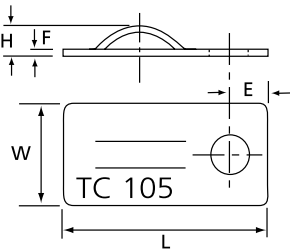
- Material: Aluminium (3003, ASTM-B-209)
- Temperature range:
-100°C to +450°C
Self-adhesive version: 0°C to +65°C
- Color: Metallic
- Mounting method: screw or self-adhesive
- Flammability rating: Fire proof
- Other properties: UV-resistant

Aluminium plates

Product code	GID No.	Mounting method	Dimensions					For tie width up to	Mounting hole diameter	Quantity [pieces]
			H [mm]	W [mm]	L [mm]	E [mm]	F [mm]			
TC105AP	7TCG009500R0034	Self-adhesive / screw	3.8	13.2	25.4	4.8	0.8	4.8	4.9	1000
TC105	7TAG009840R0005	Screw	3.8	13.2	25.4	4.8	0.8	4.8	4.9	1000

Dimensions

TC105 and TC105AP





Mounting bases

Detectable mounts



4-way entry
mounting bases



2-way entry
mounting bases

Characteristics

2-way and 4-way entry mounting bases

- Detectable with metal and X-ray detection equipment
- Limits errors in premounting the base with respect to its orientation to wire bundle direction
- Easy to use
- Self-adhesive or to be glued with 2-component glue*

Technical information

- Material: Polypropylene (PDT), Detectable Polyamide 6.6. (NDT) and Polypropylene
- Temperature range: NDT: -60 to +85°C, PDT: -40 to +85°C
- Color: Blue
- Mounting method: 2 screws, 2 rivets or self-adhesive
- Other properties: Detectable with metal and X-ray detection equipment



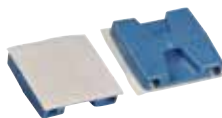
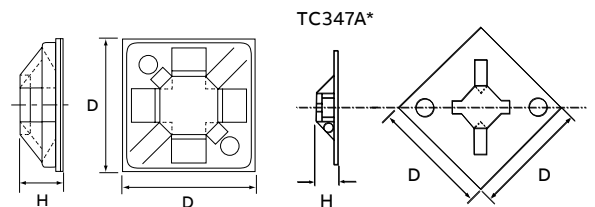
E49405

2-way and 4-way entry mounting bases

Product code	GID No.	Mounting method	Width H [mm]	Length D [mm]	For tie width up to [mm]	Mounting hole (2x) diameter [mm]	Quantity [pieces]
TC5344A-NDT	7TAG009660R0023	Self-adhesive*/screw	19.1	19.1	3.6	3.0	100
TC344A-NDT	7TAG009660R0013	Self-adhesive*/screw	19.1	19.1	3.6	3.0	1000
TC5344A-PDT	7TAG009660R0024	Self-adhesive*/screw	19.1	19.1	3.6	3.0	100
TC5347A-NDT	7TAG009660R0025	Self-adhesive*/screw	29.0	29.0	7.6	4.4	100
TC347A-NDT	7TAG009660R0014	Self-adhesive*/screw	29.0	29.0	7.6	4.4	1000
TC5347A-PDT	7TAG009660R0026	Self-adhesive*/screw	29.0	29.0	7.6	4.4	100

* Surface preparation: surface should be cleaned with alcohol-based cleaner before application.
Installation: Surface must be clean and dry prior to application of accessory.
Allow 15-minute setting time for maximum adhesion performance of synthetic rubber adhesive (SRA).

Dimensions



Low profile plates

Low profile plates

- Detectable with metal and X-ray detection equipment
- One-piece molding - no lost parts
- Low profile



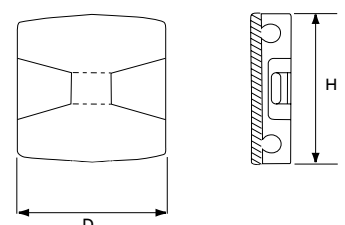
E49405

Low profile plates

Product code	GID No.	Mounting method	Width H [mm]	Length D [mm]	For tie width up to [mm]	Quantity [pieces]
TC5342A-NDT	7TAG009660R0021	Self-adhesive*	29	29	4.8	100
TC342A-NDT	7TAG009660R0012	Self-adhesive*	29	29	4.8	1000
TC5342A-PDT	7TAG009660R0022	Self-adhesive*	29	29	4.8	100

* Surface preparation: surface should be cleaned with alcohol-based cleaner before application.
Installation: Surface must be clean and dry prior to application of accessory.
Allow 15-minute setting time for maximum adhesion performance of synthetic rubber adhesive (SRA).

Dimensions



Mounting bases

Detectable mounts



Saddle support

Characteristics

- Detectable with metal and X-ray detection equipment
- Saddle support mounting base provides a saddle for the wire run. Ty-Rap tie is threaded under bundle and tied in a usual manner

Technical information

- Material: Detectable Polyamide 6.6 and Polypropylene
 - Temperature range: -60°C to +85°C
 - Color: Blue
 - Mounting method: 2 screws or 2 rivets
 - Other properties: Detectable with metal and X-ray detection equipment
 - Flammability rating UL94: V-2
- Polypropylene:
- Temperature range: -40°C to +85°C
 - Flammability rating UL94: HB



E49405

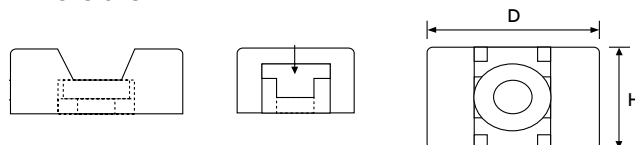
Saddle support

Product code	GID No.	Mounting method	Width H [mm]	Length D [mm]	For tie width up to [mm]	Mounting hole diameter [mm]	Quantity [pieces]
TC141-NDT	7TAG009660R0010	Screw	11.1	17	4.8	3.8	100
TC5141-NDT	7TAG009660R0017	Screw	11.1	17	4.8	3.8	500
TC5141-PDT	7TAG009660R0018	Screw	11.1	17	4.8	3.8	100
TC5142-NDT	7TAG009660R0019	Screw	14.2	23.4	7.6	5.2	100
TC142-NDT	7TAG009660R0011	Screw	14.2	23.4	7.6	5.2	500
TC5142-PDT	7TAG009660R0020	Screw	14.2	23.4	7.6	5.2	100



Screw-mounted miniature bases

Dimensions

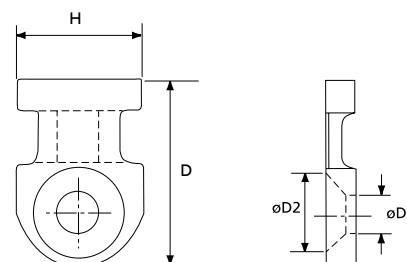


E49405

Screw-mounted miniature bases

Product code	GID No.	Mounting method	Width H [mm]	Length D [mm]	For tie width up to [mm]	Mounting hole		Quantity [pieces]
						Diameter D1 [mm]	Diameter D2 [mm]	
TC5102-NDT	7TAG009660R0015	Screw	12.7	19.1	4.8	4.4	8.7	100
TC102-NDT	7TAG009660R0008	Screw	12.7	19.1	4.8	4.4	8.7	1000
TC102-PDT	7TAG009660R0009	Screw	12.7	19.1	4.8	4.4	8.7	1000

Dimensions



Mounting bases

Screw-mounted strips for multiple bundling



Characteristics

- Tie mounting strips for up to 6 bundles simultaneously
- When mounted, the tie is guided through the clamp for fast assembly

Product code TC1101 to TC1117

- Simple and strong flat mounting beams for fixing multiple cables, bundles or components

Product code TC375 and TC376

- For vertical and double-side mounting

Product code TC101 and TC103

- Elongated fastening hole on one end allows greater flexibility during mounting

Technical information

- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural
- Mounting method: 2 screws (1 screw for product code. TC376 & TC375)
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Screw-mounted strips for multiple bundling

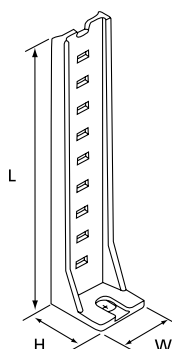


Product code	GID No.	Dimensions					Max. number of bundles	For tie width up to	Mounting hole diameter	Quantity [pieces]
		H [mm]	W [mm]	L [mm]	D [mm]	E [mm]				
TC101	7TAG009880R0000	3.2	12.7	50.0	35.6	9.5	1.0	4.8	5.2	1000
TC103	7TAG009880R0002	5.1	15.8	79.0	59.6	18.6	1.0	7.6	6.9	500
TC1101	7TAG009910R0072	3.2	12.7	44.0	31.8	9.5	1.0	4.8	3.7	100
TC1102	7TAG009910R0073	3.2	12.7	76.0	31.8	9.5	2.0	4.8	3.7	100
TC1103	7TAG009910R0074	3.2	12.7	108.0	31.8	9.5	3.0	4.8	3.7	100
TC1104	7TAG009910R0075	3.2	12.7	140.0	31.8	9.5	4.0	4.8	3.7	100
TC1105	7TAG009910R0076	3.2	12.7	171.0	31.8	9.5	5.0	4.8	3.7	100
TC1112	7TAG009910R0077	5.2	15.9	244.0	38.1	14.3	6.0	7.6	3.7	100
TC1113	7TAG009910R0078	5.2	15.9	53.3	38.1	14.3	1.0	7.6	3.7	100
TC1115	7TAG009910R0080	5.2	15.9	130.0	38.1	14.3	3.0	7.6	3.7	100
TC1116	7TAG009910R0081	5.2	15.9	168.0	38.1	14.3	4.0	7.6	3.7	100
TC1117	7TAG009910R0082	5.2	15.9	206.0	38.1	14.3	5.0	7.6	3.7	100
TC375	7TAG009910R0084	19.1	17.5	93.0	–	6.4	5.0	4.8	4.8	100
TC376	7TAG009910R0086	17.0	17.5	44.0	–	6.4	2.0	4.8	4.8	100

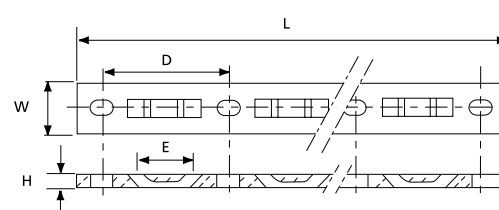
For other colors and quantities, please contact your Sales Office.

Dimensions

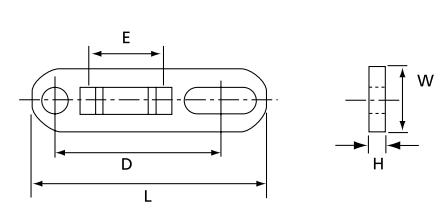
TC375 & TC376



TC1101 ... TC1117



TC101 & TC103



Special cable ties

Col-Ty™ Accessories



Characteristics

- Use 5mm screw
- Cradle for ties up to 9mm wide

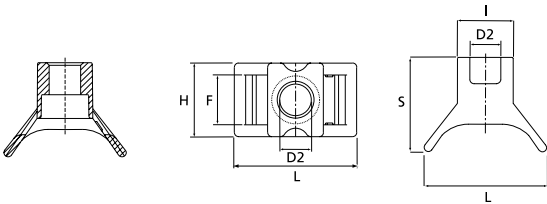
Technical information

- Material: Polyamide 11/12
- Temperature range: -40°C to +80°C
- Color: Black
- Flammability rating: UL 94 HB
- Other properties: UV-resistant

Heavy-duty installation ties

Product code	GID No.	Dimensions						Quantity [pieces]
		L [mm]	I [mm]	S [mm]	H [mm]	F [mm]	d2 [mm]	
CT-3401	7TCG009750R0009	22.9	10.5	17.6	13.8	9.4	5.9	100

Dimensions



Special cable ties

Col-Ty™ Accessories



Characteristics

- Wall plug suitable for Ø 8mm hole
- Simply drill hole and hammer the plug in

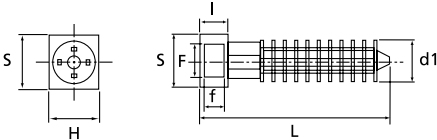
Technical information

- Material: Polyamide 11/12
- Temperature range: -40°C to +80°C
- Color: Black
- Flammability rating: UL 94 HB
- Other properties: UV-resistant

Heavy-duty installation ties

Product code	GID No.	Dimensions							Quantity [pieces]
		L [mm]	Ød1 [mm]	S [mm]	H [mm]	I [mm]	F [mm]	f [mm]	
CT-5359	7TCG009750R0010	43.1	9.6	13.2	16.0	6.3	9.5	2.4	100

Dimensions



Mounting bases

Clip-in mounting bases for blind mounting



Characteristics

- Clip-in tie mounting bases for housings, faceplates etc
- With fastening clip for blind-mounting and two openings for 2.8mm or 4.8mm ties
- Low profile

Technical information

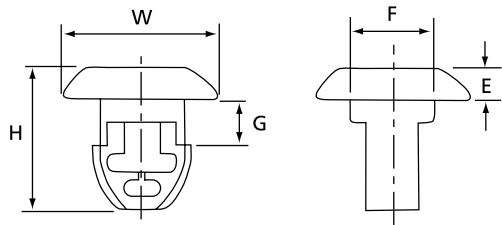
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural
- Mounting method: Clip in
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Clip-in mounting bases for blind mounting



Product code	GID No.	Dimensions			Panel thickness from...to	For tie width up to	Mounting hole diameter	Quantity
		H [mm]	W [mm]	E [mm]				
TC121-TB	7TAG009860R0006	10.4	11.2	2.0	0.1 to 3.2	2.4 or 4.8	6.3	1000

Dimensions



Mounting bases

Clip-in mounting bases for surface mounting



Characteristics

- Clip-in tie mounting bases for housings, faceplates etc
- With fastening clip for surface mounting
- Low profile

Technical information

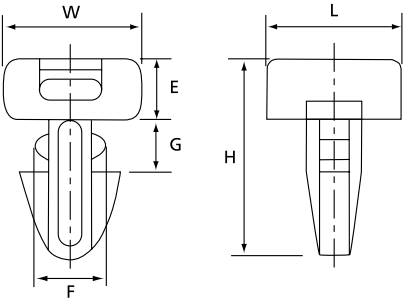
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural
- Mounting method: Clip in
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free
- For tie width up to 4,8 mm

Clip-in mounting bases for surface mounting

Product code	GID No.	Dimensions					Panel thickness from ... to	Mounting hole diameter	Quantity
		H	W	L	E	F			
		[mm]	[mm]	[mm]	[mm]	[mm]			
Small pack size									
TC5823	7TAG009850R0003	16.8	11.1	11.1	5.1	5.8	0.1 to 3.2	6.2 to 6.5	100
Standard pack size									
TC823-TB	7TAG009860R0007	16.8	11.1	11.1	5.1	5.8	0.1 to 3.2	6.2 to 6.5	1000

For other colors and quantities, please contact your Sales Office.

Dimensions



Mounting bases

Rivet-mounted bases



Characteristics

- Low profile mounting base with integrated rivet
- Easy to install into normal or blind holes: just hammer in the expanding harbour
- Parts are color-coded according to hole diameter to avoid confusion

Technical information

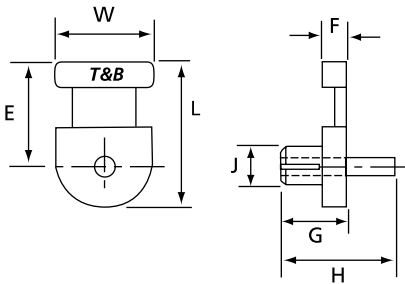
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: See table
- Mounting method: Rivet mounted
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free
- For tie width up to 4.8mm

Rivet-mounted bases



Product code	GID No.	Color	Dimensions				Mounting hole diameter	Quantity
			W	L	F	G		
			[mm]	[mm]	[mm]	[mm]	[mm]	[pieces]
TC118-TB	7TAG009860R0004	Blue	12.7	19.1	3.2	8.6	4.4	1000
TC120	7TAG009860R0005	Yellow	12.7	19.1	3.2	8.6	4.9	1000

Dimensions



Mounting bases

Ty-Rap® solar clip



Characteristics

- Perfect to manage cable on large and small solar projects
 - Specially engineered design provides the ability to quickly slip the cables in and out of the clip for easy removal, re-adjustment, or other maintenance
 - No tools required
 - Lightweight construction
- Fits frame thickness range from 1.5 to 3 mm
For installation of up to 8 control cables with 6 mm² conductor cross-section

- Metal-free construction reduces the need for grounding
- Keeping a clean professional look through panel rotation, environmental changes and vibration

Technical information

- Material: Weather resistant Acetal
- Temperature range: -65°C to +90°C
- Color: black
- Other properties: UV-resistant
- Material: Heat stabilized polyamide 6.6
- Temperature range: -40°C to +105°C
- Color: black
- Other properties: UV-resistant

Ty-Rap® solar clip in weather resistant acetal

Product code	GID No.	Form	Cable routing	Frame thickness [mm]	Max. cable diameter [mm]	Cable capacity [quantity]	Quantity [pieces]
TC401	7TAG009900R0007	U	Vertical	1.5 to 3	7.8	4	100
TC402	7TAG009900R0005	U	Horizontal	1.5 to 3	7.8	4	50
TC403	7TAG009900R0006	W	Horizontal	1.5 to 3	7.8	8	50

Ty-Rap® solar clip in heat stabilized polyamide 6.6

Product code	GID No.	Form	Cable routing	Frame thickness [mm]	Max. cable diameter [mm]	Cable capacity [quantity]	Quantity [pieces]
GD-001-TB	7TAG009900R0000	U	Vertical	1.5 to 3	7.8	4	100
TC412X	7TAG009900R0008	U	Horizontal	1.5 to 3	7.8	4	50
TC413X	7TAG009900R0009	W	Horizontal	1.5 to 3	7.8	8	50

Cable clamps

Plain edge cable clamps



Characteristics

- 18 diameters and 2 widths with mounting holes for M4 and M5 screws
- Indoor application

Technical information

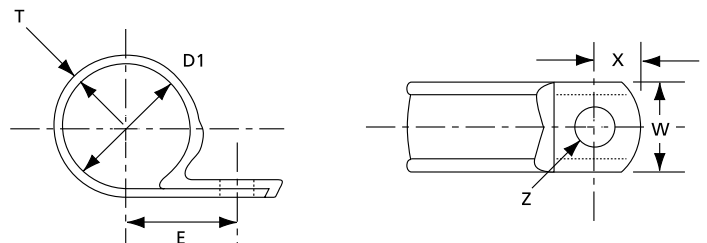
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Black
- Mounting method: Screw
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Plain edge cable clamps

Product code	GID No	Dimensions						Quantity [pieces]
		D1 closed diameter [mm]	E [mm]	T [mm]	W [mm]	Z [mm]	X [mm]	
N4NY-002-0-M	7TAG009970R0050	3.20	8.71	1.27	9.53	5.54	4.30	1000
N4NY-003-0-M	7TAG009970R0056	4.70	9.60	1.27	9.53	5.54	4.30	1000
N4NY-004-0-M	7TAG009970R0063	6.30	10.70	1.27	9.53	5.54	4.30	1000
N4NY-005-0-M	7TAG009970R0070	7.90	11.20	1.27	9.53	5.54	4.30	1000
N4NY-006-0-M	7TAG009970R0075	9.50	11.79	1.27	9.53	5.54	4.30	1000
N4NY-008-0-M	7TAG009970R0089	12.70	13.46	1.27	9.53	5.54	4.30	1000
N6NY-004C-0-M	7TAG009970R0096	6.35	11.10	1.52	12.71	5.54	5.16	1000
N6NY-005C-0-M	7TAG009970R0099	7.92	12.24	1.52	12.71	5.54	5.16	1000
N6NY-006C-0-M	7TAG009970R0102	9.53	12.70	1.52	12.71	5.54	5.16	1000
N6NY-008C-0-M	7TAG009970R0107	12.70	14.05	1.52	12.71	5.54	5.16	1000
N6NY-009-0-M	7TAG009970R0110	14.27	15.32	1.52	12.71	5.54	5.16	1000
N6NY-010-0-M	7TAG009970R0113	15.88	15.88	1.52	12.71	5.54	5.16	1000
N6NY-011-0-M	7TAG009970R0116	17.48	16.89	1.52	12.71	5.54	5.16	1000
N6NY-012-0-M	7TAG009970R0119	19.05	17.75	1.52	12.71	5.54	5.16	1000
N6NY-013-0-M	7TAG009970R0122	20.62	19.43	1.52	12.71	5.54	5.16	1000
N6NY-014-0-M	7TAG009970R0125	22.23	20.19	1.52	12.71	5.54	5.16	1000
N6NY-016-0-M	7TAG009970R0129	25.40	21.00	1.52	12.71	5.54	5.16	1000

Also available in quantities of 100 pieces. For other colors, please contact your Sales Office.

Dimensions





Cable clamps

Latching clamps



Characteristics

- Re-usable tie mounting clamps
- For self-adhesive and / or screw- or rivet mounting
- One-piece design with integrated releasable lock
- The inner profile protects sensitive cables, fibre optics etc
- Desired height can be set in 3 or 6 ratchet steps
- The large base surface area and the strong adhesive film guarantee a high adhesive strength
- The self-adhesive film is foam backed (0.8mm) which allows durable fixing on a variety of materials

Technical information

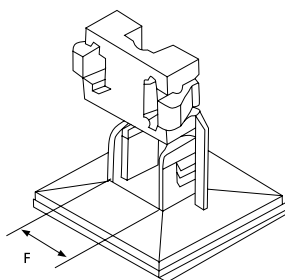
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
Self-adhesive version: 0°C to +65°C
- Color: Natural
- Mounting method: Self adhesive or screw-mounting
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Latching clamps

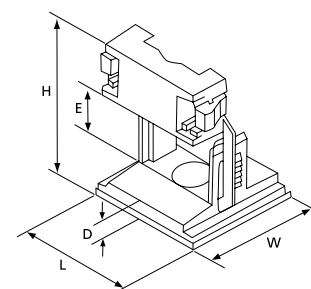
						Dimensions			
Product code	GID No.	W [mm]	L [mm]	H		E Height of clamping area from ... to [mm]	F Width of clamping area [mm]	Mounting hole diameter [mm]	Quantity [pieces]
				max. [mm]	min. [mm]				
Small pack size									
TC5349A-TB	7TCG009890R0001	25.0	25.0	14.5	11.5	6.0 to 8.5	6.0	–	100
TC5350A-TB	7TCG009890R0002	25.0	25.0	22.0	18.0	6 to 12.5	15.0	4.3	100
TC5350	7TCG009500R0042	25.0	25.0	21.3	17.2	6.0 to 12.5	15.0	4.3	100
Standard pack size									
TC349A-TB	7TCG009900R0001	25.0	25.0	14.5	11.5	6.0 to 8.5	6.0	–	1000
TC349AN	7TCG009500R0035	25.0	25.0	14.5	11.5	6.0 to 8.5	6.0	–	1000
TC350A-TB	7TCG009900R0003	25.0	25.0	22.0	18.0	6.0 to 12.5	15.0	4.3	1000
TC350AN	7TCG009500R0036	25.0	25.0	22.0	18.0	6.0 to 12.5	15.0	4.3	1000
TC350	7TCG009900R0002	25.0	25.0	21.3	17.2	6.0 to 12.5	15.0	4.3	1000

Dimensions

TC349A-TB
TC349AN
TC5349A-TB



TC350
TC350AN
TC5350
TC350A-TB
TC5350A-TB



Cable clamps

Re-openable clamps



Characteristics

- Simple installation
- Can be mounted by clipping-in or gluing
- For series production or as a temporary support during wiring installation
- Clip ends are rounded for comfortable re-opening
- Product code TC95 features 2-stage lock

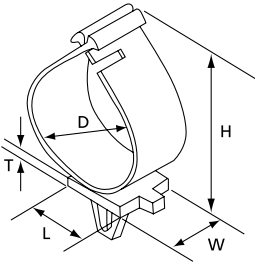
Technical information

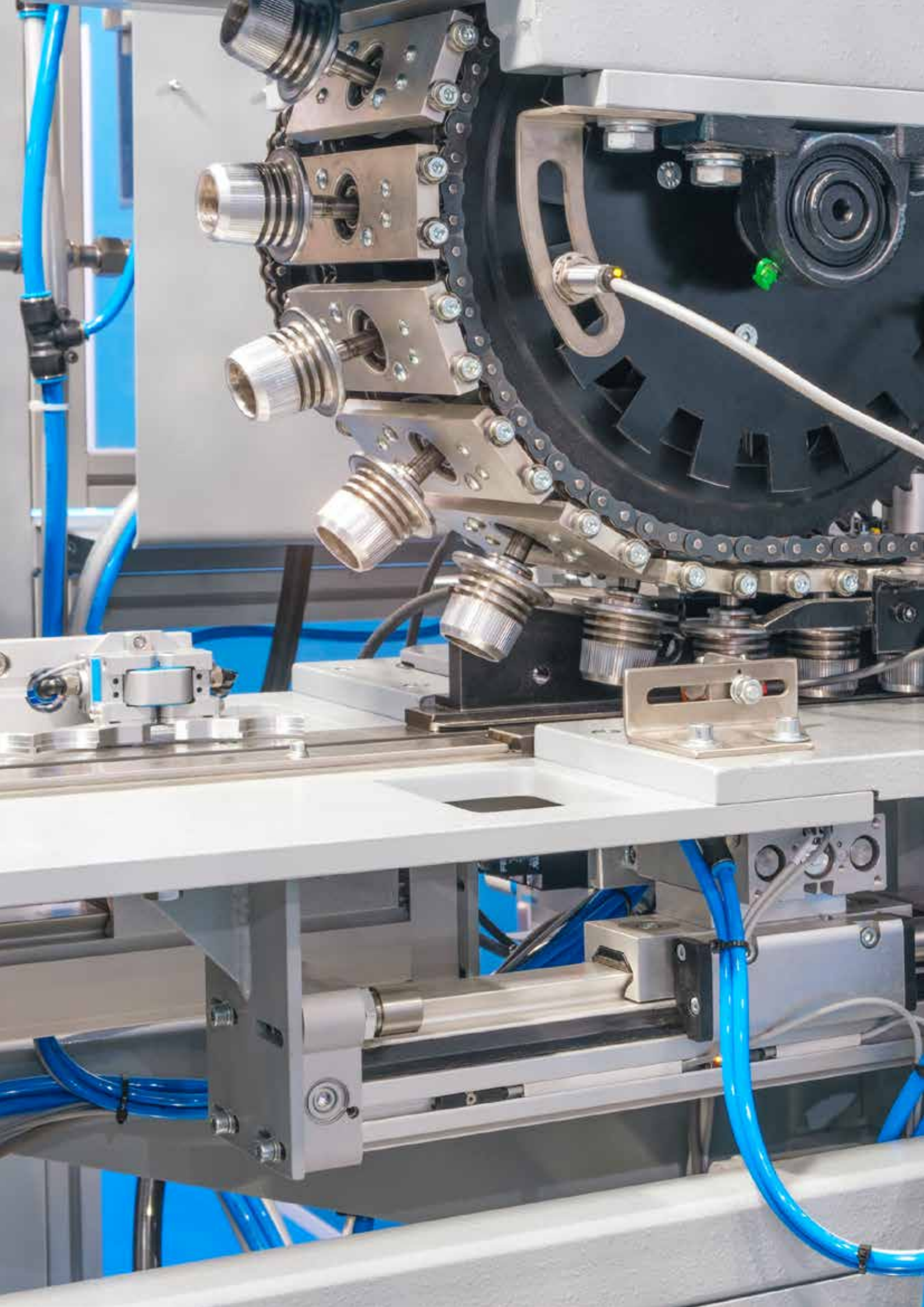
- Material: Polyamide 6.6
- Temperature range: -40°C to +85°C
- Color: Natural
- Mounting method: Clip in
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Re-openable clamps

Product code	GID No.	Dimensions				Panel thickness from ... to	Mounting hole diameter	Quantity [pieces]
		H [mm]	W [mm]	L [mm]	D [mm]			
TC88	7TAG009710R0008	22.6	12.7	19.1	12.7	2.5 - 3.6	5.7 - 7	100
TC95	7TAG009910R0088	40.5	12.7	19.1	25.4	2.5 - 3.6	5.7 - 7	100

Dimensions





Cable clamps

Accessories for flat cables



Characteristics

- This system allows the secure and neat fixing of between 1 and 25 ribbon cables
- Clamp height adapts accurately to the desired number of ribbon cables
- Suitable for ribbon cables up to 60 conductors with a pitch of 1.27mm (76.2mm wide)
- Can be re-opened for later addition or removal of a cable
- Very strong hold
- All versions can be mounted with countersunk-head screws or rivets
- Some versions have an additional self-adhesive foam to aid fast mounting

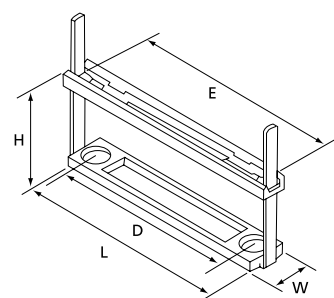
Technical information

- Material: Polyamide 6.6 (clip)
- Temperature range: -40°C to +85°C
Self-adhesive version: 0°C to +65°C
- Color: Natural
- Mounting method: Self-adhesive and / or for screw- or rivet-mounting
- Flammability rating: UL 94 V-2
- Other properties: Halogen free, Silicone free

Accessories for flat cables

Product code	GID No.	Mounting method	Dimensions						Adhesive strength on steel/ fastening hole	Weight [g/100]	Quantity [pieces]
			H		W	L	D Mounting centres from ... to	E Inner width			
			max. [mm]	min. [mm]							
FCC-1	7TCG009630R0012	Countersunk screws	21.0	8.0	12.7	32.5	–	25.4	M4	260	50
FCC-1A	7TCG009630R0013	Countersunk screws / self-adhesive	21.0	8.8	12.7	32.5	–	25.4	76 N/cm	275	50
FCC-2	7TCG009630R0014	Countersunk screws	36.0	8.0	12.7	57.9	39.1	50.8	M4	340	50
FCC-2A	7TCG009630R0015	Countersunk screws / self-adhesive	36.0	8.8	12.7	57.9	39.1	50.8	76 N/cm	390	50
FCC-3	7TCG009630R0016	Countersunk screws	36.0	8.0	12.7	83.3	64.5	76.2	M4	475	50
FCC-3A	7TCG009630R0017	Countersunk screws / self-adhesive	36.0	8.8	12.7	83.3	64.5	76.2	76 N/cm	490	50

Dimensions



Cable sleeves and spiral wraps

Bind-It®

Cable Protection Systems (CPS) from ABB captures different products: Wrap-around woven sleeving, braided sleeving, spiral wrap & extruded grommeting.

The wrap-around sleeving – better known under the name Bind-It® – is a tough but lightweight sleeve used to bundle and protect wires and cables from abrasion, sharp edges and chafing. Bind-It® is a self-wrapping sleeve that is very quick and easy to install and remove. Bind-It® is also available in a flame retardant version. No heat is necessary to seal the ends of this product. The ends can be secured by using Ty-Rap® cable ties.

The braided sleeving of ABB is used for bundling and protecting cables. The braided sleeving is a closed sleeve available in a flame and a non-flame retardant version. This product is mainly used inside cabinets and enclosures. To stop the end of the sleeving fraying it is necessary to heat seal the ends using a “hotwire” device.

Spiral wrap is mainly used for protection of bundles. This product is available in a natural and UV-resistant version and supplied in a Euroslot bag, ideal for the distribution market.

Finally, the extruded grommeting of ABB is used to line panel edges and knock-outs where the chafing of passing wires is a concern. In most applications, grommeting will grip tightly by itself.



Cable sleeves and spiral wraps

Wrap-around woven sleeving



Characteristics

- Offers excellent protection for cable assemblies against abrasion
- No heat is required to seal the ends of this product as compared to traditional braided sleeving
- With its wrap-around design, it can be installed on assemblies where the wires are already terminated or wires need to be broken-out
- Bind-It® is available in nominal sizes from 5mm to 38mm

Technical information

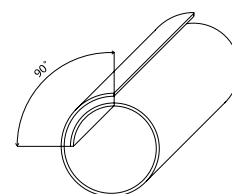
- Material: Mono and multifilaments of polyester
- Temperature range: -70°C to +125°C
- Melt temperature: +255°C
- Automotive temperature: T3 class
- Color: Black
- Flammability rating: Self-extinguishing, type B (FMVSS-302 Test method D45 1333)
- Abrasion resistance: PSA D44 1722 : R8
- Dielectric strength: from 1kVAC

Wrap-around woven sleeving

Product code	GID No.	Nominal size		Length per mini-reel [m]
		Minimum [mm]	Maximum [mm]	
CPS05W-150-EU	7TCG054800R0001	4	5	150
CPS08W-100-EU	7TCG054800R0005	5	8	100
CPS13W-50-EU	7TCG054800R0020	8	13	50
CPS19W-25-EU	7TCG054800R0031	13	19	25
CPS25W-25-EU	7TCG054800R0048	19	25	25
CPS29W-15-EU	7TCG054800R0051	25	29	15
CPS32W-15-EU	7TCG054800R0064	29	32	15
CPS38W-15-EU	7TCG054800R0068	32	38	15

* Nominal size is determined by wrapping the product around a mandrel of a given size to obtain 90 degrees of overlap (average value).

Dimensions



PET hook and loop, wraparound sleeving - mini spool

Enables for easy wrapping of existing wire harnesses and cables



Characteristics

- No tools required to close the sleeving
- Hook and loop material is made of 100% nylon

PET hook and loop, wrap-around sleeving

Product code	GID No.	Nominal size	Colour	Nominal diameter	Spool quantity [m]	STD Pkg. qty.
		[mm]		[mm]		
S500PWL-0	7TAG009740R0018	12.70	Black	6.35 - 19.05	15.24	1
S750PWL0	7TAG009740R0024	19.05	Black	12.70 - 31.75	15.24	1
S1250PWL-0	7TAG009740R0004	31.75	Black	19.05 - 44.45	15.24	1
S2000PWL-0	7TAG009740R0008	50.80	Black	38.10 - 88.90	15.24	1

Cable sleeves and spiral wraps

Wrap-around woven sleeving – flame retardant



Characteristics

- Wrap-around sleeving manufactured from flame-retardant polyester monofilaments and multifilaments
- Designed for mechanical protection and maintenance of wire and cable bundles
- Its construction with 100% covering ratio provides excellent cut-through and abrasion resistance
- No heat is required to seal the ends of this product as compared to traditional braided sleeving
- With its wrap-around design, it can be installed on assemblies where the wires are already terminated or wires need to be broken-out
- Bind-It® is available in nominal sizes from 5mm to 50mm

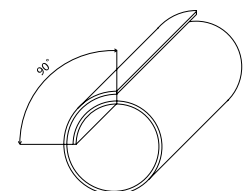
Technical information

- Material: Mono and multifilaments of polyester
- Temperature range: -50°C to +125°C
- Melt temperature: +240°C
- Automotive temperature: T3 class
- Color: Black
- Fire behaviour: According to EN 45545-2 : HL3
According to NF F 16 101 : I2-F1
- Ignitability test: According to NF-EN-ISO 11925-2
- Abrasion resistance: PSA D44 1722: R8
- Smoke opacity: NFX 10-702-1; 10-702-2: Pass; Smoke index: 12
- Index oxygen: According to EN 45545-2 : 37.5%
- Dielectric strength: from 1kVAC
- Other properties: Halogen free

Wrap-around woven sleeving – flame retardant

Product code	GID No.	Nominal size	Length per mini-reel
		[mm]	[m]
CPS05W-150-FR-EU	7TCG054800R0003	5	150
CPS08W-100-FR-EU	7TCG054800R0007	8	100
CPS13W-50-FR-EU	7TCG054800R0022	13	50
CPS19W-25-FR-EU	7TCG054800R0033	19	25
CPS25W-25-FR-EU	7TCG054800R0050	25	25
CPS29W-15-FR-EU	7TCG054800R0065	29	15
CPS32W-15-FR-EU	7TCG054800R0069	32	15
CPS38W-15-FR-EU	7TCG054800R0090	38	15
CPS50W-15-FR-EU	7TCG054800R0090	50	15

Dimensions



* Nominal size is determined by wrapping the product around a mandrel of a given size to obtain 90 degrees of overlap (average value).

Cable sleeves and spiral wraps

Braided sleeving



Characteristics

- Standard color – black or gray
- Non-flame retardant Polyester rated at UL 94 V-2
- Available in nominal diameters from 3 to 50mm to cover bundle diameters of 1 to 66mm, giving flexibility when adding to or removing cables from wire looms
- For use in temperature ranges from -50°C to +150°C
- Good chemical resistance
- Halogen free
- For protecting and bundling cables and wires inside cabinets and enclosures
- To stop the ends of the sleeving fraying it is necessary to heat seal the ends using a "hotwire" device. (Product code WT-HSG)

Technical information

- Material: Polyester
- Temperature range: -50°C to +150°C
- Color: Black or grey
- Flammability rating: UL 94 V-2



Braided sleeving

1:2

Product code	GID No.	Nominal as supplied [mm]	Expandable diameter range [mm]	Lengths per mini-reel [m]
Black				
CPS3B-100	7TCG054800R0071	3.0	1.0 - 5.0	100.0
CPS4B-100	7TCG054800R0081	4.0	2.0 - 7.0	100.0
CPS5B-100	7TCG054800R0092	5.0	3.0 - 9.0	100.0
CPS6B-100	7TCG054800R0097	6.0	4.0 - 11.0	100.0
CPS8B-100	7TCG054800R0103	8.0	5.0 - 12.0	100.0
CPS10B-100	7TCG054800R0008	10.0	7.0 - 15.0	100.0
CPS12B-50	7TCG054800R0015	12.0	8.0 - 17.0	50.0
CPS15B-50	7TCG054800R0025	15.0	10.0 - 20.0	50.0
CPS20B-25	7TCG054800R0035	20.0	14.0 - 26.0	25.0
CPS25B-25	7TCG054800R0042	25.0	18.0 - 34.0	25.0
CPS30B-25	7TCG054800R0058	30.0	20.0 - 40.0	25.0
CPS40B-25	7TCG054800R0076	40.0	30.0 - 50.0	25.0
CPS50B-25	7TCG054800R0086	50.0	40.0 - 66.0	25.0
Grey				
CPS3G-100	7TCG054800R0075	3.0	1.0 - 5.0	100.0
CPS4G-100	7TCG054800R0084	4.0	2.0 - 7.0	100.0
CPS5G-100	7TCG054800R0096	5.0	3.0 - 9.0	100.0
CPS6G-100	7TCG054800R0101	6.0	4.0 - 11.0	100.0
CPS8G-100	7TCG054800R0107	8.0	5.0 - 12.0	100.0
CPS10G-100	7TCG054800R0012	10.0	7.0 - 15.0	100.0
CPS12G-50	7TCG054800R0018	12.0	8.0 - 17.0	50.0
CPS15G-50	7TCG054800R0028	15.0	10.0 - 20.0	50.0
CPS20G-25	7TCG054800R0038	20.0	14.0 - 26.0	25.0
CPS25G-25	7TCG054800R0045	25.0	18.0 - 34.0	25.0
CPS30G-25	7TCG054800R0061	30.0	20.0 - 40.0	25.0
CPS40G-25	7TCG054800R0079	40.0	30.0 - 50.0	25.0
CPS50G-25	7TCG054800R0089	50.0	40.0 - 66.0	25.0

Cable sleeves and spiral wraps

Braided sleeving - flame retardant



Characteristics

- Braided sleeving manufactured from flame-retardant polyester monofilaments
- Flame retardant polyester, conform to UL 94 V-0, mainly used in the railway industry
- Available in diameters from 3 to 50mm to cover bundle diameters of 2 to 60mm
- Recommended in applications such as public transportation, aircraft industry, telecommunications, underground cables, etc.

Technical information

- Material: Flame retardant polyester monofilaments (PET FR)
- Temperature range: -50°C to +150°C
- Melt temperature: +250°C
- Color: Black or grey
- Tested according to:
 - NF F 16 101
 - I2-F1
 - EN45545-2 2013
 - HL3
- Other properties: Halogen free

Braided sleeving – flame retardant

1:2

Product code	GID No.	Nominal as supplied [mm]	Expandable diameter range [mm]	Lengths per reel [m]
Black				
CPS3B-100-CV0	7TCG054800R0072	3.0	2.0 - 5.0	100.0
CPS4B-100-CV0	7TCG054800R0082	4.0	3.0 - 7.0	100.0
CPS5B-100-CV0	7TCG054800R0093	5.0	4.0 - 9.0	100.0
CPS6B-100-CV0	7TCG054800R0098	6.0	5.0 - 11.0	100.0
CPS8B-100-CV0	7TCG054800R0104	8.0	7.0 - 13.0	100.0
CPS10B-50-CV0	7TCG054800R0010	10.0	9.0 - 15.0	50.0
CPS12B-50-CV0	7TCG054800R0016	12.0	11.0 - 17.0	50.0
CPS15B-50-CV0	7TCG054800R0026	15.0	13.0 - 20.0	50.0
CPS20B-50-CV0	7TCG054800R0036	20.0	18.0 - 25.0	50.0
CPS25B-50-CV0	7TCG054800R0043	25.0	22.0 - 30.0	50.0
CPS30B-50-CV0	7TCG054800R0059	30.0	27.0 - 40.0	50.0
CPS40B-50-CV0	7TCG054800R0077	40.0	35.0 - 50.0	50.0
CPS50B-50-CV0	7TCG054800R0087	50.0	45.0 - 60.0	50.0
Grey				
CPS3G-100-CV0	7TCG054800R0108	3.0	2.0 - 5.0	100.0
CPS4G-100-CV0	7TCG054800R0085	4.0	3.0 - 7.0	100.0
CPS5G-100-CV0	7TCG054800R0109	5.0	4.0 - 9.0	100.0
CPS6G-100-CV0	7TCG054800R0102	6.0	5.0 - 11.0	100.0
CPS8G-100-CV0	7TCG054800R0111	8.0	7.0 - 13.0	100.0
CPS10G-50-CV0	7TCG054800R0013	10.0	9.0 - 15.0	50.0
CPS12G-50-CV0	7TCG054800R0112	12.0	11.0 - 17.0	50.0
CPS15G-50-CV0	7TCG054800R0029	15.0	13.0 - 20.0	50.0
CPS20G-50-CV0	7TCG054800R0039	20.0	18.0 - 25.0	50.0
CPS25G-50-CV0	7TCG054800R0046	25.0	22.0 - 30.0	50.0
CPS30G-50-CV0	7TCG054800R0062	30.0	27.0 - 40.0	50.0
CPS40G-50-CV0	7TCG054800R0080	40.0	35.0 - 50.0	50.0
CPS50G-50-CV0	7TCG054800R0110	50.0	45.0 - 60.0	50.0

Cable sleeves and spiral wraps

Spiral wrap



Characteristics

- For protection of bundles from 4mm to 130mm
Install gapped for greater flexibility or butted for maximum abrasion resistance, insulation and rigidity
- Counter-clockwise cut
- Delivered in bags with Euroslot
- Available in natural and UV-resistant black Polyethylene

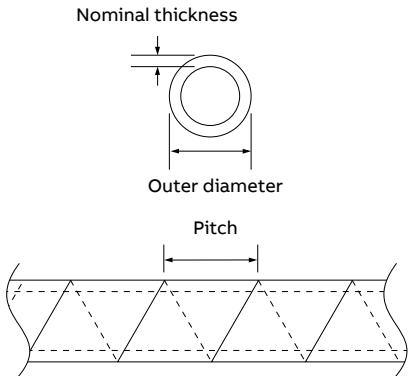
Technical information

- Material: Polyethylene
- Temperature range: -30°C to +80°C
- Color: Natural and UV-resistant black
- Flammability rating: UL 94 HB
- Other properties: UV-resistant black, Halogen free, Silicone free

Spiral wrap

Product code	GID No.	Color	Outer diameter	Pitch	Nominal thickness	Min. – max. bundle diameter	Length
			[mm]	[mm]	[mm]	[mm]	[m]
SRPE-6-9	7TCG054090R0233	Natural	6.0	7.0	0.5	4.0 - 50	10.0
SRPE-8-9	7TCG054090R0239	Natural	8.0	10.8	0.5	6.0 - 60	10.0
SRPE-10-9	7TCG054090R0217	Natural	10.0	11.4	0.8	7.5 - 60	10.0
SRPE-12-9	7TCG054090R0221	Natural	12.0	13.9	0.9	9.0 - 65	10.0
SRPE-15-9	7TCG054090R0223	Natural	15.0	15.0	1.0	12.0 - 70	10.0
SRPE-19-9	7TCG054090R0225	Natural	19.0	18.2	1.3	15.0 - 100	10.0
SRPE-24-9	7TCG054090R0227	Natural	24.0	19.6	1.5	20.0 - 130	10.0
SRPE-6-0	7TCG054090R0232	UV-resistant black	6.0	7.0	0.5	4.0 - 50	10.0
SRPE-8-0	7TCG054090R0238	UV-resistant black	8.0	10.8	0.5	6.0 - 60	10.0
SRPE-10-0	7TCG054090R0216	UV-resistant black	10.0	11.4	0.8	7.5 - 60	10.0
SRPE-12-0	7TCG054090R0220	UV-resistant black	12.0	13.9	0.9	9.0 - 65	10.0
SRPE-15-0	7TCG054090R0222	UV-resistant black	15.0	15.0	1.0	12.0 - 70	10.0
SRPE-19-0	7TCG054090R0224	UV-resistant black	19.0	18.2	1.3	15.0 - 100	10.0
SRPE-24-0	7TCG054090R0226	UV-resistant black	24.0	19.6	1.5	20.0 - 130	10.0

Dimensions



Cable sleeves and spiral wraps

Extruded grommeting



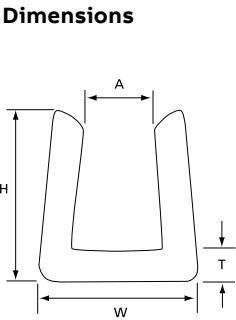
- Characteristics

 - Used to line panel edges and knock-outs where the chafing of passing wires is a concern
 - Available in 8 stock sizes in 30.5m lengths for panels from 1mm to 6.35mm
 - In most applications, grommeting will grip tightly by itself, if not, a drop of Epoxy will keep it in place
- Technical information

 - Material: Polyamide 6.6
 - Temperature range: -40°C to +85°C
 - Color: Black
 - Flammability rating: UL 94 V-2
 - Other properties: Halogen free, Silicone free

Extruded grommeting

			Dimensions				
Product code	GID No.	Color	Internal width	Thickness	H	W	Length per reel
			A	T			
			[mm]	[mm]	[mm]	[mm]	[m]
GRNY-040-0-C	7TAG009750R0017	Black	1.01	1.01	4.82	3.17	30.5
GRNY-187-0-C	7TAG009750R0032	Black	4.74	1.27	6.85	6.85	30.5
GRNY-250-0-C	7TAG009750R0034	Black	6.35	1.27	7.11	9.39	30.5



Cable tie tooling

Ty-Rap® and Ty-Met™ tooling

ABB offers a comprehensive range of tooling to complement the full range of cable ties. The range includes low-cost tools for maintenance and small batch requirements, as well as robust and ergonomic tools with tension setting and automatic cutting, now also in pneumatic versions.

In particular, the ERG50 and ERG120 hand tools, as well as the new pneumatic tool, provide a superior level of reliability and performance, combined with enhanced ergonomics and comfort of use.

These ergonomic tools, with adjustable tension and automatic cutting, are ideally suited for efficiently installing all kinds of plastic cable ties in industrial (Original Equipment Manufacturers, Maintenance and Repair Organisations, etc) and construction applications.

ERG50 & ERG120

Superior reliability and performance

- Developed to meet the market needs for a more rugged and longer lasting tool
- Designed to integrate the greatest number of features in the market

Enhanced ergonomics and comfort of use

- First class design and materials, for maximum convenience
- The operator is subject to less stress, less fatigue and less risk of trauma due to long term use (such as Carpal Tunnel Syndrome).

Increased efficiency

- Exclusive features for quick set-up and fast installation
- Confidence to achieve a highly professional result, installation after installation



Cable tie tooling

Selection guide

Tooling for plastic ties

	Product code	GID No.	Features	Tensioning	Cutting	For cable ties
	ERG50	7TAA131790R0001	Ergonomic hand tool with superior level of reliability and performance	Adjustable	Automatic	2.4mm - 4.8mm
	ERG120	7TAA131790R0000	Ergonomic hand tool with superior level of reliability and performance	Adjustable	Automatic	4.8mm - 7.6mm
	WT1-TB	7TAA131800R0004	Basic tensioning tool, intended for maintenance and small batch use	Basic	Twist cut	2.4mm - 4.8mm
	WT2-TB	7TAA131800R0007	Basic tensioning tool, intended for maintenance and small batch use	Basic	Twist cut	4.8mm - 7.6mm
	L300-FR	7TCA131810R0001	Rugged construction tool for Col-Ty™ installation ties	Basic	Manual	Col-Ty™ - 9mm
	WT3D	7TAA131800R0008	Robust metal body with plastic hand-grips, designed for tensioning and cutting heavy-duty cable ties	Basic	Twist cut	7.6mm - 12.7mm
	L-500-EU	7TCA131140R0022	Rugged metallic construction	Adjustable	Automatic	4.7mm - 13.3mm

Cable tie tooling

Selection guide

Tooling for Ty-Met™ stainless steel ties

	Product code	GID No.	Features	Tensioning	Cutting	For cable ties
	DAS-250	7TAA131800R0000	Heavy duty metallic hand tool	Basic	Manual	Ball-lock type, width 4.6 and 7.9 mm, coated and uncoated Ball-lock retained tension type, width 4.6 and 7.9 mm
	CT3	7TCA131990R0206	Economic tensioning tool	Basic	Manual	Ball-lock type, up to 12 mm, coated and uncoated Ladder type, all sizes, coated and uncoated
	CT7	7TCA131140R0009	Tensioning and cutting tool, ratchet type	Basic	Manual	Ball-lock type, width 12 and 16 mm, coated and uncoated
	CT8	7TCA131140R0010	Tensioning and cutting tool, ratchet type	Basic	Manual	Releasable type, all sizes Bands on reel with separate heads, all sizes

Cable tie tooling

Tools for plastic cable ties: ERG50 and ERG120

These ergonomic tools from ABB provide a superior level of reliability and performance, combined with enhanced ergonomics and comfort of use. With their adjustable tension and automatic cutting, they are ideally suited for efficiently installing all kinds of plastic cable ties in industrial (Original Equipment Manufacturers,

Maintenance and Repair Organisations, etc) and construction applications. They are available in hand tool version (ERG50 and ERG120) and in pneumatic version for higher volumes of installation without muscle strain. All ERG tools have been calibrated before selling.



Cable tie tooling

Tools for heavy duty plastic cable ties



Product code: WT3D

GID No.: 7TAA131800R0008

Characteristics

- Designed for tensioning and cutting heavy-duty cable ties
- Robust metal body with plastic hand-grips

Technical information

- Tool type: Hand tool for Deltec® ties, Col-Ty™ installation ties and other wide cable ties
- For type of cable tie: Plastic ties
- For tie width: 7.6mm - 12.7mm
- Features: Tensioning, manual cutting (by twisting the tool)
- Weight: 225g
- Dimensions [L x W x H]: 178 x 112 x 20mm



Product code: L-500-EU

GID No.: 7TCA131140R0022

Characteristics

- Rugged metallic construction makes this tool ideal for use with our 4.7mm to 13.3mm wide ties
- Set tension adjuster to give desired tie tightness
- Pull trigger and tie is automatically tensioned and cut

Technical information

- Tool type: Hand tool
- Color: Red
- For type of cable tie: Plastic ties
- For tie width: 4.7mm - 13mm
- Features: Tensioning, automatic cutting
- Weight: 320g
- Dimensions [L x W x H]: 220 x 90 x 25mm



Product code: L300-FR

GID No.: 7TCA131810R0001

Characteristics

- Rugged construction makes this tool ideal for Col-Ty™ installation ties
- Pull tie to desired tension and pull trigger to cut excess flush at cable tie head
- Field proven durability

Technical information

- Tool type: Hand tool for Col-Ty™ installation ties
- Color: White
- For type of cable tie: Plastic ties
- Features: Tensioning, manual cutting
- Weight: 330g
- Dimensions [L x W x H]: 195 x 100 x 25mm

Cable tie tooling

Tools for plastic cable ties



Product code: WT1-TB

GID No.: 7TAA131800R0004

Characteristics

- Twist-and-cut tensioning tool in plastic, intended for maintenance and small batch use

Technical information

- Tool type: Low-cost hand tool
- Color: Orange
- For type of cable tie: Plastic ties
- For tie width: 2.4mm - 4.8mm
- Features: Basic tensioning, twist cut
- Weight: 28.4g
- Dimensions [L x W x H]: 134 x 55 x 27mm



Product code: WT2-TB

GID No.: 7TAA131800R0007

Characteristics

- Twist-and-cut tensioning tool in plastic, intended for maintenance and small batch use

Technical information

- Tool type: Low-cost hand tool
- Color: Black
- For type of cable tie: Plastic ties
- For tie width: 4.8mm - 7.6mm
- Features: Basic tensioning, twist cut
- Weight: 28.4g
- Dimensions [L x W x H]: 134 x 55 x 27mm



Cable tie tooling

Tools for stainless steel ties



Product code: DAS-250

GID No.: 7TAA131800R0000

Characteristics

- Heavy duty metallic hand tool
- Tensioning tool with side cutters

Technical information

- Tool type: Hand tool
- For type of cable tie: Ball-lock type and ball-lock retained tension type
- For tie width: Up to 7.9mm
- Features: Tensioning tool with side cutters



Product code: CT3

GID No.: 7TCA131990R0206

Characteristics

- Cost-effective tensioning tool
- Cut-off by hand-activated lever

Technical information

- Tool type: Hand tool
- For type of cable tie: Ladder type & ball lock type stainless steel ties, coated and uncoated
- For tie width: Up to 12mm
- Features: Tensioning, manual cutting
- Weight: 550g
- Dimensions [L x W x H]: 210 x 155 x 35mm

Cable tie tooling

Tools for stainless steel ties



Product code: CT7

GID No.: 7TCA131140R0009

Characteristics

- Tensioning and cutting tool, ratchet type
- Suitable for coated and uncoated ball-lock type stainless steel ties, having a width of 12mm and 16mm

Technical information

- Tool type: Hand tool, ratchet type
- Weight: 1300g
- Dimensions [L x W x H]: 270 x 170 x 60mm



Product code: CT8

GID No.: 7TCA131140R0010

Characteristics

- Tensioning and cutting tool, ratchet type
- Suitable for the bands on reel, in all widths
- The long nose leaves an excess of 45mm after the tie is cut, for an easy installation of the band on reel

Technical information

- Tool type: Hand tool, ratchet type
- For type of cable tie: Releasable type and bands on reels type
- For tie width: All widths
- Weight: 1570g
- Dimensions [L x W x H]: 310 x 200 x 60mm

Material specifications

Material selection and specifications

General

There are a number of factors to be considered when choosing the proper materials for a specific environment. It is extremely difficult to provide data on all the possible combinations or conditions to which products may be subjected; therefore, it is recommended that this information be used as a guideline only and that the user conduct sample tests in any intended application to determine suitability.

How to use the table

For applications in an extremely cold environment, three materials are appropriate: ETFE Fluoropolymer, Polyamide 12 and stainless steel.

For applications that also require high tensile strength, stainless steel is the optimum material choice. If high strength is not required, Polyamide 12 may be a less costly option.

This information is based on data provided by material manufacturers and is provided only as a general guide. No specific recommendation is intended. As each application may vary, testing should be conducted by the user in the intended application and environment.

Table 1 provides relative performance ratings of the different product materials. Chemical resistance is shown in Table 2.

Table 1: Information on cable tie materials

Material code	Polyamide 6.6	Polyamide 6.6 weather resistant *****	Polyamide 6.6 heat-stabilized	Polyamide 6.6 heat stabilized UV resistant	Polyamide 6.6 flame retardant	Polyamide 4.6 high temperature	Detectable Polyamide 6.6
Ty-Rap® product code	TY*M*	TY*MX*	TYH*M	TY*MX-A	TY*MFR	TYHT*M	TY*M*-NDT*
Ty-Fast® product code	TY*-*-*	TY*-*X*			TS*HF		
Twist Tail® product code	TT-*-30-9-L-EU	TT-*-30-0-L-EU					
Max. operating temperature	-40°C / 85°C	105°C	105°C	105°C	65°C	150°C	85°C
Min. operating temperature	-40°C / -20°C / 0°C	-40°C / -20°C / 0°C	-60°C	-60°C	-20°C	-40°C	-60°C
Installation temperature*****	-30°C	-30°C	-30°C	-40°C	0°C	-18°C	-20°C
UL flammability rating	V-2	V-2	V-2	V-2	V-0	V-2	HB
Specific density	1.14	1.14	1.14	1.14	1.16	1.18	1.31
Water absorption (24h/ASTM)	2.5 - 3.1%	2.5 - 3.1%	2.5 - 3.1%	2.5 - 3.1%	3.0 - 3.5%	1.3%	
Colors	Natural**	Black***	Transparent	Black	White	Light green	Blue
E-module (N/mm²)	2000	2000	2000	2000	1400	3200	
Notch impact strength conform DIN 53453 (KJ/m²)	2-20	2-20	2-20	2-20	3-25		
UV resistant		✓		✓			✓
Flame retardant					✓		
Heat resistant			✓	✓		✓	
Enhanced weatherability				✓			
Flexible at low temperatures							
Radiation resistant							
Chemically resistant							
See table 2 (pages 156 - 158)							
Halogen free	✓	✓	✓	✓	✓	✓	✓
Silicon free	✓	✓	✓	✓	✓	✓	✓

* See product code structure page 12 for the right suffix.

** Ty-Fast® ties in standard Polyamide 6.6 are available in natural color and in a wide range of colors Ty-Rap® ties in standard Polyamide 6.6 are available in natural color only.

*** Ty-Fast® ties in weather resistant Polyamide 6.6 are available in black color only (with 2% carbon for military specifications).

Ty-Rap® ties in weather resistant Polyamide 6.6 are available in black color (with 2% carbon for military specifications) and in a wide range of colors (except natural).

**** Heat stabilized Polyamide 6.6 may have a greenish tint.

***** The installation temperature may vary based on size and material. The type-specific installation temperature can be found in the respective technical data sheet.

***** 2% carbon for military specifications.

—
Material codes used in tables

Material	Code
Standard polyamide 6.6	PA6.6
Weather resistant polyamide 6.6	UV PA6.6
Heat-stabilized polyamide 6.6	HS PA6.6
Heat-stabilized UV resistant polyamide 6.6	HSUV PA6.6
Flame retardant polyamide 6.6	FR PA6.6
High temperature polyamide 4.6	HT PA4.6
Detectable polyamide 6.6	DET PA6.6
Weather resistant polyamide 12	UV PA12
Weather resistant polypropylene	UV PP
Detectable polypropylene	DET PP
ETFE fluoropolymer	ETFE
ECTFE fluoropolymer	ECTFE
Toughened weatherable acetal	UV Acetal
Stainless steel	SS

Polyamide 12 weather resistant	Polypropylene weather resistant	Detectable Polypropylene	ETFE	ECTFE	Toughened weatherable acetal	Stainless steel
TYC*MX	TYP*MX	TY*M*-PDT*	TYZ*M	TYV*M	TYD-* CSS*	YLS* or YLD* or YRL* or YID or RS or YBR
105°C	80°C	85°C	150°C	160°C	85°C	300°C 165°C for Polyester
-40°C	-60°C	-40°C	-45°C	-60°C	-40°C	-80°C
-40°C	-40°C	-40°C	-20°C	-60°C	-20°C to -40°C	0°C / -40°C
V-2	HB	HB	V-0	V-0	HB	Excellent
1.02	0.90 - 0.91	1.03 - 1.07	1.67 - 1.75			7.95
0.7 - 1.1%	0.01 - 0.03%		0.02%			0%
Black	Black	Bright blue	Aquamarine	Maroon	Black	Metallic/Black
1600	1100-1300		1000			193000
3.5-13	3-17		o.B.			122J(IZOD)
✓	✓		✓	✓	✓	✓
			✓	✓		✓
			✓	✓		✓
✓			✓	✓	✓	✓
✓	✓	✓				✓
	✓		✓	✓		✓
			✓			✓
✓	✓	✓			✓	✓
✓	✓	✓	✓	✓	✓	✓

Certifications

IEC 62275, UL, CSA and CE

The National Electrical Manufacturers Association (NEMA) is the consortium of manufacturers that agree to the parameters of product testing and direct the IEC standards.

The International Electrotechnical Commission (IEC) is the agency that sets quality standards and technical requirements for products in the electrical industry. IEC 62275 is the unified standard for cable ties adopted in 2013.

Underwriters Laboratory (UL) is the leading standards agency for the US. Products listed as cULus are also recognized in Canada. UL 62275 is the quality and test standard unified with IEC 62275 for positioning devices. UL 62275 supersedes UL 1565.

CSA Group is the leading standards agency for Canada. CSA C22.2 No. 62275 is the quality and test standard unified with IEC 62275 for cable ties and is fully harmonized with UL 62275.

Conformité Européenne (CE) is the accepted standards agency for the European Economic Area and is adopted by most European countries. CE 62275 is the quality and test standard unified with IEC 62275 for cable ties and is a self-certified standard.



Type certifications

Type 1	Retains 100% declared loop tensile strength when tested in the as-received condition, and at least 50% of declared loop tensile strength after being subjected to specified test conditions
Type 11	Type 1 with additional pre-qualification to long-term performance characteristics of nonmetallic molding materials (Not recognized for CE standards)
Type 2	Retains 100% declared loop tensile strength, or mechanical strength for fixing device, after being subjected to specified test conditions
Type 21	Type 2 with additional pre-qualification to long-term performance characteristics of nonmetallic molding materials (Not recognized for CE standards)
Type 21S	Type 2 or Type 21 with additional qualification for suitability to support flexible metal conduit and cables in building construction in accordance with the requirements in relevant installation codes (fixing devices with 50lbs/220N or higher loop tensile strength)

Packaging markings

Flammability Ratings (as tested after ignition and flame removed)	UL94-HB		Slow burning on a horizontal specimen; burning rate < 76 mm/min for thickness < 3 mm or burning stops before 100 mm
	UL94-V2		Self-extinguishing on horizontal and burning stops within 30 seconds on a vertical specimen; drips of flaming particles are allowed
	UL94-V0		Self-extinguishing on horizontal and burning stops within 10 seconds on a vertical specimen; non-inflamed drips of particles allowed
Outdoor rating	UV		Survives 1000 hours of UV exposure in an approved UV testing apparatus and passes follow up testing per type requirements
Plenum rating	AH-2		Suitable for use in Air Handling Spaces (plenums) in accordance with Section 300.22 (C) and (D) of the National Electrical Code, and Rules 12-010 (3), (4), and (5), and 12-020 of the Canadian Electrical Code, Part I
Mechanical performance rating	Minimum loop tensile strength		The mechanical performance rating for cable ties is expressed in terms of "minimum loop tensile strength" defined as: A reference mechanical characteristic of a cable tie with its locking mechanism engaged. The term "loop tensile strength" comes from a standard based on the US military specifications for cable tie use in aircrafts. The loop tensile strength test on cable ties exert the force from the inside out more or less equally with an attempt to stress the locking mechanism.

Certifications

SAE AS23190 Military certified cable ties

- MS3367 standard cable ties
- See pages 14 – 16 for characteristics and specifications

MS3367 Standard cable ties

Military designator	Width [mm]	Length [mm]	Tensile strength [N]	Color	Ty-Rap® standard pack		Ty-Rap® bulk pack	
					Product code	GID no	Product code	GID no
MS3367-1-0	4.8	186	220	UV Black	TY525MX-0	7TAG009170R0011	TY25MX-0	7TAG009210R0092
MS3367-1-*				*Various	TY525M-*	**	TY25M-*	**
MS3367-2-0	4.8	361	220	UV Black	TY528MX-0	7TAG009170R0010	TY28MX-0	7TAG009210R0093
MS3367-2-*				*Various	TY528M-*	**	TY28M-*	**
MS3367-3-0	7	340	540	UV Black	TY527MX-0	7TAG009280R0006	TY27MX-0	7TAG009320R0009
MS3367-3-*				*Various	TY527M-*	**	TY27M-*	**
MS3367-4-0	2.3	92	80	UV Black	TY523MX-0	7TAG009010R0036	TY23MX-0	7TAG009040R0021
MS3367-4-*				*Various	TY523M-*	**	TY23M-*	**
MS3367-5-0	3.6	140	180	UV Black	TY524MX-0	7TAG009080R0003	TY24MX-0	7TAG009120R0010
MS3367-5-*				*Various	TY524M-*	**	TY24M-*	**
MS3367-6-0	6.9	771	540	UV Black	TY529MX-0	7TAG009280R0007	TY29MX-0	7TAG009320R0008
MS3367-6-*				*Various	TY529M-*	**	TY29M-*	**
MS3367-7-0	4.8	290	220	UV Black	TY5253MX-0	7TAG009170R0012	TY253MX-0	7TAG009210R0094
MS3367-7-*				*Various	TY5253M-*	**	TY253M-*	**
MS3376-12-0	8.2	889	780	UV Black	TY53510MX-0	7TCG009380R0002		
MS3376-15-0				UV Black	TY54513MX-0	7TCG009380R0005		

* Enter color code for various colors.

** See page 19 for colored cable ties, part numbers and specification and appendix for GID code. See local sales representatives for non-stocked colors MOQ, lead times and pricing.

Cable tie color code

1	Brown	
2	Red	
3	Orange	
4	Yellow	
5	Green	
6	Blue	
7	Purple	
8	Gray	
10	White	
CLRS	Multi-pack*	
X-0	Military black	
9	Military natural	

Certifications

SAE AS23190 Military certified cable ties



- MS3367 standard cable ties
- See pages 66 – 69 for characteristics and specifications

MS3368 Identification cable ties

Military designator	Width [mm]	Length [mm]	Tensile strength [N]	Color	Ty-Fast® standard pack		Ty-Fast® bulk pack	
					Product code	GID no	Product code	GID no
MS3367-1-0	4.8	188	220	UV Black	TY175-50X-0-100	7TAG054290R0026	TY175-50X-0	7TAG054330R0010
MS3367-2-0	4.8	366	220	UV Black	TY400-50X-0-100	7TAG054290R0028	TY400-50X-0	7TAG054330R0015
MS3367-3-0	7.6	374	540	UV Black	TY400-120X-0-100	7TAG054410R0020	TY400-120X-0	7TAG054410R0019
MS3367-5-0	3.6	143	180	UV Black	TY125-40X-0-100	7TAG054200R0010	TY125-40X-0	7TAG054250R0014
MS3367-7-0	4.8	304	220	UV Black	TY300-50X-0-100	7TAG054290R0027	TY300-50X-0	7TAG054330R0013



Material specifications

UL flammability ratings

—
Nylon 6,6 = Polyamide
6,6 is Halogen-free
and Silicone-free.

Flammability ratings for selecting cable ties

Note: Flammability ratings of cable tie materials per UL are intended to serve as a preliminary indication of acceptability with respect to flammability for particular applications.

UL 94 vertical burn test procedures

Test specimens of the material, with dimensions 127 x 12.7mm, with the thickness intended for use in the end product, are tested in both the manufactured condition and in the aged state. The test requires that the specimen be supported in a vertical fixture and a precisely controlled flame applied for a 10 second period. The flame is removed and the duration of flaming is noted. If the flame extinguishes, a second exposure to flame for 10 seconds is applied and duration of flaming is again noted. It is observed and recorded whether or not test specimens drip flaming particles that ignite a cotton swab.

Materials classed 94 V-0:

A material classed 94 V-0 shall:

- A. Not have any specimens that burn with flaming combustion for more than 10 seconds after either application of the test flame
- B. Not have a total flaming combustion time exceeding 50 seconds for the 10 flame applications for each set of five specimens
- C. Not have any specimens that burn with flaming or glowing combustion up to the holding fixture
- D. Not have any specimens that drip flaming particles that ignite the dry absorbent surgical cotton located 304.8mm below the test specimen
- E. Not have any specimens with glowing combustion that persists for more than 30 seconds after the second removal of the test flame

Materials classed 94 V-1:

A material classed 94 V-1 shall:

- A. Not have any specimens that burn with flaming combustion for more than 30 seconds after either application of the test flame
- B. Not have a total flaming combustion time exceeding 250 seconds for the 10 flame applications for each set of five specimens
- C. Not have any specimens that burn with flaming or glowing combustion up to the holding fixture

- D. Not have any specimens that drip flaming particles that ignite the dry absorbent surgical cotton located 304.8mm below the test specimen
- E. Not have any specimens with glowing combustion that persists for more than 60 seconds after the second removal of the test flame.

Materials classed 94 V-2:

A material classed 94 V-2 shall:

- A. Not have any specimens that burn with flaming combustion for more than 30 seconds after either application of the test flame
- B. Not have a total flaming combustion time exceeding 250 seconds for the 10 flame applications for each set of five specimens
- C. Not have any specimens that burn with flaming or glowing combustion up to the holding fixture
- D. Be permitted to have specimens that drip flaming particles that burn only briefly, some of which ignite the dry absorbent surgical cotton placed 304.8mm below the test specimen
- E. Not have any specimens with glowing combustion that persists for more than 60 seconds after the second removal of the test flame

UL 94 horizontal burn (HB) test procedures

The test uses a 12.7mm x 127mm specimen held at one end in a horizontal position with marks at 25.4mm and 127mm from the free end. A flame is applied to the free end for 30 seconds or until the flame front reaches the 25.4mm mark. If combustion continues the duration is timed between the 25.4mm mark and the 127mm mark. If combustion stops before the 127mm mark, the time of combustion and the damaged length between the two marks are recorded. A set of three specimens are tested.

Materials classed 94 HB

A material that is less than 3mm in thickness will be classified 94HB if it has a burning rate of less than 76.2mm per minute or stops burning before the 127mm mark. If one specimen from the set of three fails to comply, then a second set of three are tested. All three of this second set must comply. HB rated materials are considered "self-extinguishing". This is the lowest (least flame retardant) UL94 rating.

Material specifications

Adhesive material specifications

Installation instructions for self-adhesive mounting bases

- Mounting surfaces should be cleaned with alcohol based (IPA) cleaner before application
- The self-adhesive mounting bases have a double-sided adhesive tape made of synthetic foam, covered by a protecting foil
- To install the self-adhesive mounting base, remove the protecting foil and press the

mounting base onto the cleaned surface

- The thickness of the self-adhesive foam (0,8mm) compensates the irregularities of the application surfaces and allows installations on structured surfaces of cabinet doors, on sheet metal, on machines, etc
- The adhesion is achieved immediately during the installation, which means that later repositioning is not possible

Adhesive material specifications

Property	Method	Unit of measure	Rubber based (self-adhesive)
Coated sides	—	each	2
Foam density	—	Kg/m ³	96.9
Peel adhesion	PSTC 1	N/cm width	10.9
	ASTM D 1000	Average	
Shear adhesion	Natural	15.0	15.0
22°C (71.6°F) 50% RH	PSTC 7	Hours	100 +
22°C (71.6°F) occasional wetting		N/m ²	68971
Tensile strength	ASTM D 412	PSI	100
Tear resistance	ASTM D 624	N/cm	52.6
Elongation at break	—	%	400
Service temperature	—	°C/°F Min	-18
	—	°C/°F Max	+66
Flammability	ASTM D 624		Slow burn

01 Thoroughly clean the surface on which you plan to mount the base with a clean cloth and a 50% isopropyl alcohol/50% water solution to remove dust, oil and any other impurities.

02 Allow the clean surface to air dry completely.

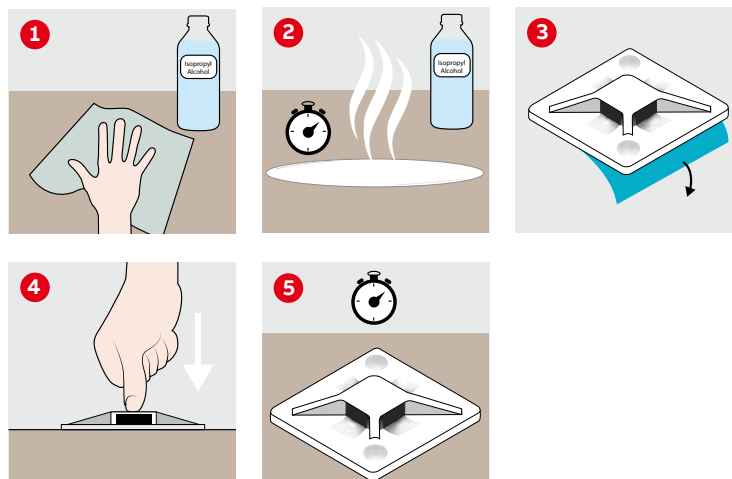
03 Peel off the protective backing from the base without touching the self-adhesive surface.

04 Press the base down firmly onto the mounting surface with your thumb and hold in place for several seconds.

05 Allow the specified set-up time to elapse (15 minutes for synthetic rubber or 72 hours for acrylic) before using the installed base to mount cable ties and bundles of cable.

How to mount self-adhesive bases

Application temperature range for both types of self-adhesive is 18 °C to 37 °C (65 °F to 100 °F). The product package will be stamped with an expiration date for the adhesive, and installation after that date is not recommended for best performance.



Material specifications

Material selection and specifications

Selecting the right material for your applications

ABB offers cable ties and accessories in a wide variety of materials, each suited for specific environments. The purpose of this document, therefore, is to assist in choosing the best material for a particular application.

The effects of weathering, flame, chemicals, extreme temperatures and radiation on the different materials is presented in tabular form to facilitate the selection of the desired material for the application.

Having determined the most suitable material, one can choose from the wide variety of cable ties, identification ties, mounting bases, lashing ties, etc., offered by ABB.

Material specifications

Note: Nylon (Polyamide) is inherently susceptible to environmental conditions. Polyamide 6.6 cable ties are moisturised to optimum performance levels at machine-side and should be stored in cool dry areas out of direct sunlight. Cable ties are packaged in plastic bags containing moisture and should remain sealed until ready for use.

Polyamide 6.6

- Thermoplastic material used in cable ties for universal applications in the industry
- Excellent resistance to shocks, chemicals, oils and temperature fluctuations
- High surface hardness and a small coefficient of friction
- Flammability rating: UL 94 V-2
- Halogen free and Silicone free
- Indoor applications
- Ty-Fast® ties in standard Polyamide 6.6 are available in natural color and in a wide range of colors
- Ty-Rap® ties in standard Polyamide 6.6 are available in natural color only

Polyamide 6.6, weather resistant

- Similar to Polyamide 6.6, but recommended for outdoor applications
- UV-resistant
- Halogen free and Silicone free
- Ty-Fast® ties in weather resistant Polyamide 6.6 are available in black color only (with 2% carbon for military specifications)
- Ty-Rap® ties in weather resistant Polyamide 6.6 are available in black color (with 2% carbon for military specifications) and in a wide range of colors (except natural)
- Flammability rating: UL 94 V-2



UV-
resistant



Weather-
proof

Material specifications

Material selection and specifications

Polyamide 6.6, heat stabilized

- Similar to Polyamide 6.6, but increased operating temperatures, up to 105°C
- Excellent tensile strength
- High temperature resistance
- Color: natural (may have a greenish tint)
- Flammability rating: UL 94 V-2



Polyamide 6.6, heat stabilized and UV-resistant

- Similar to Polyamide 6.6, but recommended for outdoor applications and/or high temperature applications, up to 105°C
- Combines the features & benefits of Polyamide 6.6, weather resistant and Polyamide 6.6, heat stabilized
- Color: black
- Flammability rating: UL 94 V-2



Polyamide 4.6, extra high temperature (150°C)

- Similar to Polyamide 6.6, but outstanding resistance to high temperatures up to 150°C
- Halogen free and silicone free
- Color: light green
- Flammability rating: UL 94 V-2



Polyamide 6.6, flame retardant

- Excellent flammability rating: UL 94 V-0
- Ideal in areas where human life is at risk
- Color: white



Polyamide 6.6, detectable

- Similar to Polyamide 6.6, but contains a compound detectable by metal detectors and X-ray equipment
- Color: bright blue, also contributes to visual detection
- Especially recommend for the food industry, and for any other contamination sensitive industry using detection equipment
- Halogen free and silicone free
- Flammability rating: UL 94 V-2



Polyamide 12, weather resistant

- Extremely flexible, also at low temperatures
- Ages better than Polyamide 6.6
- UV-resistant and weatherproof
- Better chemical resistance than Polyamide 6.6
- Color: black
- Flammability rating: UL 94 V-2



Material specifications

Material selection and specifications

Polypropylene, weather resistant

- Resistant against inorganic acids, polyhydric alcohols, neutral and basic salts
- Resists a number of other chemicals
- UV resistant
- Lower tensile strength than Polyamide 6.6
- Color: black
- Flammability rating: UL 94 HB



UV-resistant



Weather-proof



Chemical resistant

Polypropylene, detectable

- Similar to standard Polypropylene, but contains a compound detectable by metal detectors (tested and rated at 1.5mm diameter ferrous sphere setting) and X-ray equipment
- Color: bright blue, also contributes to visual detection
- Especially recommend for the food industry, and for any other contamination sensitive industry using detection equipment
- Halogen free and silicone free
- Flammability rating: UL 94 HB



Detectable

ETFE Fluoropolymer

- Tensile strength slightly lower than Polyamide 6.6
- ETFE Fluoropolymer is inert to most solvents and chemicals, hydrolytically stable, UV and weather resistant
- Radiation resistant (meets IEEE383) and approved for nuclear plant use
- Non-outgassing properties for zero gravity applications
- Very high temperature resistance
- Flammability rating: UL 94 V-0
- The best all around plastic material for cable ties
- Color: aquamarine



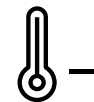
UV-resistant



Flame retardant



Heat resistant



Low temperature flexibility



Weather-proof



Radiation resistant



Chemical resistant

ECTFE Fluoropolymer

- Similar to ETFE Fluoropolymer in performance
- Outstanding characteristic: lower smoke density when burnt
- Recommended for applications where smoke generation is a concern, such as plenum areas
- Color: maroon
- Flammability rating: UL 94 V-0



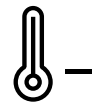
UV-resistant



Flame retardant



Heat resistant



Low temperature flexibility



Weather-proof



Low smoke



Chemical resistant

Material specifications

Material selection and specifications

Toughened weatherable acetal

- Excellent resistance to a wide variety of solvents, esters, oils, greases, gasoline and other petroleum hydrocarbons
- Resistant to weak acids and bases
- Excellent resistance to UV (weatherable acetal)
- Limited self-extinguishing properties
- Color: black
- Flammability rating: UL 94 HB



UV-resistant



Weather-proof



Chemical resistant

302/304 Stainless Steel, 316 Stainless Steel

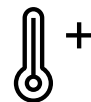
- Superior corrosion resistance
- Excellent tensile strengths at extreme temperatures
- High resistance to chemicals, acids and radiation
- 316 grade has a better resistance to saltwater corrosion and can be supplied with a halogen free coating
- Extensively used in offshore, rail and petrochemical industries



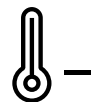
UV-resistant



Flame retardant



Heat resistant



Low temperature flexibility



Weather-proof



Radiation resistant



Chemical resistant

Material specifications

Material selection and specifications

Table 2: Resistance of available materials to various chemicals at 21°C

Reagents	Concentration	HS PA6.6	ECTFE	UV Acetal	PA6.6	UV PA6.6	FR PA6.6	UV PA12	PP	UV PP	ETFE	SS
Arsenic Acid	40%	–	–	–	–	–	–	–	E	E	–	E
Acetaldehyde	50%	S	–	–	S	S	S	–	–	–	–	–
Acetone	100%	E	E	F	E	E	E	E	E	E	E	E
Aluminum Hydroxide	AQ	–	E	–	–	–	–	–	E	E	E	E
Ammonia	All	–	E	–	–	–	–	E	E	E	E	E
Ammonium Carbonate	5%	S	E	–	S	S	S	E	E	E	E	E
Ammonium Hydroxide	10%	E	E	F	E	E	E	–	E	E	E	E
Ammonium Nitrate	–	–	E	–	–	–	–	E	E	E	E	E
Ammonium Sulfate	10%	–	E	–	–	–	–	S	S	S	S	S
Barium Carbonate	All	–	E	–	–	–	–	E	E	E	E	E
Barium Chloride	5%	NR	–	–	NR	NR	NR	E	E	E	E	E
Barium Sulfate	10%	E	–	–	E	E	E	E	E	E	E	E
Barium Sulfide	10%	S	–	–	S	S	S	E	E	E	E	E
Benzene	100%	E	E	F	E	E	E	E	S	S	E	E
Benzoic Acid	100%	NR	E	–	NR	NR	NR	E	E	E	E	E
Butyric Acid	50%	NR	E	–	NR	NR	NR	–	E	E	E	E
Calcium Carbonate	AQ	–	E	–	–	–	–	–	E	E	E	E
Calcium Hydroxide	20%	–	F	E	–	–	–	–	E	E	E	E
Calcium Hydrochlorite	2	NR	–	–	NR	NR	NR	–	F	F	F	F
Calcium Sulfate	2%	–	E	–	–	–	–	–	E	E	E	E
Carbon Tetrachloride	100%	E	E	E	E	E	E	E	F	F	E	E
Chlorine (WET)	–	NR	–	–	NR	NR	NR	–	F	F	F	F
Chlorine (DRY)	–	NR	–	–	NR	NR	NR	–	NR	NR	F	F
Chloroacetic Acid	30%	NR	–	–	NR	NR	NR	–	–	–	F	F
Chloroform	100%	–	E	–	–	–	–	F	F	F	E	E
Chromic Acid	50%	NR	S	–	NR	NR	NR	–	F	F	F	F
Citric Acid	50%	S	E	E	S	S	S	E	E	E	E	E
Copper Cyanide	10%	–	E	–	–	–	–	–	E	E	E	E
Copper Nitrate	50%	–	E	–	–	–	–	–	E	E	E	E
Cider	–	–	E	–	–	–	–	–	E	E	E	E
Dichloroethane	100%	–	E	–	–	–	–	–	–	–	E	E
Diethyl Ether	100%	–	E	S	–	–	–	E	E	E	E	E
Ethyl Alcohol	100%	S	E	–	S	S	S	E	E	E	E	E
Ethyl Chloride	100%	–	S	E	–	–	–	F	F	F	E	E
Ethylene Glycol	100%	E	E	S	E	E	E	–	E	E	E	E
Ferric Hydroxide	All	–	E	–	–	–	–	–	E	E	E	E
Ferric Nitrate	10%	–	E	–	–	–	–	–	E	E	E	E
Ferrous Sulfate	10%	–	E	–	–	–	–	–	E	E	E	E
Fuel Oil	100%	–	E	–	–	–	–	E	–	–	E	E

Ratings:
E = Excellent
S = Satisfactory
F = Fair
NR = Not Recommended
(AQ = Aqueous)

Material specifications

Material selection and specifications

Table 2: Resistance of available materials to various chemicals at 21°C

Reagents	Concentration	HS PA6.6	ECTFE	UV Acetal	PA6.6	UV PA6.6	FR PA6.6	UV PA12	PP	UV PP	ETFE	SS
Furfural	100%	–	E	–	–	–	–	–	F	F	E	E
Gallic Acid	AQ	–	E	–	–	–	–	–	–	–	E	E
Gasoline	100%	E	E	–	E	E	E	–	S	S	E	E
Glycerine	100%	–	E	–	–	–	–	E	E	E	–	E
Hydrocyanic Acid	All	–	E	–	–	–	–	–	E	E	E	E
Hydrogen Peroxide	30%	NR	E	F	NR	NR	NR	S	E	E	E	E
Hydrogen Sulfide	Dry	NR	E	–	NR	NR	NR	E	E	E	E	E
Iodoform	100%	–	E	–	–	–	–	–	–	–	E	E
Isopropyl Alcohol	100%	S	E	–	S	S	S	E	E	E	E	E
Jet Fuel	100%	E	E	–	E	E	E	–	S	S	E	E
Lactic Acid	10%	E	E	–	E	E	E	S	E	E	E	E
Lanolin	10%	E	E	–	E	E	E	E	E	E	E	E
Lead Acetate	5%	–	E	–	–	–	–	–	E	E	E	E
Linseed Oil	10%	E	E	E	E	E	E	E	E	E	E	E
Magnesium Carbonate	All	–	E	–	–	–	–	E	E	E	E	E
Magnesium Chloride	10%	F	–	–	F	F	F	F	F	F	F	F
Magnesium Nitrate	All	–	E	–	–	–	–	E	E	E	E	E
Malic Acid	AQ	–	E	–	–	–	–	–	E	E	E	E
Mercury	100%	–	E	–	–	–	–	E	E	E	E	E
Methyl Alcohol	100%	S	E	–	S	S	S	E	E	E	E	E
Methyl Chloride	100%	–	S	–	–	–	–	–	S	S	E	E
MethylEthyl Ketone	100%	–	E	F	–	–	–	E	E	E	E	E
Naptha	100%	–	E	–	–	–	–	–	E	E	E	E
Nitric Acid	30%	NR	E	NR	NR	NR	NR	–	E	E	E	E
Nitric Acid	30-70%	NR	S	NR	NR	NR	NR	–	F	F	S	E
Nitrous Acid	5%	–	E	–	–	–	–	–	F	F	E	E
Oieic Acid	100%	–	E	S	–	–	–	–	E	E	E	E
Oxalic Acid	10%	–	E	–	–	–	–	S	E	E	E	E
Paraffin	100%	E	E	–	E	E	E	E	E	E	E	E
PetroleumEther	100%	–	E	–	–	–	–	E	F	F	E	E
Phenol	90%	NR	E	NR	NR	NR	NR	–	E	E	E	E
Phosphoric Acid	10%	NR	E	–	NR	NR	NR	–	E	E	E	E
Picric Acid	1%	–	E	–	–	–	–	–	E	E	E	E
Potassium Bromide	AQ	–	–	–	–	–	–	–	S	S	S	S
Potassium Carbonate	1%	–	E	–	–	–	–	E	E	E	E	E
Potassium Chlorate	AQ	–	E	–	–	–	–	S	E	E	E	E
Potassium Dichromate	40%	NR	E	–	NR	NR	NR	F	E	E	E	E
Potassium Ferrocyanide	25%	–	E	–	–	–	–	–	E	E	E	E
Potassium Hydroxide	5%	S	E	–	S	S	S	–	E	E	E	E

Ratings:

E = Excellent

S = Satisfactory

F = Fair

NR = Not Recommended

(AQ = Aqueous)

Material specifications

Material selection and specifications

Table 2: Resistance of available materials to various chemicals at 21°C

Reagents	Concentration	HS PA6.6	ECTFE	UV Acetal	PA6.6	UV PA6.6	FR PA6.6	UV PA12	PP	UV PP	ETFE	SS
Potassium Iodide	All	–	E	–	–	–	–	E	E	E	E	E
Potassium Nitrate	50%	F	E	–	F	F	F	E	E	E	E	E
Potassium Permanganate	5%	NR	E	S	NR	NR	NR	NR	E	E	E	E
PotassiumSulfate	5%	–	E	–	–	–	–	E	E	E	E	E
PotassiumSulfide	AQ	–	E	–	–	–	–	–	E	E	E	E
Propyl Alcohol	100%	E	E	–	E	E	E	–	E	E	E	E
Silver Nitrate	10%	–	E	–	–	–	–	E	E	E	E	E
Sodium Acetate	60%	E	E	–	E	E	E	–	E	E	E	E
Sodium Bicarbonate	All	E	E	–	E	E	E	E	E	E	E	E
Sodium Bisulfate	10%	–	E	E	–	–	–	E	E	E	E	E
Sodium Borate	All	–	E	–	–	–	–	–	E	E	E	E
Sodium Carbonate	5%	E	E	S	E	E	E	E	E	E	E	E
Sodium Chlorate	25%	–	E	E	–	–	–	S	E	E	E	E
Sodium Chloride	2%	E	E	S	E	E	E	E	E	E	E	E
Sodium Fluoride	5%	–	–	–	–	–	–	–	F	F	F	F
Sodium Hydroxide	10%	E	E	S	E	E	E	E	E	E	E	E
Sodium Hyposulfite	AQ	–	E	–	–	–	–	–	–	–	E	E
Sodium Nitrate	5%	E	E	–	E	E	E	E	E	E	E	E
Sodium Nitrite	AQ	–	E	–	–	–	–	S	E	E	E	E
Sodium Perchlorate	10%	–	E	–	–	–	–	–	–	–	E	E
Sodium Phosphate	5%	–	E	–	–	–	–	E	E	E	E	E
Sodium Sulfate	5%	S	E	–	S	E	E	E	E	E	E	E
Sodium Thiosulfate	5%	–	–	S	–	–	–	S	S	S	S	S
Stearic Acid	100%	–	E	–	–	–	–	F	E	E	E	E
Sulfur	100%	–	E	–	–	–	–	E	E	E	E	E
Sulfur Dioxide	All	NR	E	–	NR	NR	NR	E	E	E	E	E
Sulfuric Acid	Conc.	NR	E	NR	NR	NR	NR	–	S	S	E	E
Sulfuric Acid	5%	NR	F	F	NR	NR	NR	F	F	F	F	F
Tannic Acid	10%	–	E	–	–	–	–	–	E	E	E	E
Tartaric Acid	50%	–	E	E	–	–	–	E	E	E	E	E
Tetrahydrofuran	100%	–	F	E	–	–	–	S	F	F	E	E
Toluene	100%	E	E	F	E	E	E	E	F	F	E	F
Xylene	100%	E	–	E	E	E	E	F	F	E	E	E
Zinc Chloride	70%	F	E	NR	F	F	F	E	E	E	E	E
Zinc Nitrate	AQ	–	E	–	–	–	–	E	E	E	E	E
Zinc Sulfate	AQ	–	E	–	–	–	–	E	E	E	E	E

Ratings:
E = Excellent
S = Satisfactory
F = Fair
NR = Not Recommended
(AQ = Aqueous)

Material specifications

Unit conversion factors

Unit conversion factors

Unit	x	Constant	=	Unit	Unit	x	Constant	=	Unit
BTU		778,0		foot-pound (ft x lb)	gallons		0,13368		cubic foot (ft³)
BTU		1054,8		Joules	gallons		231,0		cubic inch (in³)
BTU		0,293		Watt-hours (W x h)	gallons		3785,332		cubic centimetres (cm³)
centimetres (cm)		0,032808		feet (ft)	grams (g)		15,432		grains
centimetres (cm)		0,3937		inches (in)	gram/centimetre³ (gm/cm³)		0,0361275		pounds/in³ (lb/in³)
centimetres (cm)		0,00001		kilometres (km)	horsepower (hp)		33000,0		ft x lb/min
centimetres (cm)		0,010		metres (m)	horsepower (hp)		550,0		ft x lb/sec
centimetres (cm)		10,0		millimetres (mm)	horsepower (hp)		745,7		Watts (W)
circular mils		0,00064516		circular millimetres	inch (in)		0,027178		yards (yd)
circular mils		0,0000007854		inches² (in²)	inch (in)		0,083333		feet (ft)
circular mils		0,000506671		square millimetres (mm²)	inch (in)		0,00002540		kilometre (km)
circular mils		0,7854		mils²	inch (in)		0,025400		metre (m)
cubic centimetre (cm³)		0,000035314		cubic foot (ft³)	inch (in)		2,54000514		centimetre (cm)
cubic centimetre (cm³)		0,061023		cubic inch (in³)	inch (in)		25,4000514		millimetre (mm)
cubic centimetre (cm³)		0,000001		cubic metre (m³)	inch (in)		1000,0		mils
cubic centimetre (cm³)		0,0026417		gallons	Joules		0,000948		BTU
cubic foot (ft³)		17280		cubic inch (in³)	Joules		107		ergs
cubic foot (ft³)		28317,016		cubic centimetre (cm³)	liters (l)		61,0250		cubic inch (in³)
cubic inch (in³)		0,00057870		cubic feet (ft³)	metres (m)		1,093611		yard (yd)
cubic inch (in³)		0,000016387		cubic metre (m³)	metres (m)		3,2808333		feet (ft)
cubic inch (in³)		16,387162		cubic centimetre (cm³)	metres (m)		39,37		inch (in)
cubic metre (m³)		1000000,0		centimetre (cm)	metres (m)		100,0		centimetre (cm)
cubic metre (m³)		35,314456		cubic foot (ft³)	miles		1760,0		yards (yd)
cubic metre (m³)		264,17		gallons	miles		5280,0		feet (ft)
foot (ft)		0,00018939		miles	miles		1,6093		kilometre (km)
foot (ft)		0,33333		yards (yd)	millimetres (mm)		0,0032808		feet (ft)
foot (ft)		12		inches (in)	millimetres (mm)		0,03937		inch (in)
foot (ft)		0,00030480		kilometres (km)	millimetres (mm)		0,001		metres (m)
foot (ft)		0,30480		metres (m)	millimetres (mm)		0,01		centimetres (cm)
foot (ft)		30,480		centimetres (cm)	millimetres (mm)		39,3701		mils
foot (ft)		304,80		millimetres (mm)	millimetres (mm)		1000,0		microns (µm)
foot/pound (ft/lb)		0,00067197		metres/grams (m/g)	pound force (lbs)		4,45		Newton (N)
foot-pound (ft x lb)		0,001285		BTU	Watts (W)		44,25		ft x lb/minute
foot-pound (ft x lb)		1,356		Joules (J)	Watts (W)		0,737562		ft x lb/sec
foot/pound (ft/lb)		0,1383		kilogram/metre (kg/m)	Watts (W)		0,001341		horsepower (hp)
gallons (US)		3,785332		litres (l)	Watt-hours (W x h)		3,41266		BTU

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