

PRODUCT BROCHURE

STE and STEX series

Jacketed metal-clad and Teck cable fittings



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The best engineering for the worst of conditions

At ABB, we have many engineers and designers dedicated to research and development. Building. Testing. Refining. Every day they combine their expertise with state-of-the-art design software to develop some of the most innovative electrical components available.

However, some of our most valuable product ideas come from you — electricians and maintenance technicians who install our products. We're pleased that you helped develop the original ST series fittings into an industry benchmark. And we've been listening to your suggestions for new developments.

That's why we have the STE and STEX series cable fittings. STE and STEX series fittings incorporate some of the most widely suggested features, without sacrificing the capabilities of the original, popular ST series fitting. We're confident you'll appreciate the STE and STEX series fittings' features and benefits.

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Greater range. Fewer part numbers, less inventory. A fitting combination!

The STE series cable fitting is designed for optimum integrity in ordinary applications. The STEX series is specially designed for hazardous (classified) areas, and is designed to stand up to the harshest and most corrosive environments — like pulp and paper mills, mining operations, chemical plants, food processing plants, hydrocarbon facilities and petrochemical plants refineries. So you can specify STE and STEX series fittings anywhere there are extreme conditions and where equipment relies heavily on the integrity of electrical connections.

Accepts an extreme range of jacketed metal-clad and Teck cable diameters

We've complemented our STE and STEX series fittings' standard, heavy-duty, thick-walled, tapered sealing bushing with an elastomeric compression ring. It enables the fitting to cover the broadest range of cable diameters per hub size. The sealing compression ring controls the direction of compression of the larger tapered sealing bushing so it compresses radically inward — not out through the gland nut opening. Because it has such a large cable-diameter range per fitting, the STE and STEX fittings make matching cable to fitting a snap. This wide cable range reduces the number of fittings required to terminate a wide range of cables, thus reducing your inventory and saving you money!



— 01 Each fitting comes with a factory-installed armor stop. To install the largest cable in the fitting's range, simply unscrew the armor stop and discard.

— 02 Integral sealing gasket

— 03 Power grip grounding ring

No assembly or disassembly required

The problem with most range-taking fittings is that a separate armor stop has to be inserted in the throat of each fitting in order to use it on the smallest cable in its range. Otherwise, the armor will slip right through the fitting's throat. The STE and STEX series fitting comes out of the box with all the components already installed; each fitting is factory-ready to use with the smallest cable in its range. If the cable being installed is too large to fit the conductor bundle through the throat, the installer simply unscrews and removes the armor stop. The throat diameter is immediately increased to the top end of the fitting range. No disassembly of the fitting needed. No loose parts rattling around in the bottom of the box.

Superior electrical bond

The perimeter of the STE and STEX series fitting (the surface in contact with the electrical enclosure) is designed with sharp biting teeth, which provide a superior electrical bond between the cable and the enclosure. These teeth also ensure that any potentially corrosive liquids can quickly drain away from the surface between the closure and the fitting. This minimizes the likelihood of corrosion between the fitting and the enclosure.

The power grip grounding ring is designed with unique, dual grounding fingers that provide long-term and effective grounding with superior pull-out resistance over a wide range of cable sizes. It is made of non-magnetic stainless steel for corrosion resistance and strength. The 360° design ensures positive and immediate contact with the cable. The three small fingers hold the cable in place for hands-free tightening of the gland nut. The six large fingers scratch off any cable armor oxidation and create the primary bond when the gland nut is tightened. They act independently to allow for cables that are not perfectly round to give the best possible grounding connection and pull-out resistance.

The perfect seal for imperfect installations

The STE and STEX series fitting is the fitting of choice for installations requiring environmental seals on boxes with knock-outs or in NEMA 7 and 9 threaded enclosures. An innovative sealing ring, built into the shoulder of the fitting, outperforms standard O-ring sealing devices. The sealing device is secured in place and resists buckling and slippage during installation. The seal groove is designed to provide optimum compression of the sealing ring when the STE and STEX series fitting is installed and is designed to provide a complete 360° seal, even when the fitting is not perpendicular to the enclosure or when the enclosure surface is rough or uneven.



01

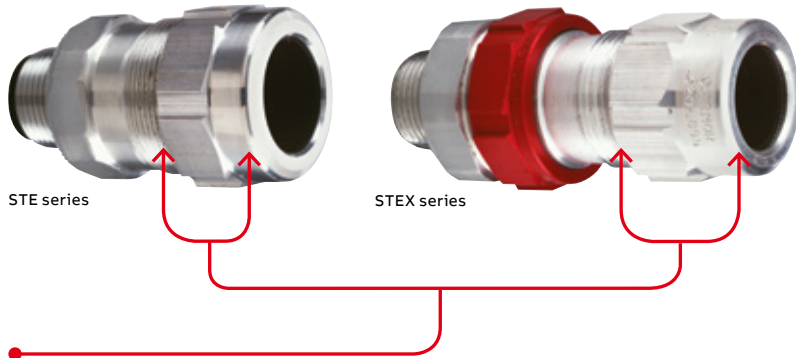


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Inside STE and STEX series fittings

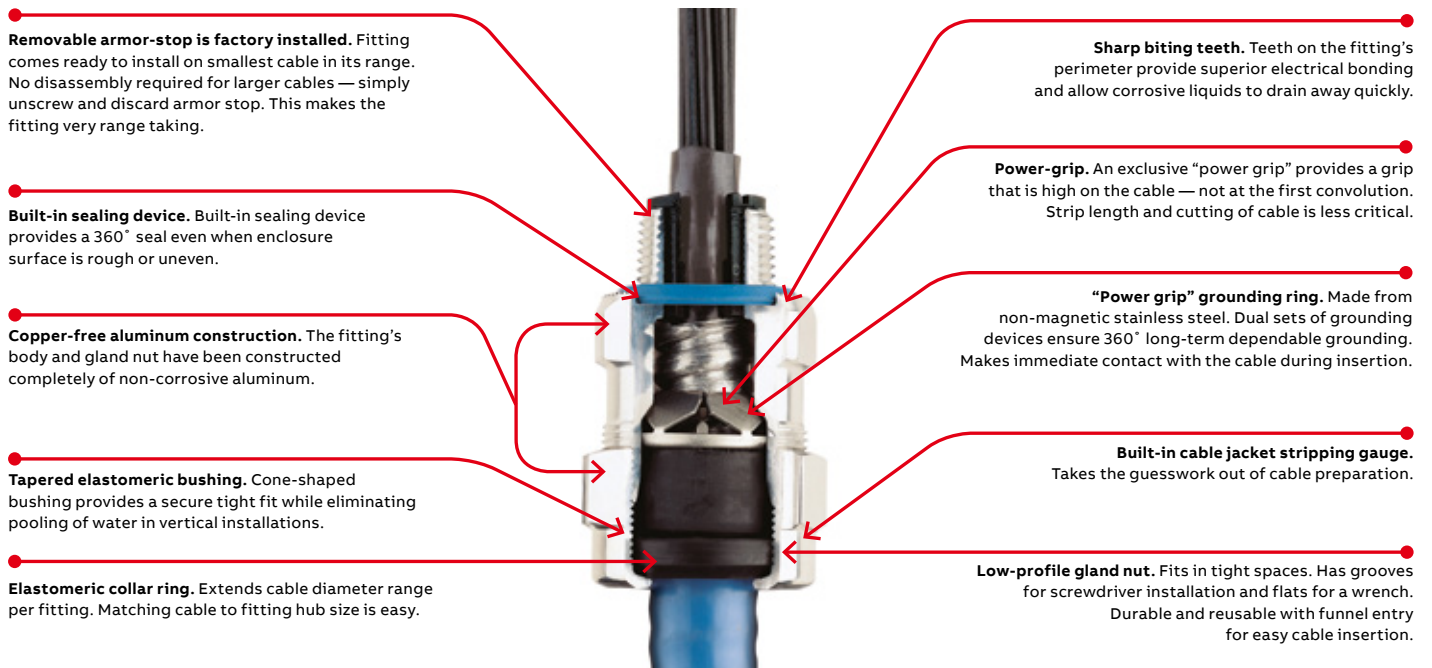


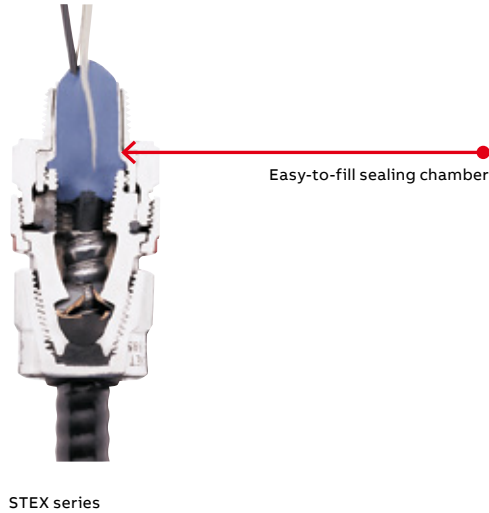
Length of fitting gland serves as a stripping gauge on every fitting

Convenient stripping guide right on the fitting

The last thing an electrician needs to worry about is how much cable jacket needs to be stripped before the cable is installed into an enclosure. Too little jacket removal might compromise the bonding and grounding of the cable to the fitting. Too much jacket removal might compromise the sealing of the fitting to the cable. The STE and STEX series fitting's built-in jacket-stripping gauge eliminates all of the guesswork. Just strip the outer jacket to the length of the fitting gland, and focus on the job of installing the cable.

STE series fittings for jacketed metal-clad and Teck cable — ordinary locations





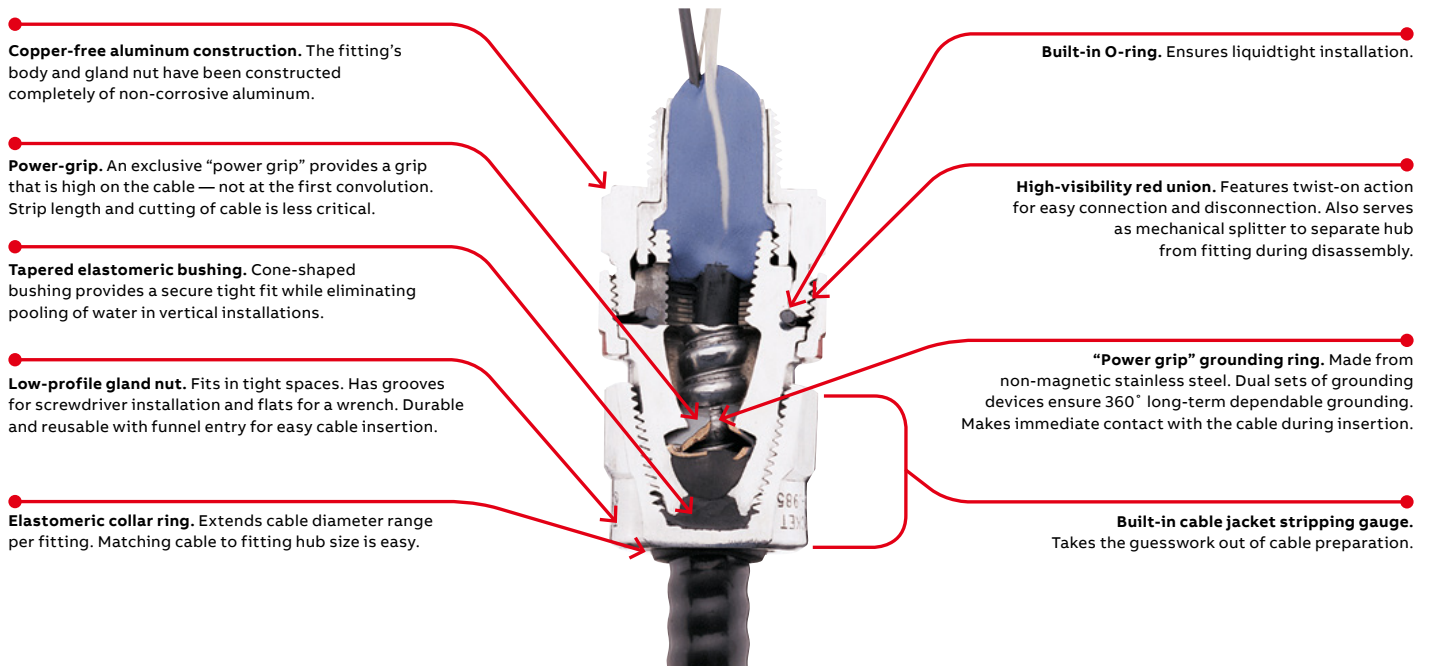
Easy-to-fill sealing chamber for hazardous location fittings

This separable sealing chamber is easy to fill with potting compound. It threads on to act like a plunger, which removes any air pockets. Also, the red union is highly visible to let inspectors know the fitting is hazardous location-rated.

Overlapping range of sizes

STE and STEX series fittings are designed to accommodate a broad range of cables. Each hub range overlaps the adjacent hub range, thereby minimizing the possibility of mismatched cables and fittings in the field. They are available in hub sizes from ½" to 4" and will handle outer jacket diameters from 0.525" to 4.340".

STEX series fittings for jacketed metal-clad and Teck cable — hazardous locations



Installing STE and STEX series fittings

STE series — ordinary locations

- 01 Prepare the cable
- 02 For larger cables, unscrew and discard armor stop
- 03 Insert cable
- 04 Tighten gland nut



01



02



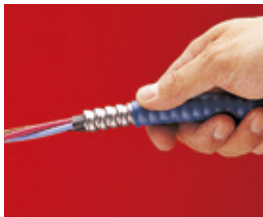
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STEX series — hazardous locations

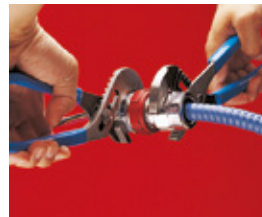
- 05 Prepare the cable
- 06 Install STEX series fitting on cable
- 07 Tighten gland nut
- 08 Remove armor stop
- 09 Pot cable using liquid or putty
- 10 Insert hub on enclosure
- 11 Insert cable and tighten red union
- 12 Clean, professional cable terminations on the broadest range of cable diameters



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Suggested specifications for the jacketed metal-clad and Teck cable fittings

Fittings for jacketed metal-clad and Teck cable — ordinary locations

1. All metal-clad cable fittings for jacketed interlocked armor cable, continuous corrugated cable or Teck cable shall be approved by a nationally recognized testing laboratory, inspection agency or product evaluation organization.
2. Where corrugated-jacketed, metal-clad cable exposed to intermittent or continuous moisture is terminated into a threading opening, the connector shall be of the watertight type furnished with:
 - a. An elastomeric beveled bushing or bushings
 - b. A funnel-entry gland nut
 - c. A non-magnetic stainless steel grounding device with dual grounding fingers
 - d. A taper-thread hub
 - e. A hexagonal body and gland nut as manufactured by ABB (aluminum series STE050)
3. A synthetic rubber sealing device shall be captivated in a face groove providing optimized sealing even on irregular surfaces. This configuration shall also prevent over-compensation of the seal, such as ABB series STE050.
4. With a single conductor cable and/or corrosive environments, aluminum connectors, such as ABB series STE050, shall be installed.
5. All metal-clad cable fittings for jacketed interlocked armor cable shall provide external bonding/grounding teeth capable of penetrating surface finishes to contact enclosure base metal, such as ABB series STE050.
6. All metal-clad fittings for jacketed interlocked armor cable shall incorporate an easily removable armor stop (not requiring fitting disassembly) ensuring proper positioning of the cable armor during cable termination, such as ABB series STE050.

Certifications: STE*

- Ordinary location
- Class I, Div 2
- NEMA 4, 4X, 6P

*These fittings are suitable for Class I hazardous locations when used in combination with a certified Class I hazardous location sealing fitting.



Suggested specifications for the jacketed metal-clad and Teck cable fittings

Fittings for jacketed metal-clad and Teck cable — hazardous locations

1. All metal-clad cable fittings for jacketed interlocked armor cable, continuous corrugated cable or Teck cable shall be approved by a nationally recognized testing laboratory, inspection agency or product evaluation organization.
2. Where corrugated-jacketed, metal-clad cable exposed to intermittent or continuous moisture is terminated into a threaded opening, the fitting shall be watertight type furnished with:
 - a. an elastomeric beveled bushing or bushings
 - b. a funnel entry, splined gland nut
 - c. a non-magnetic stainless steel grounding device with dual grounding fingers
 - d. a taper threaded hub
 - e. a hexagonal body and gland nut as manufactured by ABB (aluminum series STEX075)
3. With single conductor cable and/or in corrosive environments, aluminum connectors such as ABB series STEX075 shall be installed.
4. In hazardous location applications, the fitting shall be of the integral seal type with metal-to-metal contact construction such as ABB STEX series. Sealing of multi-conductor cable shall be accomplished with a liquid-type polyurethane compound such as ABB series SC4-KIT. Putty-type sealing compound such as ABB series SC65 may be used for low wire density applications.
5. The fitting must:
 - a. Provide an environmental seal around the outer jacket of the cable and electrically bond the fitting to the cable armor prior to potting the explosion-proof seal.
 - b. Allow the possibility of disconnection without disturbing the environmental seal, the electrical bonding or the explosion-proof seal.
6. All metal-clad cable fittings for jacketed interlocked armor cable shall incorporate an easily removable armor stop (not requiring fitting disassembly) ensuring proper positioning of the cable armor during cable termination, such as ABB series STEX075.

Certifications: STEX**

- Ordinary location
- Class I, Div 1, Groups A, B, C, D
- Class II, Div 1, Groups E, F, G
- NEMA 4, 4X, 6P

** May be used in hazardous areas with approved MC-HL type cable (or equal) when installed in accordance with NEC®/CEC requirements.



Jacketed metal-clad and Teck cable termination fittings

STE and STEX series jacketed metal-clad and Teck cable fittings



Cat. no.	Hub size NPT (in.)	Strip length (in.)	Gland torque (in.-lb.)	Cable range over jacket (in.)		Cable range over armor (in.)		A1: throat dia. min. w/end stop		A2: throat dia. min. w/o end stop		Dimensions (in.)		Sealing compound required	
				Min	Max	Min	Max			B overall	C max O.D.	SC65 putty (g)	SC4-KIT liquid (cc)		
Ordinary locations															
STE series — ordinary locations	ST050-462*#	½	1¼	300	0.525	0.650	0.415	0.570	–	0.395	2.020	1.224	–	–	
	STE050DATA**	½	¾	300	0.592	0.693	0.502	0.603	0.375	0.515	2.100	1.360	–	–	
	STE050*	½	1¼	300	0.600	0.985	0.520	0.895	0.505	0.612	2.650	1.630	–	–	
	STE075*	¾	1¼	600	0.860	1.205	0.780	1.125	0.655	0.816	2.900	2.080	–	–	
	STE100*	1	1¼	700	0.950	1.375	0.870	1.295	0.785	1.044	3.020	2.300	–	–	
	STE125*	1¼	1¼	1,000	1.150	1.625	0.990	1.465	0.970	1.250	4.010	2.820	–	–	
	STE150*	1½	1¾	1,200	1.440	1.965	1.280	1.805	1.260	1.562	4.290	3.250	–	–	
	STE200*	2	1¾	1,600	1.825	2.375	1.665	2.215	1.645	1.995	4.120	3.600	–	–	
	STE250	2½	2½	1,600	2.265	2.840	2.105	2.680	2.075	2.424	5.320	4.750	–	–	
	STE300	3	2½	1,600	2.670	3.270	2.545	3.145	2.531	2.890	5.400	5.400	–	–	
	STE350	3½	2½	1,600	3.220	3.870	3.090	3.640	3.065	3.460	5.360	5.900	–	–	
	STE400	4	2½	1,600	3.665	4.340	3.550	4.225	3.525	3.941	5.415	6.400	–	–	
Hazardous locations															
STEX series — hazardous locations	STX050-462*#	½	1¼	300	0.525	0.650	0.415	0.570	–	0.395	2.500	1.630	7	4	
	STX050-464*#	½	1¼	300	0.600	0.760	0.490	0.680	–	0.485	2.530	1.630	7	4	
	STEX075*	¾	1¼	600	0.600	0.985	0.520	0.895	0.504	0.678	3.400	1.820	14	7	
	STEX100*	1	1¼	700	0.860	1.205	0.780	1.125	0.650	0.833	3.580	2.300	30	16	
	STEX125*	1¼	1¼	1,000	0.950	1.375	0.870	1.295	0.834	1.065	3.920	2.510	45	22	
	STEX150*	1½	1¾	1,200	1.150	1.625	0.990	1.465	0.958	1.273	5.020	3.260	80	43	
	STEX200*	2	1¾	1,600	1.440	1.965	1.280	1.805	1.250	1.560	5.120	3.620	125	66	
	STEX250	2½	2½	1,600	1.825	2.375	1.665	2.215	1.640	1.995	5.170	4.580	341	164	
	STEX300	3	2½	1,600	2.265	2.840	2.105	2.680	2.075	2.461	6.610	5.100	497	239	
	STEX350	3½	2½	1,600	2.670	3.270	2.545	3.145	2.531	2.864	7.380	5.790	965	464	
	STEX400	4	2½	1,600	3.220	3.870	3.090	3.640	3.055	3.461	7.650	6.190	1323	636	
	STX400-484#	4	–	1,600	3.810	4.030	3.680	3.870	–	3.590	4.840	6.435	1645	791	
	STX400-485#	4	–	1,600	3.965	4.185	3.835	4.025	–	3.745	4.840	6.435	1645	791	

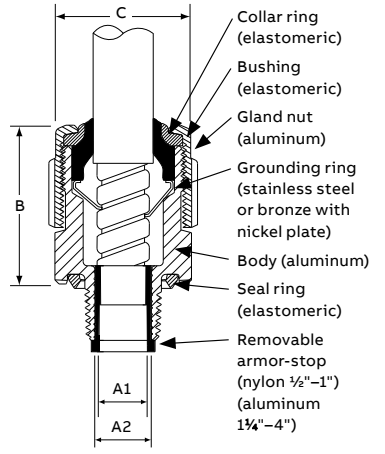


To specify other than standard aluminum material, add the appropriate suffix to the category number.

Desired material	Suffix	Example
Aluminum fitting with grounding lock nut	GRL	STE-050GRL
Steel with zinc plate	S	STE-050S
Aluminum with PVC coating	PVC	STE-050PVC
Steel with PVC coating	S-PVC	STE-050S-PVC

* These products are UL® Listed watertight NEMA Type 6P
 ** UL tested for data cables
 # Does not have a removable armor stop.

Diagram



Sealing compounds — used for hazardous locations

Sealing compounds — Used for hazardous locations

Cat. no.	Description	Volume
SC65	Putty-type sealing compound	60 g
SC4-KIT	Liquid-type sealing compound for use in high wire density cable applications (5 or more wires)	2.8 fl. oz. (66 cc)

Warranty: ABB manufactures its goods and tools in a manner to be free of defects. Should any defect occur in its goods (within two years) or tools (within ninety days), ABB, upon prompt notification, will at its option exchange or repair the goods or tools or refund the purchase price.

Limitations and exclusions: This warranty is in lieu of all other representations and expressed and implied warranties (including the implied warranties of merchantability and fitness for use) and under no circumstances shall ABB be liable for any incidental or consequential property changes or losses.



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