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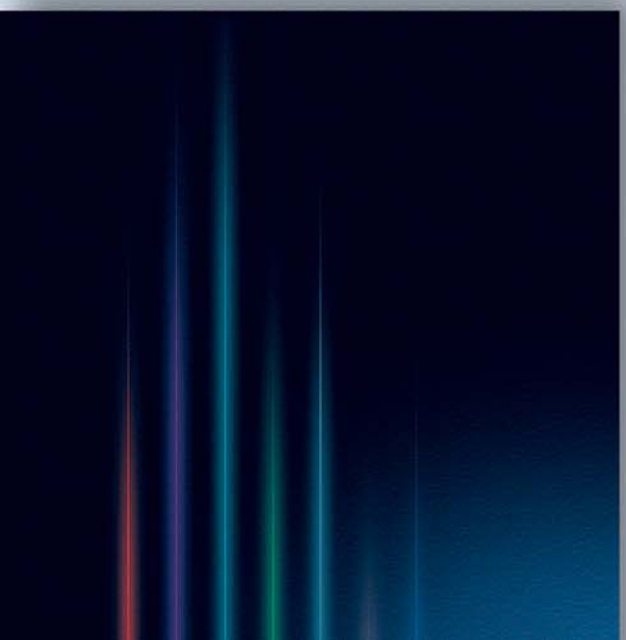

Thomas&Betts

THE POWER OF CHOICE

As North America's largest single source for electrical components, Thomas & Betts is powered by the longest and most complete list of reputable brand name products available from one manufacturer in the industry today. With services like "one order, one shipment" available through your Thomas & Betts distributor, the more T&B purchases you make, the more you can save.

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***All-Struct*™**	aluminum and steel structures
***Amerace*®**	airfield lighting
***Battpac*®**	battery-powered and compression tools
***Blackburn*™**	compression connectors
***Blackburn*™**	grounding products
***Color-Keyed*®**	compression connectors
***Deltec*™**	aerial cable support systems
***Diamond*™**	pole line hardware
***Elastimold*®**	premolded connectors for underground distribution applications
***Emergi-Lite*™**	emergency lighting systems
***ExpressTray*™**	wire-mesh cable management system
***E-Z-Code*®**	wire marker systems
***E Z Ground*™**	compression connectors
***Furseweld*®**	exothermic connectors
***Hazlux*™**	hazardous location lighting
***Iberville*®**	“roughing-in” products
***Iberville*®**	steel boxes and covers
***Kold-n-Klose*®**	forced encapsulated closures and sheath repair systems
***LRC*®**	connectors, splices, adaptors and accessories
***Lumacell*®**	emergency lighting systems
***Marr*®**	wire connectors and nonmetallic boxes
***Meyer*®**	transmission and light duty engineered steel poles
***Microlectric*™**	meter sockets and pole line hardware
***Mipco*®**	plugs, receptacles, modules, power outlets and connectors
***Ocal*®**	coated products
***OmniLink*™**	wire management systems
***Partex*®**	wire marker systems
***Pos-E-Kon*®**	industrial connectors
***Ready-Lite*™**	emergency lighting systems
***Red•Dot*®**	weatherproof boxes and covers
***Reznor*®**	heating, ventilation and cooling systems
***Russellstoll*®**	plugs, receptacles and connectors
***Sachs*™**	drop line and construction hardware, grounding and bonding products, signal security hardware
***Safe-Ty*®**	low profile in-line fasteners
***Shield-Kon*®**	grounding connectors and tools
***Shrink-Kon*™**	insulation products
***South River*™**	wireless antenna mounts and hardware
***Sta-Kon*®**	terminals and application tools
***StarTeck*™**	fittings for teck cable
***Steel City*®**	floor boxes, access modules and poke throughs
***Superstrut*™**	metal framing, channel and accessories
***Sure-Ty*™**	automated fastening system
T&B	cable tray systems
T&B	conduit fittings
***Taylor*®**	wiring duct
***Ty-Duct*™**	wiring duct
***Ty-Fast*™**	one-piece ties and accessories
***Ty-Rap*®**	cable ties

Teck Cable Fittings

Table of Contents

Teck Cable Fittings
Specifications

Teck Cable

Teck cable derived its name from one of its first users, the Teck-Hughes Gold Mines in Kirkland Lake, Ontario. Teck 90 is CSA Type designation. Trade designation of this cable is Armored Cable.

Teck cables up to 5,000 volts working potential are manufactured in accordance with CSA Standard C22.2 No. 131 and are provided with a bare ground conductor and an optional outer jacket. Depending on phase conductor insulation the cables are designated as Teck 90 (X-LINK) when insulation is cross-linked polyethylene and Teck 90 (EP) when insulation is ethylene propylene. Both cables are rated for 90°C service (dry location) and 75°C (wet locations). When Teck cable is suitable for installation down to minus 40°F the cables are marked Teck 90 (X-LINK) minus 40 or Teck 90 (EP) minus 40.

Over 5,000 volts working potential Teck cables are manufactured in accordance with IPCEA standards and are certified by CSA. Cables are provided with or without ground wire as required.

Teck cables with outer jacket may be used for exposed or concealed wiring in wet or dry locations, indoors/outdoors and in corrosive environments. Teck cables are suitable for use in ventilated, non-ventilated and ladder type cable troughs, in ventilated flexible cable ways in both dry and wet locations. Teck cable with outer jacket is suitable for direct earth burial and for Class II Division 2, Class III, Divisions 1 and 2 hazardous locations per Canadian Electric Code.

Some of the features of Teck cable are its flexibility and ease of installation. Absence of dead air space within cable increases heat transfer and mini-mizes condensation. Overall protective covering provides good environmental protection.

Bend radius for permanent training during installation usually varies between 7 times to 12 times the cable diameter depending on cable construction and manufacturer's recommendations. Larger radius bends are required for other conditions.

Section 12-3028 of the Canadian Electric Code requires that the terminating fittings used must provide adequate strain relief to terminal connections and ensure electrical continuity without injury to non-metallic sheath. Continuity is mandatory whether or not the armor is used as a grounding conductor. Except for dry locations free from corrosive atmosphere, the non-metallic jacket is not permitted to be stripped back to a point where armor is exposed after installation.

Where single conductor cables carrying 200 amps or more enter metal boxes through separate openings, certain precautions are required to prevent overheating of the metal by induction. Use of non-ferrous or non-metallic box connectors, locknuts and bushings and installation of non-magnetic panel inserts is suggested in the code.

Please refer to the following for further details and complete information:

1. CEC Section 12…Wiring Methods
   CEC Section 4…Conductors
2. CSA C22.2 No. 131 and 131S (Supplement #1)…Safety Standard for Type Teck Cable
3. CSA C22.2 No. 18…Safety Standards for Outlet Boxes, Conduit Boxes and Fittings

Please Note
The excerpts and other material herein, whether relating to the National Electrical Code, the Underwriters Laboratories, Inc. listing, to industry practice or otherwise, are not intended to provide all relevant information required for use and installation. Reference to original or primary source material and data is mandatory before any application or use is made of the product.

CSA Certified
CSA Certified for use in hazardous locations of class I, II, III. Suitable for locations of class I with a class I certified anti-explosion firewall.
cCSAus Certified for use in hazardous locations; i.e. e II, Class I, Zone I, AEx e II compliant with C.C.C. and N.E.C.

Metal-Clad Cable and Aluminum-Sheathed Cable

"Metal Clad Cable Type MC is a factory assembly of one or more conductors, each individually insulated and enclosed in a metallic sheath of interlocking tape, or a smooth or corrugated tube."

Metal Clad Cable Type MC is rated for use up to 5,000 volts. The National Electrical Code permits use of metallic sheath as an equipment grounding conductor.

Metal Clad Cables are available with a variety of phase conductor insulations such as crosslinked polyethy-lene, and silicone rubber ethylene propylene, de-pending on rated tempe-rature of conductors and working potential. Metallic sheath can be of galvanized steel, aluminum, copper or bronze. A special outer covering such as PVC or Neoprene over metallic sheath is usually provided for environmental protection.

Metal clad cable is not permitted in locations where it could be subject to physical damage. Metal clad cable can be used exposed, concealed, in cable tray, in any approved raceway, and, with minor exceptions, in hazardous locations. Type MC cable can also be used for services, feeders, branch circuits, power, lighting, control and signal circuits.

Use of metal clad cable is permitted in wet locations, or where exposed to destructive corrosive conditions or can be directly buried in earth, concrete or exposed to cinder fills, strong chlorides, caustic alkalis, vapors, chlorine or hydrochloric acids provided the construction of cable, the conduc-tors within the metallic sheath, the metallic sheath and protective cover over metallic sheath comply with requirements enumerated in Sec. 334-3 of the National Electrical Code.

Bend radius restrictions are dependent on the size of the cable and the type of sheath, i.e. smooth, interlocked armor, corrugated sheath or shielded conductors and varies from 7 times to 15 times cable external diameter.

NEC Article 334 requires that approved fittings be used for termina-tion. Where single-conductor cables carrying alternating current enter a fer-rous metal box or enclosure, procedures described in NEC Section 300-20 must be followed to reduce effects of heating due to induced currents. These procedures include recommended arrangements of conductors, cutting of slots in metal between individual conductor holes, passing of conductors through insulating walls, or use of non-magnetic aluminum sheathed cable and aluminum terminating fittings.

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Please refer to the following for further details and complete information:

1. NEC Article 334…Metal Clad Cable (Type MC)
2. U.L. 4, ANSI C33.9…Safety Standards for Type MC Metal Clad Cable
3. U.L. 514, ANSI C33.84…Safety Standards for Outlet Boxes and Fittings
4. W-F-406…Federal Specification. Fittings for Cable, Power Electrical and Conduit Metal, Flexible
5. NEMA FM-1…Standards Publication. Fittings and Supports for Conduit and Cable Assemblies

Teck Cable Fittings

Hazardous Locations — C.E.C. Classifications

C.E.C. Code Changes

In 1998, the Canadian Electrical Code® (C.E.C.) adopted the International Electrotechnical Commission's (IEC) "Three Zone Area" Classification System for Class I hazardous locations. The Zone System is an alternate classification for Class I hazardous locations and was adopted to promote harmonization with international standards.

The Division System for Class I hazardous locations continues to be used for existing facilities and is expected to remain in use at least for the next few editions of the C.E.C. For this reason, this catalogue's certification information for Class I hazardous locations includes both the pre-1998 Division System and the new I.E.C. Zone System.

The following pages provide an overview of C.E.C. hazardous location classifications.

The following abbreviations are used in this catalogue:
- **HLA** — Hazardous Location Area
- **OLA** — Ordinary Location Area

Classes

The Canadian Electrical Code (C.E.C.), Part I, Section 18 - Hazardous Locations, identifies three classes of hazardous locations:

- **Class I** - Gas and Vapour Environments
- **Class II** - Dust Environments
- **Class III** - Fibers and Flyings Environments

The 1998 revisions to the C.E.C. affect only Class I - Gas and Vapour Environments.

Hazardous location is defined by the C.E.C. as premises, buildings or parts thereof in which there exists the hazard of fire or explosion due to highly flammable gases and/or flammable, volatile liquid mixtures that are manufactured, used or stored in other than the original containers.

This definition can also be extended to include combustible dust and easily ignitable fibers that are likely to be present in sufficient quantities to produce an explosive mixture.

Class I — Gas and Vapour Environments

Locations which are deemed hazardous due to the presence of **gases or vapours** that are present in the air in sufficient quantity to produce explosive or ignitable mixtures.

Locations identified as Class I require that enclosures and connectors be explosion proof.

Class I hazardous locations are further subdivided into :
- **Divisions** (pre-1998 version of the C.E.C.), or
- **Zones** (I.E.C. Classification - 1998 C.E.C.)

The Division System may still be used for the maintenance and repair of existing facilities. All new construction must use the I.E.C. Zone Classification.

Divisions

- **Division 1** — a Class I location **where the hazardous atmosphere is expected to be present during normal operations on a continuous, intermittent or periodic basis.**

- **Division 2** — a Class I location in which volatile flammable liquids or gases are handled, processed or used but in which they would normally be **confined within closed containers or closed systems** from which they can escape only in the event of an accidental rupture or breakdown of the containers or systems.

Area Classification — Divisions vs. Zones

Continuous Hazard	Intermittent Hazard	Hazard Under Abnormal Conditions
Zone 0	Zone 1	Zone 2
Division 1		Division 2

Class I — (continued)

Zones

- **Zone 0** — Class I locations in which explosive gas atmospheres are present continuously or are present for long periods.

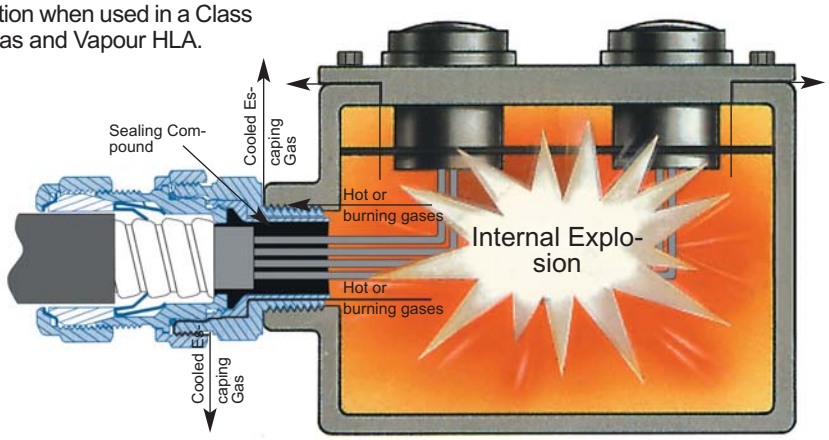
- **Zone 1** — Class I locations in which:
  - i. explosive gas atmospheres are likely to occur in normal operation; or
  - ii. explosive gas atmospheres may exist frequently because of repair or maintenance operations or because of leakage; or
  - iii. the location is adjacent to a Class I, Zone 0 location, from which explosive gas atmospheres could be communicated.

- **Zone 2** — Class I locations in which:
  - iv. explosive gas atmospheres are not likely to occur in normal operation and if they do occur they will exist for a short time only; or
  - v. flammable volatile liquids, flammable gases or vapours are handled, processed, or used, but in which liquids, gases or vapours are normally confined within closed containers or closed systems from which they can escape only as a result of accidental rupture or breakdown of the containers or systems or the abnormal operation of the equipment by which the liquids or gases are handled, processed or used; or
  - vi. explosive gas atmospheres are normally prevented by adequate ventilation by which may occur as a result of failure or abnormal operation of the ventilation system; or
  - vii. the location is adjacent to a Class I, Zone 1 location from which explosive gas atmospheres could be communicated, unless such communication is prevented by adequate positive-pressure ventilation from a source of clean air, and effective safeguards against ventilation failure are provided.

Class I Equipment

Electrical equipment that is approved for use in Class I Hazardous Location Areas (HLAs) is referred to as explosion proof or flameproof. What this designation means is that the equipment has been designed and manufactured to ensure that it will not become a source of ignition when used in a Class I, Gas and Vapour HLA.

All explosion proof equipment is clearly identified by either:
- a «Class I Location» marking (Division System); or
- a «Type of protection “d”» marking (IEC Zone System).



This diagram illustrates the escape paths of gases generated by an explosion within an electrical enclosure. When an explosion occurs, hot or burning gases pass through the threaded joint or StarTeck XP™ flame path and must make a number of changes in direction. These changes in direction cool the hot gases to the point that they are too cool to ignite the surrounding atmosphere once they escape.
Other escape paths for the hot gases include the enclosure cover flange and the interstices between the strands of wires entering the enclosure.

Teck Cable Fittings

Hazardous Locations — C.E.C. Classifications

Class I — (continued)

Gas Group Designations

Two systems of groupings for gases are included in the 1998 C.E.C: the pre-1998 Division Gas Groups consisting of Groups A, B, C and D; and the IEC System consisting of Groups IIA, IIB and IIC.

Both systems are accepted by the C.E.C.

Comparison of Hazardous Location Gas Group Designations From Most Restrictive to Least Restrictive

Typical Gas Hazard	Division Gas Groups	1998 CEC and IEC Gas Groups
Acetylene	A	IIC
Hydrogen	B	
Ethylene	C	IIB
Propane	D	IIA

Division Gas Groups

I.E.C. Zone Gas Groups

- **Group A**
  acetylene
- **Group B**
  butadiene, ethylene oxide, hydrogen, manufactured gases containing more than 30% hydrogen (by volume), propylene oxide.

→ **Group IIC**
acetylene, butadiene, propylene oxide, carbon disulphide, hydrogen or other gases or vapour of equivalent hazard

- **Group C**
  acetaldehyde, cyclopropane, diethyl, ether, thylene, unsymmetrical dimethyl hydrazine (UDMH 1, 1-dimethyl hydrazine).

→ **Group IIB**
cyclopropane, diethyl ether, ethylene, ethylene oxide, hydrogen sulfide, unsymmetrical dimethyl hydrazine (UDMH) or other gases or vapour of equivalent hazard

- **Group D**
  acetone, acrylonitrile, alcohol, ammonia, benzene, benzine, benzol, butane, 1-butanol, 2-butanol, butyl acetate, isobutyl acetate, ethane, ethanol, ethyl acetate, ethylene dichloride, gasoline, heptanes, hexanes, isoprene, methane, methanol, 3-methyl-1-butanol, methyl ethyl ketone, 2-methyl-1-propanol, 2-methyl-2-propanol, naphtha, natural gas, petroleum naphtha, octanes, pentanes, 1-pentanol, propane, 1-propanol, 2-propanol, propylene, styrene, toluene, vinyl acetate, vinyl chloride, xylenes

→ **Group IIA**
acetaldehyde, acetone, acrylonitrile, alcohol, ammonia, benzine, benzol, butane, ethylene dichloride, gasoline, hexane, isoprene, lacquer solvent vapours, naptha, natural gas, propane, propylene, styrene, vinyl acetate, vinyl chloride, xylenes or other gases or vapour of equivalent hazard

Class II — Dust Environments

Locations which are deemed hazardous due to the presence of **combustible or electrical conducting dusts**.

Class II locations normally require that enclosures and connectors be dust tight.

Class III — Fibers and Flyings Environments

Locations which are deemed hazardous due to the presence of **easily ignitable fibers or flyings**, but in which such fibers or flyings are not likely to be in suspension in the air in sufficient quantities to produce ignitable mixtures.
Class III locations normally require that enclosures and connectors be constructed to minimize the entry of fibers or flyings.

Class II and III — Divisions

Class II and Class III locations are further subdivided as follows:

- **Division 1** — Where the hazardous atmosphere is **expected to be present during normal operations on a continuous, intermittent or periodic basis**.
- **Division 2** — Where volatile, flammable liquids or gases are handled, processed or used, but in which they would normally be **confined within closed containers or closed systems** from which they can escape only in the event of an accidental rupture or breakdown of the containers or systems.

Class II and III — Gas Group Designations

The Canadian Electrical Code (C.E.C.), Part 1 Section 18 - Hazardous Locations defines various groups which have been established for the purpose of testing and approval.

- **Group E** — Comprising atmospheres containing metal dust including aluminum, magnesium, and their commercial alloys, and other metals of similarly hazardous characteristics.
- **Group F** — Comprising atmospheres containing carbon black, coal or coke dust.
- **Group G** — Comprising atmospheres containing flour, starch or grain dust, and other dusts of similarly hazardous characteristics.

Teck Cable Fittings

Hazardous Locations — Class, Zone and Division Certifications

Class I
I.E.C. Zone System
C.E.C. Division (pre-1998) System

	Watertight 10464 Series	StarTeck™ ST050 to ST400	StarTeck XP™ STX050 to STX400	StarTeck Extreme™ STE050 to STE200	StarTeck Extreme™ STE250 to STE400	StarTeck Extreme XP™ STEX050 to STEX400
With Integral Seal						
Zone 1 Groups IIC, IIB, IIA Division 1 Groups A, B, C, D	Not Certified	Not Certified	Certified	Not Certified	Not Certified	Certified
Zone 2 Groups IIC, IIB, IIA Division 2 Groups A, B, C, D	Not Certified	Not Certified	Certified	Not Certified	Not Certified	Certified
With Class 1 HLA Sealing Fitting						
Zone 1 Groups IIC, IIB, IIA Division 1 Groups A, B, C, D	Certified	Certified	Not required since certified with integral seal	Certified	Certified	Not required since certified with integral seal
Zone 2 Groups IIC, IIB, IIA Division 2 Groups A, B, C, D	Certified	Certified	Not required since certified with integral seal	Certified	Certified	Not required since certified with integral seal

Classes II and III, Divisions 1 and 2

	Watertight 10464 Series	StarTeck™ ST050 to ST400	StarTeck XP™ STX050 to STX400	StarTeck Extreme™ STE050 to STE200	StarTeck Extreme™ STE250 to STE400	StarTeck Extreme XP™ STEX050 to STEX400
Class II Divisions 1, 2 Groups E, F, G	Certified	Certified	Certified	Certified	Certified	Certified
Class III Divisions 1, 2	Certified	Certified	Certified	Certified	Certified	Certified
Enclosure Type 6P (Immersion)	Not Certified	Not Certified	Not Certified	Certified	Not Certified	Not Certified
Enclosure Type 4 (Watertight)	Certified	Certified	Certified	Certified	Certified	Certified

Comparison of Division and I.E.C. Zone Systems

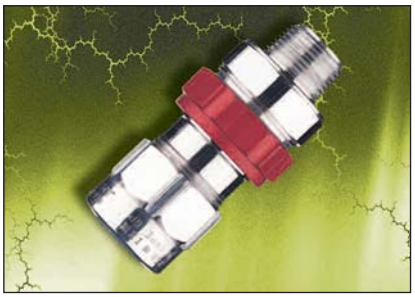
Class 1	Division System	I.E.C. Zone System	Notes
Gases and Vapours	Division 1	Zone 0	Zone 0 locations are a small percentage of all hazardous locations.
		Zone 1	While the wiring practices and acceptable products differ, Class I, Division 1 locations encompass both Zones 0 and 1.
	Division 2	Zone 2	Zone 2 and Division 2 are essentially the same.

Teck Cable Fittings
Quick Reference

StarTeck ™ (ST) Series

StarTeck XP ™ (STX) Series

StarTeck Extreme™ (STE) Series



StarTeck Extreme XP ™ (STEX) Series

10464 Series

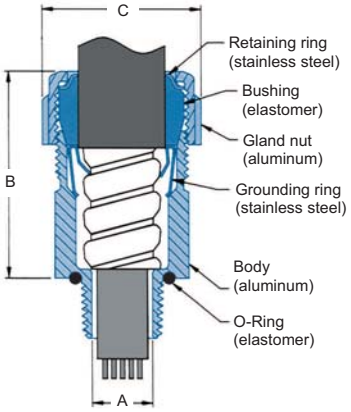
	Thomas & Betts Teck Fittings				
Cable Size	StarTeck™ (p.12)	StarTeck XP™ (p.14)	Extreme™ (p.16)	StarTeck Extreme XP™ (p.20)	StarTeck Watertight 10464 Series (p.22)
14/2	ST050-464	STX050-464	STE050	STEX075	10464
14/3	ST050-464	STX050-464	STE050	STEX075	10464
14/4	ST050-464	STX050-464	STE050	STEX075	10464
14/6	ST050-465	STX075-465	STE050	STEX075	10465-TB
14/8	ST050-466	STX075-466	STE050	STEX075	10466
14/10	ST075-467	STX075-467	STE075	STEX075	10467
14/20	ST100-469	STX100-468	STE100	STEX100	10469
12/2	ST050-464	STX050-464	STE050	STEX075	10464
12/3	ST050-464	STX050-464	STE050	STEX075	10464
12/4	ST050-465	STX075-465	STE050	STEX075	10465-TB
10/2	ST050-464	STX050-464	STE050	STEX075	10464
10/3	ST050-465	STX075-465	STE050	STEX075	10465-TB
10/4	ST050-465	STX075-465	STE050	STEX075	10465-TB
8/3	ST075-467	STX100-467	STE075	STEX100	10466
8/4	ST075-467	STX100-467	STE075	STEX100	10467
6/3	ST075-468	STX100-468	STE075	STEX100	10468
6/4	ST100-469	STX125-469	STE100	STEX125	10468
4/3	ST100-469	STX125-469	STE100	STEX125	10469
3/3	ST100-469	STX125-469	STE100	STEX125	10469
2/3	ST125-470	STX150-470	STE125	STEX125	10469
1/3	ST125-550	STX150-550	STE125	STEX150	10470
1/0/3	ST125-550	STX150-550	STE150	STEX150	10470
2/0/3	ST150-472	STX200-472	STE150	STEX200	10471
3/0/3	ST150-472	STX200-472	STE150	STEX200	10471
4/0/3	ST200-551	STX200-473	STE200	STEX200	10472
250/3	ST200-474	STX200-474	STE200	STEX250	10473
300/3	ST200-474	STX200-474	STE200	STEX250	10474
350/3	ST200-475	STX250-475	STE200	STEX250	10474
400/3	ST250-477	STX250-475	STE250	STEX300	10475
500/3	ST250-478	STX300-478	STE250	STEX300	10476
600/3	ST300-479	STX300-479	STE300	STEX300	10477
750/3	ST300-480	STX350-480	STE300	STEX350	10478

Teck Cable Fittings

StarTeck™ (ST) Series Fittings for Teck and ACWU Cable

StarTeck™ (ST) Series

Star Teck™ cable fittings are designed to accommodate a broad range of cables, thereby minimizing the possibility of mismatched cables and fittings in the field. They are available in hub sizes from ½ to 4 inches, and will handle outer jacket diameters from 0.525 to 4.340 inches.



Cat. No.	Hub Size NPT	Range Over Jacket (in.) min.	Range Over Jacket (in.) max.	Dimensions (in.) A	Dimensions (in.) B*	Dimensions (in.) C
ST038-461S†	3/8	0.344	0.535	0.344	2.020	0.995
ST050-462	1/2	0.525	0.650	0.390	2.020	1.224
ST050-464	1/2	0.600	0.760	0.480	2.020	1.363
ST050-465	1/2	0.725	0.885	0.607	2.133	1.633
ST050-466	1/2	0.825	0.985	0.607	2.133	1.633
ST075-467	3/4	0.880	1.065	0.809	2.450	2.080
ST075-468	3/4	1.025	1.205	0.809	2.450	2.080
ST100-469	1	1.187	1.375	1.034	2.601	2.230
ST125-470	1 1/4	1.350	1.625	1.177	3.282	2.824
ST125-550	1 1/4	1.500	1.625	1.365	3.282	2.824
ST125-471	1 1/4	1.600	1.875	1.365	3.282	2.824
ST150-472	1 1/2	1.700	1.965	1.552	3.620	3.260
ST150-473	1 1/2	1.900	2.187	1.595	3.620	3.260
ST200-551	2	1.900	2.187	1.710	3.640	3.620
ST200-474	2	2.100	2.375	1.990	3.640	3.620
ST200-475	2	2.300	2.565	2.052	3.640	4.020
ST200-476	2	2.500	2.750	2.052	3.640	4.020
ST250-477	2 1/2	2.380	2.640	2.255	4.700	4.750
ST250-478	2 1/2	2.580	2.840	2.455	4.700	4.750
ST300-479	3	2.790	3.060	2.655	4.700	5.050
ST300-480	3	3.000	3.270	2.885	4.790	5.480
ST300-481	3	3.210	3.480	3.057	4.790	5.480
ST350-482	3 1/2	3.420	3.690	3.285	4.790	5.980
ST350-483	3 1/2	3.610	3.870	3.455	4.790	5.980
ST400-484	4	3.810	4.030	3.625	4.840	6.435
ST400-485	4	3.965	4.185	3.770	4.840	6.435
ST400-486	4	4.120	4.340	3.935	4.840	6.435

***** *Approximate dimension before installation.*

† Only available in steel

Materials

Aluminum: *The above listed catalogue numbers relate to aluminum fittings. The body and gland nut on hub sizes ½ to 1 inch are machined from copper-free bar stock and 1¼ to 4 inches are made of cast copper-free aluminum.*

Steel: *To order a steel or malleable iron fitting, add the suffix* ***"S"*** *to the catalogue number (example ST050-464S). The body and gland nut on hub sizes ½ to 1 inch are made of steel and 1¼ to 4 inches are made of malleable iron. Plating is electro-deposited zinc.*

Stainless Steel: *To order a 316 stainless steel fitting, add the suffix* ***"SS"*** *to the catalogue number (example ST050-464SS). Only available for ½ thru 1 inch hub sizes.*

PVC-Coated Aluminum and Steel: *To order, add the suffix* ***"PVC"*** *to the catalogue number (example ST050-464PVC or ST050-464SPVC).*

Note - *When using fittings on single conductor cable, aluminum fittings and aluminum locknuts must be used.*

Certifications

Type HLA. CSA Certified *Class II, Divisions 1 and 2, Groups E, F, and G; Class III and Enclosure Type 4, Type 4X, Classes I, II and III. These fittings are suitable for Class I hazardous locations when used in combination with a certified Class I hazardous location sealing fitting. CSA File No. LR-23086.*

Complies with IEC requirements for Class I, Zones 1 and 2, when used in combination with a certified Class I hazardous location sealing fitting.

U.L. Listed *Class I, Division 2; Class II, Division 2 and Class III. Meets sealing requirements for types 4 and 6 enclosures. File no. E-38947. PVC-coated fittings are only approved for ordinary location areas (OLA).*

Teck Cable Fittings

StarTeck™ (ST) Series Fittings for Teck and ACWU Cable

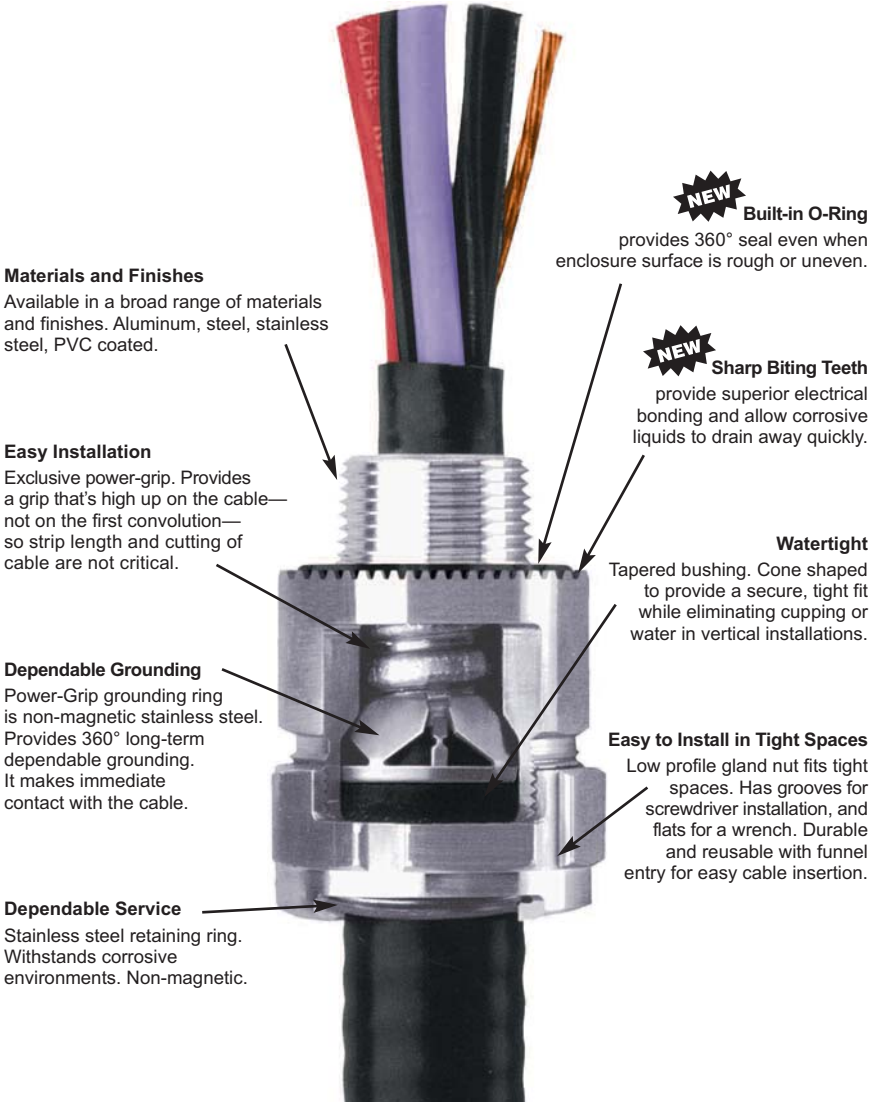
Easy Installation

1. Prepare cable

2. Insert cable

3. Tighten gland nut

Inside StarTeck™



Suggested specifications for metal-clad cable or teck cable fittings in hazardous locations:

1. All metal-clad cable fittings for jacketed and non-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.
   b. a funnel entry, splined gland nut.
   c. a non-magnetic, stainless steel grounding device with dual grounding action.
   d. a taper threaded hub.
   e. a hexagonal body and gland nut as manufactured by Thomas & Betts (aluminum series ST050-464).

3. Where cable is terminated into a threadless opening, a suitable moisture resistant elastomeric gasket as manufactured by Thomas & Betts, series 5262, shall be provided between the outside enclosure and fitting shoulder.

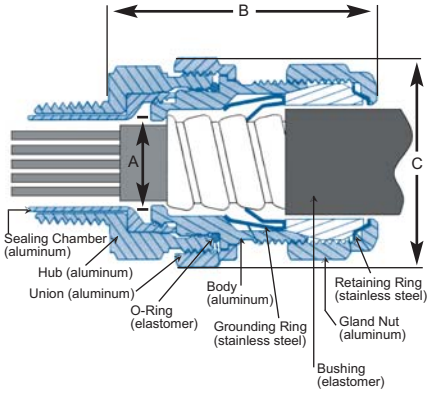
4. With single conductor cable and/or in corrosive environments, aluminum fittings such as Thomas & Betts series ST050-464 shall be installed. Where explosion-proof or dust-ignition-proof boxes are required by the code, StarTeck™ fittings must be used in conjunction with an approved sealing fitting.

Teck Cable Fittings

StarTeck XP™ (STX Series) Fittings for Teck Cable

Series StarTeck XP™ (STX)

Star Teck XP™ cable fittings are designed to accommodate a broad range of cables, thereby minimizing the possibility of mismatched cables and fittings in the field. They are available in hub sizes from ½ to 4 inches, and will handle outer jacket diameters from 0.525 to 4.185 inches.



Cat. No.	Hub Size N.P.T.	Max. Vol. of Sealing Compound (cc)	Range Over Jacket (in.) min.	Range Over Jacket (in.) max.	Dimensions (in.) A (min.)	Dimensions (in.) B*	Dimensions (in.) C
STX050-462	½	5	0.525	0.650	0.400	2.50	1.63
STX050-464	½	5	0.600	0.760	0.480	2.50	1.63
STX075-465	¾	8	0.725	0.885	0.607	2.62	1.82
STX075-466	¾	8	0.825	0.985	0.715	2.62	1.82
STX100-467	1	16	0.880	1.065	0.750	2.83	2.30
STX100-468	1	16	1.025	1.205	0.895	2.83	2.30
STX125-469	1¼	23	1.187	1.375	1.057	3.05	2.51
STX150-470	1½	43	1.357	1.625	1.177	3.76	3.26
STX150-550	1½	43	1.500	1.625	1.365	3.76	3.26
STX150-471	1½	43	1.600	1.875	1.465	3.76	3.26
STX200-472	2	72	1.700	1.965	1.552	4.05	3.62
STX200-473	2	72	1.900	2.187	1.752	4.05	3.62
STX200-474	2	72	2.100	2.375	1.990	4.15	4.02
STX250-475	2½	147	2.300	2.565	2.180	4.31	4.58
STX250-476	2½	147	2.500	2.750	2.360	4.31	4.58
STX300-478	3	229	2.580	2.840	2.455	5.64	5.10
STX300-479	3	286	2.790	3.060	2.655	5.80	5.33
STX350-480	3½	366	3.000	3.270	2.859	6.32	5.79
STX350-481	3½	366	3.210	3.480	3.057	6.32	5.79
STX400-482	4	566	3.420	3.690	3.285	6.63	6.19
STX400-483	4	566	3.610	3.870	3.455	6.63	6.19
STX400-484	4	614	3.810	4.030	3.625	7.09	6.90
STX400-485	4	614	3.965	4.185	3.770	7.09	6.90

***** *Approximate dimension before installation.*
Note - *Sealing compound not included. Order separately.*

Materials
Aluminum: *The above listed catalogue numbers relate to aluminum fittings.*
Steel: *To order a steel fitting, add the suffix* ***"S"*** *to the catalogue number (example STX050-464S).*

Certifications
Type HLA. CSA Certified *Class I, Divisions 1 and 2, Groups A, B, C and D; Class II, Divisions 1 and 2; Groups E, F and G; Class III, SL (integral seal) and Enclosure Type 4. CSA File No. LR-23086.*
Complies with IEC requirements for Class 1, Zones 1 and 2, Groups IIC, IIB and IIA.

U.L. Listed for ½ through 3 inches *when used with putty or liquid type compound: Class 1, Division 2, Groups A, B, C and D; Class II, Division 2, Groups F and G; Class III and Enclosure Type 4. U.L. File No. E-38947.*
U.L. Listed for 3 ½ and 4 *when used with putty or liquid type compound: Class 1, Division 2, Groups B, C and D; Class II, Division 2, Groups F and G; Class III and Enclosure Type 4. U.L. File No. E-38947.*

Sealing Compounds

Cat. No.	Description	Volume (cubic centimeter)
SC4-KIT	Liquid type sealing compound (includes pouch of sealing compound, fiber damming materials and dispensing syringe)	66 cc
SC65*	Putty type sealing compound (cut-to-length stick)	34 cc

U.L. File No. E-82038
CSA File No. LR-23086
Quantity of compound required will vary according to cable conductor fill.
*** Suitable for use on cables with a maximum of four conductors (including ground). SC65 is not suitable for use with shielded cables. Use SC4-KIT liquid compound for shielded cables.**

Note - *Thomas & Betts hazardous locations fittings with integral seals (STX, STEX, HLT and TC series) are UL and CSA certified* **only** *when used with SC4-KIT or SC65 sealing compounds.*
No other sealing compounds have been tested, certified or listed.

Teck Cable Fittings

StarTeck XP™ (STX) Series Fittings for Teck Cable

Easy Installation

1. Prepare cable

2. Install StarTeck XP™ on cable

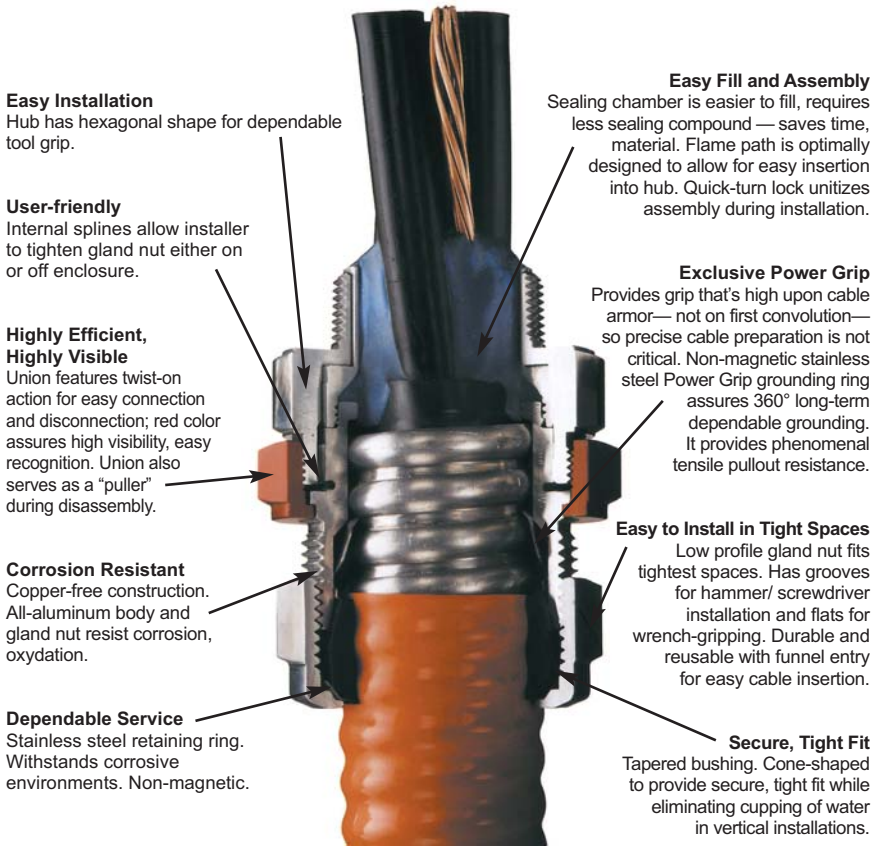
3. Tighten gland nut

4. Pot cable (using liquid or putty)

5. Install hub on enclosure

6. Insert cable and tighten red union

Inside StarTeck XP™



Suggested specifications for metal-clad cable or teck cable fittings in hazardous locations:

1. All metal-clad cable fittings for jacketed and non-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.
   b. a funnel entry, splined gland nut.
   c. a non-magnetic, stainless steel grounding device with dual grounding action.
   d. a taper threaded hub.
   e. a hexagonal body and gland nut as manufactured by Thomas & Betts, STX050-464.

3. With single conductor cable and/or in corrosive environments, aluminum connectors such as Thomas & Betts Series STX050-464 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 Thomas & Betts StarTeck XP series. Sealing of multi-conductor cable shall be accomplished with a liquid type polyure-thane compound such as Thomas & Betts series SC4-KIT. Putty type sealing compound such as Thomas & Betts series SC65 may be used for other applications.

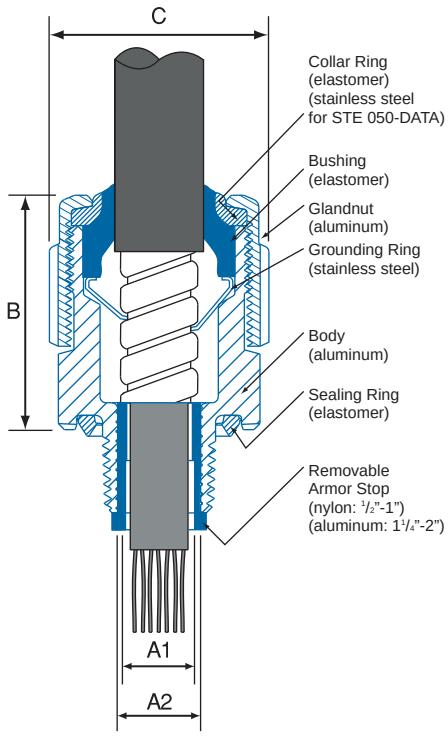
5. The fitting must:
   a. Provide an environmental seal around the outer jacket of the cable and electrically bond the fitting to the cable armor prior to potting the explosion-proof seal.
   b. Allow the possibility of disconnection without disturbing the environmental seal, the electrical bonding or the explosion-proof seal.

6. All metal-clad cable fittings, for jacketed and non-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 Thomas & Betts series STX050-464.

Teck Cable Fittings

StarTeck Extreme™ (STE) Series Fittings for Teck and ACWU Cable

StarTeck Extreme ™ fittings are designed to accommodate a broad range of cables and each hub size overlaps the adjacent hub range, thereby minimizing the possibility of mismatched cables and fittings in the field. Available in hub sizes from ½ to 4 inches, StarTeck Extreme™ fittings will terminate outer jacket diameters from 0.500 to 4.340.



Cat. No.	Hub Size N.P.T.	Strip Length (in.)	Gland Torque (lb-in)	Range Over Jacket (in.) Min.	Range Over Jacket (in.) Max.	Range Over Armor (in.) Min.	Range Over Armor (in.) Max.	A1 Throat Dia. Min. (in.) w/ Armor Stop	A2 Throat Dia. Min. (in.) w/o Armor Stop	B* Overall (in.)	C Max. O.D. (in.)
STE050-DATA	½	⅞	300	0.500	0.700	0.410	0.610	0.365	0.507	2.100	1.360
STE050	½	1¼	300	0.600	0.985	0.520	0.895	0.500	0.609	2.520	1.630
STE075	¾	1¼	600	0.860	1.205	0.780	1.125	0.650	0.811	2.840	2.080
STE100	1	1¼	700	0.950	1.375	0.870	1.295	0.795	1.041	3.020	2.300
STE125	1¼	1¾	1000	1.150	1.625	0.990	1.465	0.960	1.242	4.010	2.820
STE150	1½	1¾	1200	1.440	1.965	1.280	1.805	1.250	1.554	4.290	3.250
STE200	2	1¾	1600	1.825	2.375	1.665	2.215	1.635	1.967	4.120	3.600
STE250	2½	2½	1600	2.265	2.840	2.105	2.680	2.070	2.420	5.670	4.750
STE300	3	2½	1600	2.670	3.270	2.545	3.145	2.525	2.886	5.780	5.400
STE350	3½	2½	1600	3.220	3.870	3.090	3.640	3.060	3.410	5.740	5.900
STE400	4	2½	1600	3.665	4.340	3.550	4.225	3.520	3.910	5.790	6.400

** Approximate dimension before installation.*

Materials

Aluminum: *The above listed catalogue numbers relate to aluminum fittings.*
Steel: *The body and gland nut on hub sizes ½ to 1½ inch are made of steel. The body and gland nut on 2- to 4-inch hub sizes are made of malleable iron. To order a steel fitting, add the suffix "**S**" to the catalogue number (example STE050S).*

Certifications

Type HLA. CSA Certified *Class II, Divisions 1 and 2, Groups E, F, and G; Class III and Enclosure Type 6P, Classes I, II and III. These fittings are suitable for Class I hazardous locations when used in combination with a certified Class I hazardous location sealing fitting. CSA File No. LR-23086.*

Complies with IEC requirements for Class 1, Zones 1 and 2, when used in combination with a certified Class I hazardous location sealing fitting.

U.L. Listed *for metal clad cable, Type 6P. STE050-Data is U.L. Listed with cables from 0.530 to 0.700 over jacket.*

Note - *To order fittings complete with aluminum BondStar™ locknut and lug, add the suffix "**GRL**" to the catalogue number (example STE050GRL). For complete details refer to pages 20, 21 of this catalogue.*

Broadest range of teck cable diameters per hub size

StarTeck Extreme™ Cat. No.	StarTeck™ Cat. No.	Hub Size (NPT) (in.)	Range over Jacket (in.) Min. - Max.
	ST038-461S	3/8	0.344 - 0.535
STE050-DATA →	-	1/2	0.500 - 0.700
	ST050-462		0.525 - 0.650
STE050	ST050-464	1/2	0.526 - 0.760
0.600 - 0.985 →	ST050-465		0.725 - 0.885
	ST050-466		0.825 - 0.985
STE075	ST075-467	3/4	0.880 - 1.065
0.860 - 1.205 →	ST075-468		1.250 - 1.205
STE100 →	ST100-469	1	1.187 - 1.375
0.950 - 1.375			
	ST125-470		1.350 - 1.625
STE125 →	ST125-550	1-1/4	1.500 - 1.625
1.150 - 1.625	ST125-471		1.600 - 1.875
STE150 →	ST150-472	1-1/2	1.700 - 1.965
1.440 - 1.965	ST150-473		1.900 - 2.187
	ST200-551		1.900 - 2.187
STE200	ST200-474	2	2.100 - 2.375
1.825 - 2.375 →	ST200-475		2.300 - 2.565
	ST200-476		2.500 - 2.750
STE250 →	ST250-477	2-1/2	2.380 - 2.640
2.265 - 2.840	ST250-478		2.580 - 2.840
	ST300-479		2.790 - 3.060
STE300 →	ST300-480	3	3.000 - 3.270
2.670 - 3.270	ST300-481		3.210 - 3.480
STE350 →	ST350-482	3-1/2	3.420 - 3.690
3.220 - 3.870	ST350-483		3.610 - 3.870
	ST400-484		3.810 - 4.030
STE400 →	ST400-485	4	3.965 - 4.185
3.665 - 4.340	ST400-486		4.120 - 4.340

Eleven catalogue numbers cover the range from 0.500 to 4.340 inches.

StarTeck Extreme™ (STE) Series Fittings for Teck and ACWU Cable

Easy Installation

1. Prepare cable.

2a. Insert cable.

2b. For larger cables, unscrew and discard armor-stop.

3. Tighten gland nut.

Inside StarTeck Extreme™

Extreme

Removable armor-stop is factory installed. Fittings come ready to install on smallest cable in its range. For larger cables, no fitting disassembly required. Simply unscrew armor-stop and discard.

Extreme

Built-in sealing device provides 360° seal even when enclosure surface is rough or uneven.

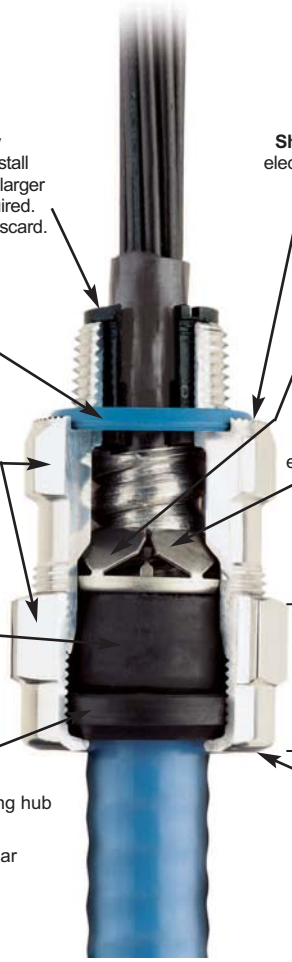
Copper-free construction. Non-corrosive all aluminum body and gland nut.

Tapered elastomeric bushing. Cone shaped to provide a secure, tight fit while eliminating cupping of water in vertical installations.

Extreme

Elastomeric collar ring extends cable diameter range per fitting. Matching cable to fitting hub size is made easy.

(NOTE : The STE 050-DATA collar ring is made of stainless steel.)



Extreme

Sharp biting teeth provide superior electrical bonding and allow corrosive liquids to drain away quickly.

Exclusive power-grip. Provides a grip that's high up on the cable– not on the first convolution–so jacket strip length of cable is not critical.

"Power Grip" grounding ring is non-magnetic stainless steel. Dual sets of grounding devices ensure 360° long-term dependable grounding. It makes immediate contact with the cable during insertion.

Extreme

Built-in **jacket stripping gauge** on each fitting.

Low profile gland nut fits tight spaces. Has grooves for screwdriver installation, and flats for a wrench. Durable and reusable with funnel entry for easy cable insertion.

Suggested specifications for metal-clad cable or teck cable fittings in hazardous locations:

1. All metal-clad cable fittings for jacketed and non-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.
   b. a funnel entry, splined gland nut.
   c. a non-magnetic, stainless steel grounding device with dual grounding action.
   d. a taper threaded hub.
   e. a hexagonal body and gland nut as manufactured by Thomas & Betts (aluminum series STE050).

3. A synthetic rubber sealing device shall be captivated in a face groove providing optimized sealing even on irregular surfaces. The configuration shall also prevent over-compression of the seal such as Thomas & Betts series STE050.

4. With single conductor cable and/or in corrosive environments, aluminum fittings such as Thomas & Betts series STE050 shall be installed.

5. All metal-clad cable fittings, for jacketed and non-jacketed interlocked armor cable, shall provide external bonding/ grounding teeth capable of penetrating surface finishes to contact enclosure base metal, such as Thomas & Betts series STE050.

6. All metal-clad cable fittings, for jacketed and non-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 Thomas & Betts series STE050.

Teck Cable Fittings

StarTeck Extreme Director™ Cable Fitting

STAR TECK EXTREME DIRECTOR™ Cable Fitting
The latest industry first.

Terminating teck cable can be a time consuming process, especially when angle adjustments are required. Current termination methods such as 90-degree elbows and LB conduit bodies take up a lot of space and lack flexibility.

To address these issues, Thomas & Betts is proud to introduce its latest "industry first" – the STAR TECK EXTREME DIRECTOR™ fitting, the electrical industry's first truly adjustable, range-taking fitting.

Compared to traditional 90-degree termination methods, the STAR TECK EXTREME DIRECTOR™ can save on installation time by up to 50%!

Featuring an exclusive swash-plate design, the STAR TECK EXTREME DIRECTOR™ fitting adjusts from 90 to 180 degrees. A full circular bore makes cable insertion trouble-free. Alignment guides serve as handy reference points for aligning installed fittings at the same angle.

What's more, the STAR TECK EXTREME DIRECTOR™ fitting requires no disassembly prior to installation and can also be easily disconnected.

DIRECTOR™

DIRECTOR™

Install.

Insert.

Rotate.

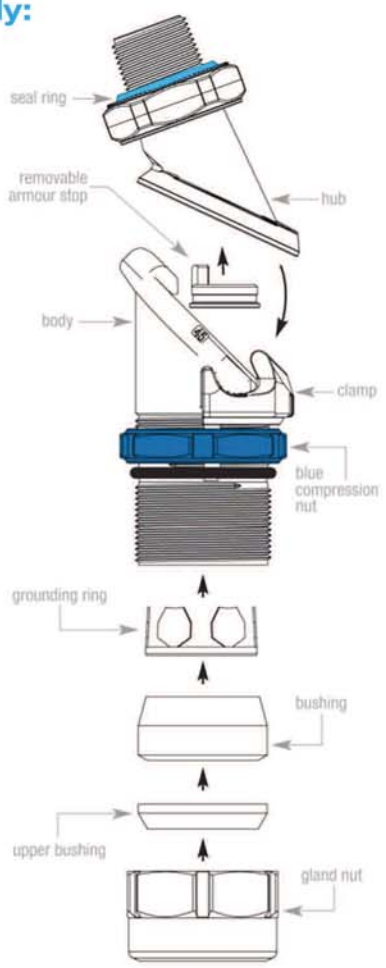
Done.

STAR TECK EXTREME DIRECTOR™ Cable Fittings

CAT. No.	HUB SIZE (NPT)	GLAND TORQUE (lb-in.)	RANGE OVER JACKET (in.) min.	RANGE OVER JACKET (in.) max.	RANGE OVER ARMOUR (in.) min.	RANGE OVER ARMOUR (in.) max.	THROAT DIA. Min. (in.) with armour stop	THROAT DIA. Min. (in.) without armour stop	OVERALL (in.)
STED050	1/2	450	0.600	0.885	0.520	0.795	0.505	0.617	5.375
STED075	3/4	600	0.860	1.205	0.780	1.125	0.645	0.819	5.875

Certifications: Type HLA. CSA Certified *Class I, Division 2; Class II, Groups E, F and G; Class III Enclosure Types 4, 4X; Ex e II, IP66. CSA File 23086.*
For use with jacketed teck cable, jacketed corrugated metal-clad cable (ACWU) or metal-clad cable (MC). Aluminum or steel armour.
STED is a trade-mark of Thomas & Betts International, Inc.

Assembly:



Teck Cable Fittings

BondStar™ Grounding Locknut

StarTeck Extreme™ Fittings with BondStar™ Grounding Locknut

Cat. No.	Hub Sizes (N.P.T.) (in.)	Obsoleted Items
STE050-DATAGRL	1/2	STE050DATA
STE050GRL	1/2	STE050GR
STE075GRL	3/4	STE075GR
STE100GRL	1	STE100GR
STE125GRL	1 1/4	STE125GR
STE150GRL	1 1/2	STE150GR
STE200GRL	2	STE200GR
STE250GRL	2 1/2	STE250GR
STE300GRL	3	STE300GR
STE350GRL	3 1/2	STE350GR
STE400GRL	4	STE400GR

BondStar™ Grounding Locknut only

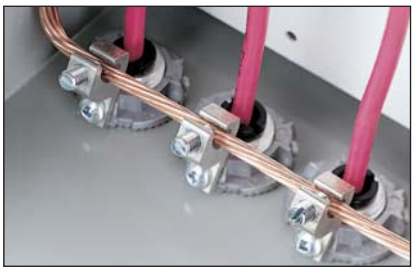
Cat. No.	Sizes (in.)	Description
L050GRL	1/2	Locknut with Lay-in Lug and Screw
L075GRL	3/4	
L100GRL	1	
L125GRL	1 1/4	
L150GRL	1 1/2	
L250GRL	2 1/2	
L300GRL	3	
L350GRL	3 1/2	
L400GRL	4	
L500GRL	5	
L600GRL	6	

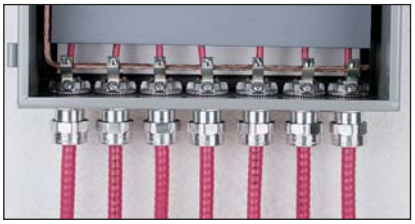
Lay-in Lug

Cat. No.	Screw	For Hub Sizes (in.)
GRL-LUG1032	#10, 32 TPI	1/2", 3/4", 1"
GRL-LUG1/4-20	1/4, 20 TPI	1 1/4"-6"

Teck Cable Fittings

BondStar™ Grounding Locknut

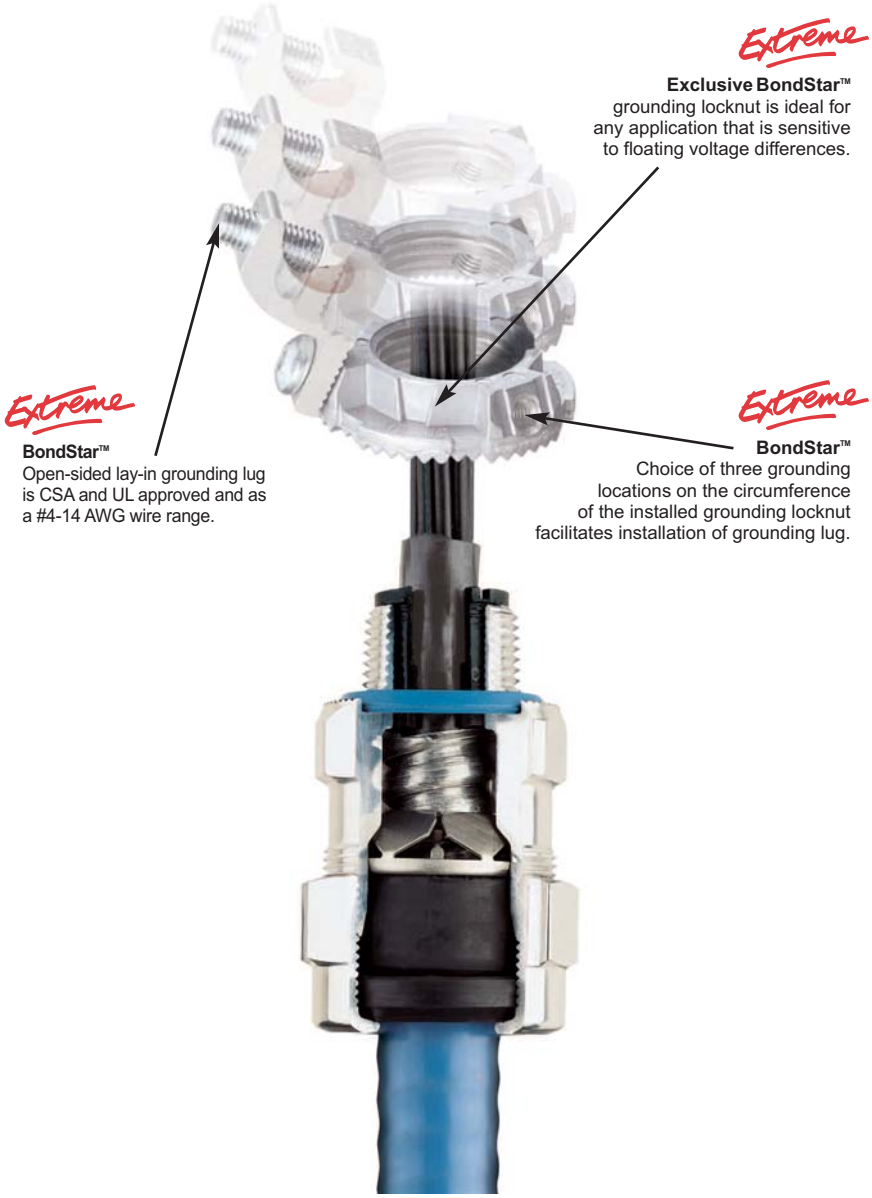




Extreme grounding for data and control applications

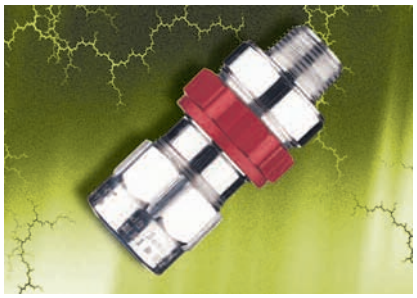
For data and control panel applications or any other installation that is highly sensitive to floating voltage differences, the complete range of StarTeck Extreme™ fittings (1/2-inch to 4-inch hub sizes) is also available with a 3-position grounding locknut including an open-sided lay-in lug made of tin-plated aluminum. With a #4-14 AWG wire range, the CSA and UL approved grounding lug can be positioned on the most accessible of the three grounding locations on the circumference of the installed grounding locknut. When installation requires multiple incoming cables, each individual lug terminating the connections can be "daisy chain" bonded to the grounding bus, ensuring the same electrical potential throughout the cables.

BondStar™ grounding locknuts can also be used with the complete range of Thomas & Betts teck cable fittings. To order individually, use the catalogue numbers shown on page 18.

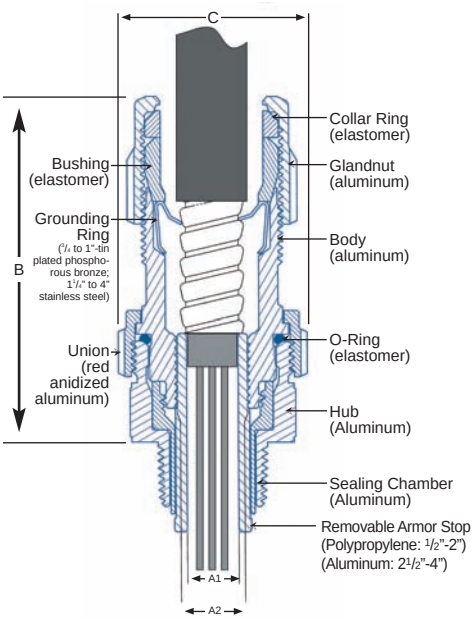


Teck Cable Fittings

StarTeck Extreme XP™ (STEX) Series Fittings for Teck Cable



StarTeck Extreme ™ fittings are designed to accommodate a broad range of cables and 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 1/2 to 4 inches, and will handle outer jacket diameters from 0.525 to 3.870 inches.



Cat. No.	Hub Size N.P.T.	Range Over Jacket (in.) Min.	Range Over Jacket (in.) Max.	Range Over Armor (in.) Min.	Range Over Armor (in.) Max.	A1 Throat Dia. Min. (in.) w/ Armor Stop	A2 Throat Dia. Min. (in.) w/o Armor Stop	B* Length (in.)	C Max. O.D. (in.)	Compound Req'd (approx.) SC65 /SC4KIT Liquid (CC)
STX050-462	1/2	0.525	0.650	0.415	0.570	N/A***	0.400	2.500	1.630	4
STX050-464	1/2	0.600	0.760	0.490	0.680	N/A***	0.480	2.530	1.630	4
STEX075	3/4	0.600	0.985	0.520	0.895	0.500	0.670	3.400	1.820	7
STEX100	1	0.860	1.205	0.780	1.125	0.645	0.825	3.580	2.300	16
STEX125	1 1/4	0.950	1.375	0.870	1.295	0.829	1.076	3.920	2.510	22
STEX150	1 1/2	1.150	1.625	0.990	1.465	0.953	1.280	5.020	3.260	43
STEX200	2	1.440	1.965	1.280	1.805	1.245	1.565	5.120	3.620	66
STEX250	2 1/2	1.825	2.375	1.665	2.215	1.630	2.000	5.170	4.580	164
STEX300	3	2.265	2.840	2.105	2.680	2.066	2.495	6.610	5.100	239
STEX350	3 1/2	2.670	3.270	2.545	3.145	2.522	2.895	7.380	5.790	464
STEX400	4	3.220	3.870	3.090	3.640	3.060	3.520	7.650	6.190	636

** Approximate dimension before installation.*
Note - *Sealing compound not included. Order separately.*

Materials

Aluminum: *The above listed catalogue numbers relate to aluminum fittings.*
Steel: *To order a steel fitting, add the suffix* ***"S"*** *to the catalogue number (example STEX050S).*
Minimum quantities may apply (consult Customer Service)

Certifications

Type HLA. CSA Certified *Class I, Divisions 1 and 2, Groups A, B, C and D; Class II, Divisions 1 and 2; Groups E, F and G; Class III, SL (integral seal); hub sizes 1/2 through 2 1/2 inches - Enclosure Type 6P; hub sizes 1/2, 3, 3 1/2 and 4 inches - Enclosure Type 4. CSA File No. LR-23086.*

Complies with IEC requirements for Class I, Zones 1 and 2, Groups IIC, IIB and IIA.

U.L. Listed for 1/2 through 2 inch *hub sizes when used with putty or liquid type compound: Class 1, Division 2, Groups A, B, C and D; Class II, Division 2, Groups F and G; Class III and Enclosure Type 6P. U.L. File No.E-82038.*
U.L. Listed for 3 1/2 and 4 *when used with putty or liquid type compound: Class 1, Division 2, Groups B, C and D; Class II, Division 2, Groups F and G; Class III and Enclosure Type 4. U.L. File No. E-82038.*

Sealing Compounds

Cat. No.	Description	Volume (cubic centimeter)
SC4-KIT	Liquid type sealing compound (includes pouch of sealing compound fiber damming materials and dispensing syringe)	66 cc
SC65*	Putty type sealing compound (cut-to-length stick)	34 cc

U.L. File No. E-82038
CSA File No. LR-23086
Quantity of compound required will vary according to cable conductor fill.
*** Suitable for use on cables with a maximum of four conductors (including ground). SC65 is not suitable for use with shielded cables. Use SC4-KIT liquid compound for shielded cables.**

Note - *Thomas & Betts hazardous locations fittings with integral seals (STX, STEX, HLT and TC series) are UL and CSA certified* **only** *when used with SC4-KIT or SC65 sealing compounds.*
No other sealing compounds have been tested, certified or listed.

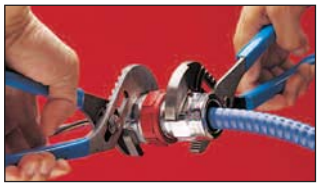
Teck Cable Fittings

StarTeck Extreme XP™ (STEX) Series Fittings for Teck Cable

Easy Installation

1. Prepare cable

2. Install StarTeck Extreme XP™ on cable



3. Tighten gland nut

4. Remove armor stop

5. Pot cable using liquid or putty

6. Insert hub on enclosure

7. Insert cable and tighten red union

Clean, professional cable terminations on the broadest range of teck cable diameters.

Inside the StarTeck Extreme XP™

Extreme

Removable armor-stop is factory installed. Fitting comes ready to install on smallest cable in its range. **No disassembly required** for larger cables – simply unscrew and discard armor-stop. This makes the fitting very range taking.

Copper-free construction – non-corrosive all aluminum body and gland nut.

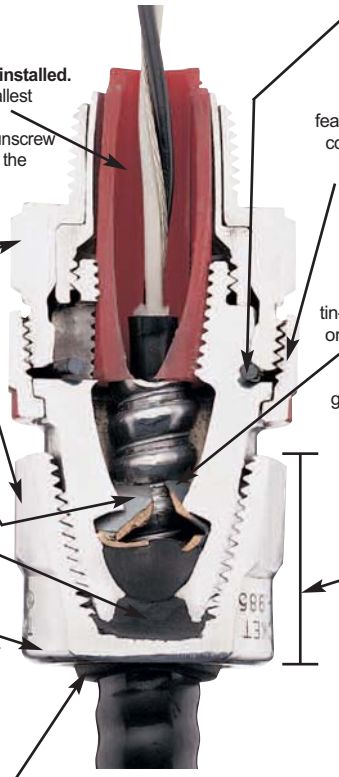
Exclusive power-grip provides a grip that's high up on the cable – not on the first convolution – so precise cable preparation is not critical.

Tapered elastomeric bushing – cone shaped to provide a secure tight fit while eliminating cupping of water in vertical installations.

Low profile gland nut fits tight spaces. Has grooves for screwdriver installation, and flats for a wrench. Durable and reusable with funnel entry for easy cable insertion.

Extreme

Elastomeric collar ring extends cable diameter range per fitting. Matching cable to fitting hub size is easy.



Built-in O-Ring to ensure liquidtight installation.

High visibility, red union features twist-on action for easy connection and disconnection. Also serves as mechanical splitter to separate hub from fitting during disassembly.

"Power Grip" grounding ring is non-magnetic tin-plated phosphorous bronze or stainless steel. Dual sets of grounding devices ensure 360° long-term dependable grounding. Makes immediate contact with the cable during insertion.

Extreme

Built-in cable jacket stripping gauge

Easy to fill sealing chamber – requires less sealing compound – saves time and materials. Optimally designed flame path for easy insertion into hub. Quick-turn lock unitizes assembly during installation. **Note : The red armor stop must be removed and discarded prior to potting the fitting.**

Suggested specifications for metal-clad cable or teck cable fittings in hazardous locations:

1. All metal-clad cable fittings for jacketed and non-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, tin-plated phosphorous bronze or stainless steel grounding device with dual grounding fingers.
   d. a taper threaded hub.
   e. a hexagonal body and gland nut as manufactured by Thomas & Betts (aluminum series STEX075).
3. With single conductor cable and/or in corrosive environments, aluminum connectors such as Thomas & Betts Series STE075 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 Thomas & Betts StarTeck Extreme XP series. Sealing of multi-conductor cable shall be accomplished with a liquid type polyurethane compound such as Thomas & Betts series SC4-KIT. Putty type sealing compound such as Thomas & Betts series SC65 may be used for other 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 and non-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 Thomas & Betts series STEX075.

Teck Cable Fittings

10464 Series Watertight Fittings

Cat. No.	Hub Thread Size (in.)	Cable Jacket O.D. min.	Cable Jacket O.D. max.	Throat Dia. (in.)
10462*	1/2	0.562	0.625	0.615
10464	1/2	0.625	0.760	0.615
10465-TB	1/2	0.750	0.885	0.615
10466	1/2	0.875	0.985	0.615
10467	3/4	0.880	1.065	0.780
10468	3/4	1.055	1.205	0.780
10469	1	1.187	1.375	1.000
10470	1 1/4	1.375	1.625	1.187
10550	1 1/4	1.375	1.625	1.400
10471	1 1/4	1.625	1.875	1.400
10472	1 1/2	1.750	1.965	1.563
10473	1 1/2	1.937	2.187	1.621
10551	2	2.000	2.187	2.000
10474	2	2.156	2.360	2.000
10475	2	2.350	2.565	2.000
10552	2	2.350	2.565	2.092
10476	2	2.535	2.750	2.092
10553	2 1/2	2.535	2.750	2.437
10477	2 1/2	2.735	2.985	2.437
10478	2 1/2	2.970	3.220	2.437
10554	3	2.975	3.125	3.050
10555	3	3.080	3.250	3.050
10479	3	3.210	3.380	3.050
10480	3	3.310	3.480	3.050
10481	3 1/2	3.430	3.620	3.310
10482	3 1/2	3.560	3.750	3.310
10483	3 1/2	3.710	3.870	3.310
10484	4	3.810	4.000	3.560
10485	4	3.930	4.120	3.670
10486	4	4.060	4.250	3.800

Note - *When using fittings on single conductor cable, aluminum fittings and aluminum locknuts must be used.*

Materials

Malleable Iron: *The above listed catalogue numbers relate to malleable iron fittings with a protective grounding sleeve for jacketed metal-clad cable.*

Aluminum: *To order an aluminum fitting, add the suffix "**AL**" to the catalogue number (example 10465AL).*

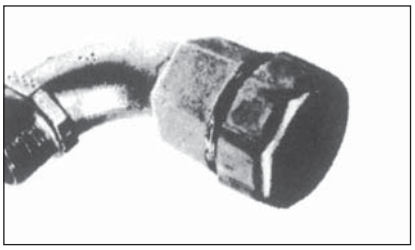
PVC-Coated Aluminum and Steel: *Contact your Regional Sales Office for availability and ordering information.*

Certifications

Type HLA. CSA Certified *Classes I, II and III. These fittings are suitable for Class I hazardous locations when used in combination with a certified Class I hazardous location sealing fitting. CSA File No. LR-23086.*

Type OLA. UL Listed. *These fittings are suitable for use with interlocked jacketed cable, aluminum or steel armor. UL File No. LR-38947.*

***Cat. No. 10462 not UL Listed**



90° Watertight Fittings

Cat. No.	Hub Thread Size (in.)	Neoprene bushing min.	Neoprene bushing max.	Throat Dia. (in.)
10601	1/2	0.625	0.760	0.615
10602-TB	1/2	0.750	0.885	0.615
10603	1/2	0.875	0.985	0.615
10604-TB	3/4	0.880	1.065	0.825
10605	3/4	1.055	1.205	0.825
10606-TB	1	1.187	1.375	1.000

Materials

Malleable Iron: *The above listed catalogue numbers relate to malleable iron fittings with a protective grounding sleeve for jacketed metal-clad cable.*

Certifications

Type HLA. CSA Certified *Classes I, II and III. These fittings are suitable for Class I hazardous locations when used in combination with a certified Class I hazardous location sealing fitting. CSA File No. LR-23086.*

Type OLA. UL Listed. *These fittings are suitable for use with interlocked jacketed cable, aluminum or steel armor. UL File No. LR-38947.*

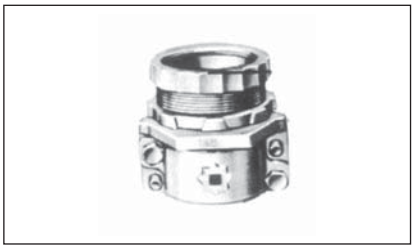
Non Watertight Fittings

Cat. No.	Hub Size (in.)	Armor O.D. min.	Armor O.D. max.
10000	3/4	0.562	0.800
10001	1	0.687	0.950
10002	1 1/4	1.000	1.344
10003	1 1/2	1.313	1.563
10004	2	1.563	2.000
10005	2 1/2	2.000	2.469

Material: *Malleable iron*

CSA File No. LR-4884

Type OLA. UL Listed. *These fittings are suitable for use with interlocked jacketed cable, aluminum or steel armor. UL File No. LR-38947.*



Non Watertight Fittings

Cat. No.	Hub Size (in.)	Armor O.D. min.	Armor O.D. max.
10000AL	3/4	0.562	0.800
10001AL	1	0.687	0.950
10002AL	1 1/4	1.000	1.344
10003AL	1 1/2	1.313	1.563
10004AL	2	1.563	2.000
10005AL	2 1/2	2.000	2.469

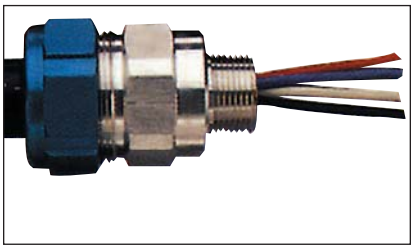
Material: *Aluminum*

CSA File No. LR-4884

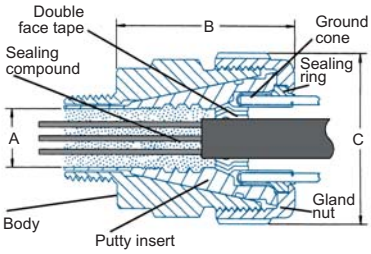
Type OLA. UL Listed. *These fittings are suitable for use with interlocked jacketed cable, aluminum or steel armor. UL File No. LR-38947.*

Teck Cable Fittings

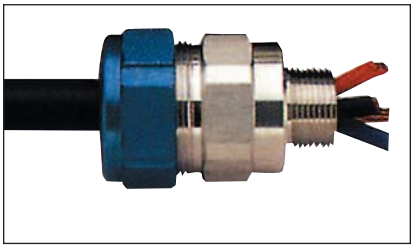
TrayStar™ — Liquidtight Fittings for Tray Cable



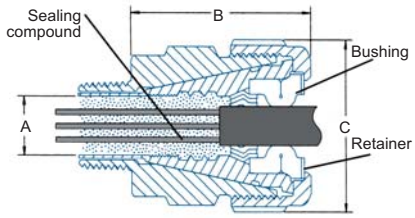
Outside Tray — tray cable must be protected within conduit and flexible liquidtight metallic conduit. In this case, the connector bushing is simply replaced with a ground cone/sealing ring to terminate the assembly.



With conduit



Inside Tray — Used with a neoprene bushing, TrayStar™ terminates tray cable within the tray itself.



With bushing

The Canadian Electrical Code states that tray cable in hazardous locations can be used either within the cable tray, or outside the tray - provided additional protection is provided. The TrayStar™ fitting was designed and engineered for either application and comes complete with the bushing, ground cone and sealing ring for different product applications.

Ease of Installation

Installation is quick and easy. When used on metallic liquidtight conduit, the fitting hub size correlates with that of the conduit trade size. (ie. ½" fitting accomodates ½" conduit). The bushings, when utilized, are designed to accomodate a broad range of tray cable diameters.

Either liquid or putty sealing compound can be used for a positive, gastight seal. The compound is ordered separately to allow for flexibility in making the correct selection for various types of installations. The sealing compounds cure in just a few hours. The TrayStar fitting also has disconnect capability: the cable can be disconnected and reconnected after being sealed.

The unique hexagonal gland nut is conveniently grooved for screwdriver installation in extremely cramped areas. The gland nut is also clearly identified with the catalogue number and CSA approvals. It is also anodized an aqua-blue colour to identify it as a Hazardous Location, Tray Cable Fitting.

Superior Construction

TrayStar fittings have a low-profile compact design and are made of copper-free aluminum for long-lasting trouble-free service. Fittings are precision machined for superior fit and ease of installation.

Ordering Information

Cat. No.	Hub Size N.P.T.	Range Over Jacket (in.) min.	Range Over Jacket (in.) max.	Conduit Trade Size (in.)	Approx. Compound Required* Putty / Liquid SC65/SC4-KIT cc	A Throat Dia. (in.)	B Overall (in.)	C Dim. (in.)
HLT050DATA †	1/2	0.250	0.310	1/2	7	0.505	1.870	1.625
HLT050 †	1/2	0.300	0.400	1/2	7	0.505	1.870	1.625
HLT075 †	3/4	0.320	0.570	3/4	15	0.707	2.140	2.075
HLT100 †	1	0.400	0.750	1	23	0.932	2.270	2.290
HLT125 †	1-1/4	0.625	1.000	1-1/4	45	1.263	2.750	2.840
HLT150 †	1-1/2	0.780	1.200	1-1/2	68	1.493	3.000	3.275
HLT200 †	2	1.000	1.560	2	112	1.950	3.200	3.640
4-250TC	2-1/2	1.700	2.200	2-1/2	175	2.250	3.800	4.000
4-300TC	3	2.150	2.700	3	359	2.750	3.860	4.690
4-350TC	3-1/2	2.650	3.230	3-1/2	536	3.280	4.100	5.220
4-400TC	4	3.180	3.790	4	690	3.840	4.000	5.630

† Not UL Listed

***** *Sealing compound not included with HLT-series. Order separately. SC65 putty supplied with each TC-series fitting. SC4-Kit liquid sealing compound not approved for use with TC-series. TC-series is suitable for use with tray cable only and cannot be used with conduit.*

Materials

Aluminum: *The above listed catalogue numbers relate to aluminum fittings.*
Steel: *HLT-series is also available in steel. Add the suffix* ***"S"*** *to the catalogue number (example HLT050S).*

Certifications

Type HLA. CSA Certified *Class I, Division 2, Groups A, B, C and D; Class II, Division 2, Groups E, F and G; Class III, Division 2, Enclosure Type 4 SL (integral seal). CSA File 23086.*

Sealing Compounds

Cat. No.	Description	Volume
SC4-KIT	Liquid type sealing compound (includes pouch of sealing compound fiber damming materials and dispensing syringe)	66 cc
SC65*	Putty type sealing compound (cut-to-length stick)	34 cc

U.L. File No. E-82038
CSA File No. LR-23086
Quantity of compound required will vary according to cable conductor fill.
*** Suitable for use on cables with a maximum of four conductors (including ground). SC65 is not suitable for use with shielded cables. Use SC4-KIT liquid compound for shielded cables.**

Note - *Thomas & Betts hazardous locations fittings with integral seals (STX, STEX, HLT and TC series) are UL and CSA certified* **only** *when used with SC4-KIT or SC65 sealing compounds.*
No other sealing compounds have been tested, certified or listed.

Silver GRIP®

TCF® Series
Tray / Cord Fitting

Tray Cable Applications

Portable Cord Applications

One heck of a grip!

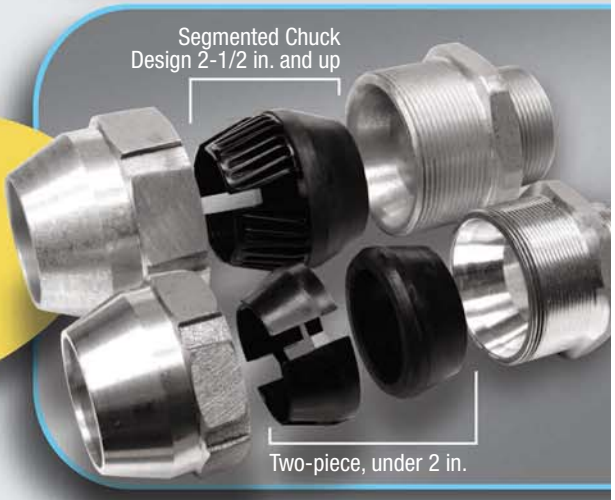
Increased Safety for Hazardous Locations

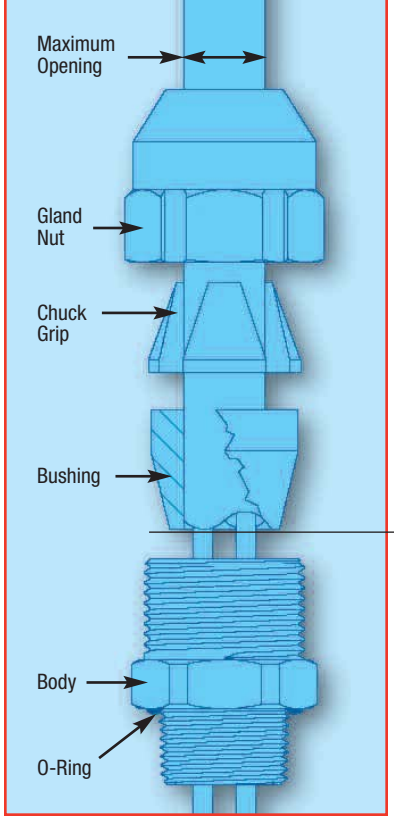
Introducing the Silver Grip® Tray/Cord Fitting - the safe, yet cost-efficient choice for increased safety when terminating portable cord and tray cable in hazardous locations.

Designed for use in Class I, Gas and Vapour environments, the Silver Grip® Tray/Cord Fitting provides efficient strain relief for cables entering enclosures and raceways, and for cords used on portable equipment.

- **Corrosion-resistant, non-magnetic aluminum construction**
- **Tapered neoprene bushing and O-ring seal out moisture and dirt ingress**
- **Chuck grip provides high mechanical pull-out performance. Exceeds applicable requirements.**
- **Hand-tightens — no tools required**

NEW!
Now available in hub sizes **up to 3 in.**





Silver GRIP

TCF® Series — Tray / Cord Fitting

Ordering Information

Hub Size NPT	Catalogue Number	Throat Diameter (in.)	Minimum Cable Dia. (in.)	Maximum Opening (in.)
1/2	TCF050-27AL	0.330	0.150	0.270
1/2	TCF050-40AL	0.540	0.250	0.400
1/2	TCF050-54AL	0.540	0.400	0.540
1/2	TCF050-67AL	0.540*	0.540	0.670
1/2	TCF050-78AL	0.540*	0.660	0.780
3/4	TCF075-40AL	0.540	0.250	0.400
3/4	TCF075-54AL	0.540	0.400	0.540
3/4	TCF075-67AL	0.780	0.540	0.670
3/4	TCF075-78AL	0.780	0.660	0.780
3/4	TCF075-88AL	0.765*	0.770	0.880
1	TCF100-78AL	0.980	0.660	0.780
1	TCF100-88AL	0.980	0.770	0.880
1	TCF100-100AL	0.980*	0.870	1.000
1	TCF100-109AL	0.980	0.940	1.090
1-1/4	TCF125-109AL	1.255	0.890	1.090
1-1/4	TCF125-128AL	1.255*	1.080	1.280
1-1/4	TCF125-147AL	1.255*	1.270	1.470
1-1/2	TCF150-115AL	1.470	0.890	1.150
1-1/2	TCF150-140AL	1.470	1.140	1.400
1-1/2	TCF150-165AL	1.470*	1.390	1.650
2	TCF200-153AL	1.896	1.190	1.530
2	TCF200-186AL	1.896	1.520	1.860
2	TCF200-219AL	2.062*	1.850	2.190
2-1/2	TCF250-252AL	2.466*	2.120	2.520
3	TCF300-278AL	2.780	2.380	2.780
3	TCF300-304AL	3.050	2.640	3.040
3	TCF300-330AL	3.068*	2.900	3.300

* When cord will not fit through body, strip cord jacket and trim fillers if required. Insert cable ensuring the outer jacket reaches the end of the bushing as shown. Tighten gland nut onto body.

For stainless steel (316), replace AL for SS6 (up to 1" only)

Applications

Tray Cable

Complies with IEC requirements for Class I, Zone 2 locations when used with enclosures containing no arcing or sparking devices. For enclosures with arcing or sparking devices, TCF® fittings must be used in combination with a certified Class I hazardous location sealing fitting.

Portable Cord

Complies with IEC requirements for Class I, Zone 1 locations when used with enclosures containing no arcing or sparking devices. For enclosures with arcing or sparking devices, TCF® fittings must be used in combination with a certified Class I hazardous location sealing fitting.

- File Number LR4484, Certificate Number 1388229
- CSA Class 4418-05 Fittings for Hazardous Locations Class I, Zone 1 Ex e II, IP66; Type 4/4X, (CSA)
- CSA_{us} Class 4418-85 Fittings for Hazardous Locations Class I, Zone 1, A Ex e II, IP66; Type 4/4X, (CSAus)

N.B.: Tray cable is not suitable for use in Zone 1 locations.
Portable cord can be used in Zone 1 applications only when installed on portable equipment.

Utilisation

- For use with unarmored cable Types suitable for use in Class I, Zone i (e.g.) Extra Hard Usage Cord)
- Series TCF Cable Glands, when used with Tray Cables are suitable to be installed in Class I, Zone 2/Div. 2 Classified Hazardous Locations Areas according to CEC/NEC Wiring Method, or subject to Local Inspection Authority having jurisdiction.

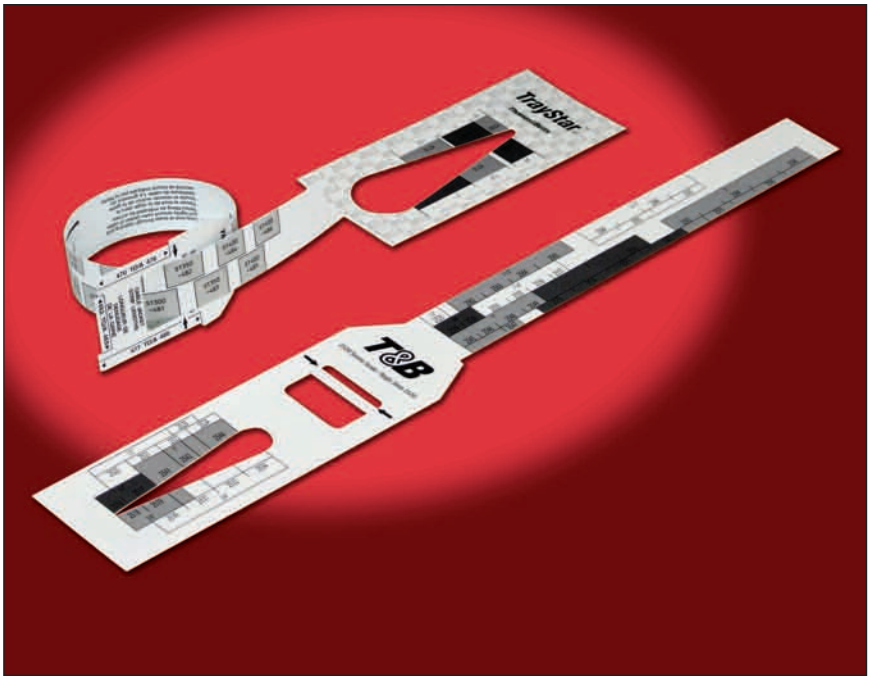
Fitting Selectors

Identifying the correct fitting is made easy with Thomas & Betts fitting selectors. Whether for use with power, instrumentation or data transmission cables, simply align the selector with the cable brand, voltage and gauge being used and the appropriate StarTeck™ fitting catalogue numbers are identified in the selector window.

Two selectors are currently available through your local electrical distributor or Thomas & Betts Regional Sales Office:

- StarTeck™ (ST) Series and StarTeck XP™ (STX) Series Selector
- StarTeck Extreme™ (STE) Series and StarTeck Extreme XP™ (STEX) Series Selector

Cat. No.: STARTECK REG (Blue)
Cat. No.: STARTECK EXT (Red)



Fitting Scales

These wrap-around belt scales allows end-users to match cable to fitting on site, quickly and easily. The belts wrap around the circumference of the cable, clearly identifying the appropriate size(s) of fitting to use. The belt also incorporates a strip length gauge that indicates the correct length of armor to expose for proper grounding.

The belt scales are available through your local electrical distributor or Thomas & Betts Regional Sales Office.

Cat. No.: STARTECK RULER

Cat. No.: 2520 RULER *New!*

Cat. No.: HLT RULER *New!*

Teck Cable Fittings

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