

## Teck Cable Fittings

### Teck Cable Specifications

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

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

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

Teck cable with an outer jacket may be used for exposed or concealed wiring in wet or dry locations, indoors and outdoors, and in corrosive environments. It is suitable for use in ventilated, non-ventilated and ladder type cable troughs, and in ventilated flexible cableways in both dry and wet locations. It is also suitable for direct earth burial and for Class II, Division 2; and Class III, Divisions 1 and 2 hazardous locations, as per the Canadian Electrical Code.

Flexibility and ease of installation are key features of Teck cable. The absence of dead air space within the cable increases heat transfer and minimizes condensation. The overall protective covering provides good environmental protection.

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

## Specifications – 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 the use of metallic sheath as an equipment-grounding conductor.

Metal Clad Cables are available with a variety of phase conductor insulations such as cross-linked polyethylene, and silicone rubber ethylene propylene, depending on the rated temperature of conductors and working potential. The metallic sheath can be made with galvanized steel, aluminum, copper or bronze. A special outer covering such as PVC or neoprene over the metallic sheath is usually provided for environmental protection.

### Usage

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 a 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, or control and signal circuits.

Use of metal-clad cable is permitted in wet locations, or exposed to destructive corrosive conditions. It can be directly buried in earth, concrete or exposed to cinder fills, strong chlorides, caustic alkalis, vapours, chlorine or hydrochloric acids, provided the construction of cable, the conductors within the metallic sheath, the metallic sheath and protective cover over metallic sheath comply with requirements enumerated in Sec. 330-10 of the National Electrical Code.

### Electrical Code Requirements

Section 12-3022 of the Canadian Electrical Code requires that the terminating fittings used must provide adequate strain relief to terminal connections and ensure electrical continuity without injury to the nonmetallic sheath. Continuity is mandatory whether or not the armour is used as a grounding conductor. Except for dry locations that are free from corrosive atmosphere, the nonmetallic jacket cannot be stripped back to the point where the armour 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 nonferrous or nonmetallic box fittings, 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. 18.3, Safety Standards for Conduits, Pipes and Cables

### 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.**

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

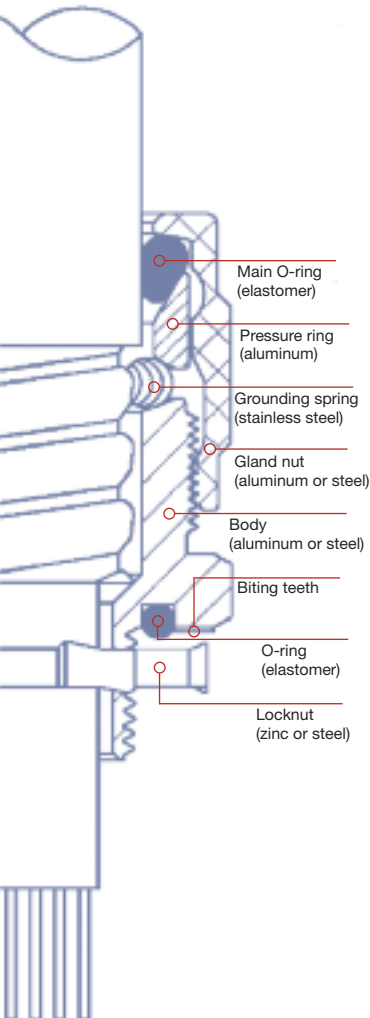
NEC Article 330 NEC 2008 requires that approved fittings be used for cable termination. Where single-conductor cables carrying alternating current enter a ferrous metal box or enclosure, procedures described in NEC Section 300-31 must be followed to reduce the effects of heating due to induced currents. These procedures include recommended arrangements of conductors, cutting of slots in the metal between individual conductor holes, passing of conductors through insulating walls, or the use of non magnetic aluminum sheathed cable and aluminum terminating fittings.

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

1. NEC Article 330, Metal Clad Cable (Type MC)
2. 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

## TEK™ Teck Cable Fittings



TEK™ Teck Cable Fittings have a wide array of industrial applications such as pulp and paper mills, chemical and petrochemical plants, refineries and power generation facilities. The fitting is designed to accommodate a wide range of cables provide a means to terminate at junction boxes, control centres, panel boards, and enclosures for motor control and electrical distribution equipment. The TEK™ forms a watertight seal around the cable and at the enclosure entry.



Cat. No.		Trade Size (in.)	Dia. Over Cable Jacket (in.)		Gland Throat I.D. (in.)	Nut O.D. (in.)	Overall Length (in.)	Exposed Length (tightened) (in.)	Hex. Key Gland Nut (in.)
Aluminum	Steel		Min.	Max.					
CI-TEK-50-066	CI-TEK-50-066-S	1/2	0.500	0.660	0.390	1.250	2-5/8	1-3/4	1-3/16
CI-TEK-50-079	CI-TEK-50-079-S		0.620	0.790	0.500	1.375			1-5/16
CI-TEK-50-092	CI-TEK-50-092-S		0.750	0.920	0.620	1.500			1-7/16
CI-TEK-75-105	CI-TEK-75-105-S	3/4	0.870	1.050	0.760	1.750	2-3/4	2	1-5/8
CI-TEK-75-120	CI-TEK-75-120-S		1.020	1.200	0.830	1.937			1-13/16
CI-TEK-100-137	CI-TEK-100-137-S	1	1.180	1.370	1.030	2.375	2-7/8	2	2-1/4
CI-TEK-125-157	CI-TEK-125-157-S	1-1/4	1.350	1.570	1.230	2.500	3-5/8	2-5/8	2-3/8
CI-TEK-125-176	CI-TEK-125-176-S		1.540	1.760	1.400	2.625			2-1/2
CI-TEK-150-198	CI-TEK-150-198-S	1-1/2	1.730	1.980	1.590	3.000	4	2-7/8	2-3/4
CI-TEK-200-220	CI-TEK-200-220-S	2	1.960	2.200	1.810	3.250	4-1/4	3-1/8	3
CI-TEK-200-241	CI-TEK-200-241-S		2.180	2.410	2.020	3.500			3-1/4
CI-TEK-200-262	CI-TEK-200-262-S		2.390	2.620	2.060	3.750			3-1/2
CI-TEK-250-284	CI-TEK-250-284-S	2-1/2	2.600	2.840	2.400	5.000	6-7/16	5-1/4	4-1/2
CI-TEK-300-306	CI-TEK-300-306-S		2.820	3.060	2.620	5.625			
CI-TEK-300-328	CI-TEK-300-328-S	3	3.040	3.280	2.843	5.625	6-3/4	5-1/2	5-1/4
CI-TEK-300-350	CI-TEK-300-350-S		3.260	3.500	3.030	5.625			
CI-TEK-400-371	CI-TEK-400-371-S	4	3.480	3.710	3.230	6.500	7-1/8	5-3/4	6
CI-TEK-400-392	CI-TEK-400-392-S		3.690	3.920	3.450	6.500			
CI-TEK-400-413	CI-TEK-400-413-S		3.900	4.130	3.680	6.500			
CI-TEK-400-433	CI-TEK-400-433-S		4.110	4.330	3.860	6.500			

### Materials

TEK™ Teck Cable Fittings are machined from copper-free aluminum (0.4% or less), for single or multi-conductor cables, or machined from steel and then zinc plated, for multi conductor cables.

### Sizes

TEK™ Teck Cable Fittings are available in 1/2 to 4-inch NPT trade sizes for cables with over jacket diameters ranging from 0.500 to 4.330 inches. Ranges overlap from one fitting to another, thus simplifying the choice.

### Design

TEK™ Teck Cable Fittings incorporate the best design, materials and construction techniques. Each component is meticulously fabricated, inspected and assembled to meet the tightest possible tolerances. Compact diameter eases installation in confined areas.

### Certifications

TEK™ Teck Cable Fittings are CSA certified for Class I (when used with an approved seal off fitting); Class II, Groups E, F & G; and Class III Hazardous Locations. Encl. 4 (Watertight). Fittings are clearly marked with a classification catalogue number and cable range. They are also certified for ACWU90, instrumentation, control and communication cables.

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

## TEK™ Teck Cable Fittings

### Parts and Components

- The fitting body has an integral bevelled armour stop to facilitate the cable insertion
- The internal components are held captive inside the gland nut. There are no loose parts.
- The main O-Ring is made of neoprene elastomer. It compresses against the outer jacket of the cable and assures the required water and dust tightness seal.
- The bonding coil is made of nonmagnetic stainless steel that surrounds the cable armour providing multipoint contact between the fitting body and cable armour. It assures the best bonding continuity of any existing Teck fitting on the market. The stainless steel prevents heat build-up on single conductor cables and also provides pullout resistance far exceeding CSA requirements.
- Steel fittings are supplied with steel locknuts. Aluminum fittings are supplied with zinc locknuts.



### Installation Procedures

When using a single conductor cable, an aluminum fitting must be used. TEK™ Teck Cable Fittings are easily installed, as no disassembly is required and there are no loose parts



1. Install fitting on enclosure



2. Prepare cable



3. Slacken gland nut and insert prepared cable



4. Hand tighten gland nut to hold cable, then wrench tighten