

TECK HIGH VOLTAGE (MINUS 40°C) HL ARMORED POWER CABLE, 5000 TO 35000 VOLT, SHIELDED CROSS-LINKED POLYETHYLENE INSULATION (XLP) SINGLE AND MULTI-CONDUCTOR

SCOPE:

This specification covers Aetna Insulated Wire's standard construction for single and multi-conductor Teck Type (-40°C) HL 5000 - 35000V shielded armored power cables insulated with cross-linked polyethylene (XLP). The insulated conductors are cabled with a ground wire and the assembly covered with an inner polyvinyl chloride (PVC) jacket, encased in interlocked armor and with a final protective polyvinyl chloride (PVC) jacket overall.

PRODUCT SPECIFICATIONS AND RATINGS:

- a) Canadian Electrical Code (CEC), Part 1
- b) CSA C68.3 Standard for Shielded and Concentric Neutral Power Cables Rated 5-46 kV
- c) ICEA S-93-639/NEMA WC74, Shielded Power Cable 5-46 kV
- d) CSA C22.2 No. 174 Cables and Cable Glands for Use in Hazardous Locations
- e) For ratings see the individual product specification sheets.

APPLICATION:

All cables covered under this specification are suitable for a maximum of 5000V to 35000V operation and at a maximum continuous conductor temperature of 90°C, an emergency overload temperature of 130°C and a short circuit condition of 250°C. Teck type cables are recognized by the CEC, Part 1, meet all the requirements therein and are certified to the relevant CSA standards. In addition the cables comply in all respects with the referenced ICEA standards. The cables are intended for use in industrial applications in power, lighting and control circuits in pulp and paper mills, mines and industrial plants. Teck cables are recommended for severe operating conditions, in wet and dry locations, installed in corrosive environments and are resistant to mechanical abuse and ozone attack. They may be installed in racks, trays, ladders and cable troughs. The cables have an FT-4 flame rating and are also rated for Hazardous Locations (HL).

CONSTRUCTION DATA AND SPECIFICATIONS:

Conductors - The conductor consists of uncoated soft, copper strands meeting the requirements of ASTM B3. Unless otherwise specified the conductor is supplied as Class B compact per ASTM B496.

Conductor Shield - The conductor shielding consists of an extruded semi-conducting layer meeting the requirements of the governing specifications above.

Insulation - The insulation is cross-linked polyethylene (XLP) extruded concentrically over the conductor to the wall thickness as specified in the governing specifications listed and as shown on the individual product specification sheets.

Insulation Shielding - Insulation shielding is made up of a non-metallic component of semi-conducting extruded compound applied directly over, and in intimate contact with, the insulation. Over the semi-conducting, a metallic component of 5mil bare copper tape, overlapped a minimum of 20%, is applied.

Conductor Coding - Phase identification is provided by a printed color stripe on each insulated conductor (red, black, white).

Grounding Conductor - In a single conductor cable the ground conductor is a serving of concentric uncoated bare copper wires applied helically over the copper tape shield. In multi conductor assemblies, one stranded uncoated bare copper ground wire will be located in one of the outer interstices

Assembly - Conductors and ground wire are cabled together with a left hand lay and suitable fillers to make the cable round. A binder tape is applied.

Inner Jacket - Over the cable core an inner polyvinyl chloride (PVC) jacket is extruded.

Armor - Over jacketed core an interlocking armor of either aluminum or galvanized steel is applied per the governing specification.

Overall Jacket - A protective sunlight and ozone resistant jacket of polyvinyl chloride (PVC), suitable for installation in temperatures down to -40°C, is extruded for a tight fit over the interlocked armor.

AVAILABLE OPTIONS:

- a) Custom ground configurations
- b) (TR-XLP) Tree-Retardant cross-linked polyethylene
- c) Aetna 3742 non-halogen, flame resistant, low smoke, low corrosion, non-toxic jacket