HVTECK SPECIFICATIONS

HVTECK AL 3/C 115TRXLPE TS PVC AIA PVC 8KV 100% CSA

PRODUCT HIGHLIGHTS
Southwire’s 8KV HVTECK is a CSA armoured cable for industrial and commercial medium voltage applications. Rated FT4, -40°C, Hazardous Locations (HL) and 105°C for use in harsh Canadian environments. For installation in cable trays, duct banks, direct burial, troughs, continuous rigid cable supports and concrete encasement.

CONSTRUCTION

Conductor
- Class B - compact stranded -8000 Series Aluminum -ACM
- Class B compact stranded copper
- Class B compressed stranded copper
- Strand blocking technology
- Tinning on copper conductors

Conductor Shield
- Extruded semi-conducting thermosetting polymeric layer

Insulation
- TR-XLPE - (Tree Retardent Cross Linked Polyethylene)
- Thickness: 0.115 inches (2.92mm) - nominal
- Insulation level: 100% - grounded system
- 105°C rated

Insulation Shield
- Extruded Semi-conducting thermosetting polymeric layer
- CSA 68.10 - Shield Removal/termination requirements are printed on the surface
- Phase identification as per ICEA Method 3, using printed circuit numbers
- Meets requirement of ICEA but built to CSA standards

Copper Tape Shield
- Helically wrapped 5 mil copper tape with 25% overlap

Bonding Conductor
- Class B compressed stranded bare copper
  - in accordance with ASTM B3 and B8

Fillers
- Non-wicking, non-hygroscopic

Inner Jacket
- Black PVC
- Thickness: No.2 AWG to No.1 AWG = 0.08 inches (2.03mm)
  No.1/0 AWG to 500 kcmil = 0.11 inches (2.79mm)
  750 kcmil = 0.14 inches (3.56mm)

Armour
- Aluminum Interlocked Armour (AIA)
- Optional Galvanized Steel Interlocked Armour (GSIA)

Overall Jacket
- Black PVC (optional colours available)
- Nominal Thickness:
  No.2 AWG to No.3/0 AWG = 0.06 inches (1.52mm)
  No.4/0 AWG to 500 kcmil = 0.075 inches (1.91mm)
  750 kcmil = 0.085 inches (2.16mm)

Typical Print Legend
- [CSA] SOUTHWIRE [NESC] #P# 3/C [#AWG or #kcmil] CPT AL 115 TRXLPE AIA 8KV 100% INS LEVEL 25% TS SUN RES 105° FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]
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### DESIGN

**Qualification Standards**
- CSA C68.10 - Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 kV
- CSA C68.3 - Shielded & Concentric Neutral Power Cable - 5 to 46 kV
- CSA C22.2 No. 174 - Cables in Hazardous Locations
- IEEE S-93-639 (NEMA WC 74) 5 to 46 kV - Shielded Power Cable
- AEIC CS-8 - Qualification Testing Requirements

**Flame Test Ratings**
- FT1 - Flame Test - (7,06 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000 BTU/Hr.)

### Product Ratings
- CSA C22.2 No. 2568 & No. 0.3 - Wire and Cable Test Methods
- CSA UL86 - for Cold Bend and Impact rating
- CSA HL - for Hazardous Locations rating
- CSA FT4 - for Flame Retardancy rating
- CSA SUN RES - for Sunlight Resistant rating

### Operating Temperatures
- -40°C - CSA Cold Bend and Impact Temperature
- -25°C - Min. Installation Temperature
- 105°C - Max. Continuous Operating Temperature
- 140°C for Emergency Overload Temperature
- 250°C for Short Circuit Temperature

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**TABLE 2 - ENGINEERING SPECIFICATIONS**

<table>
<thead>
<tr>
<th>HVTECK Product Code</th>
<th>Maximum Pulling Tension lb</th>
<th>DC Resistance @ 25°C Ω/1000 ft.</th>
<th>AC Resistance @ 90°C-60 Hz (triplex formation) Ω/km</th>
<th>Inductance L mH/1000 ft.</th>
<th>Capacitance C µF/km</th>
<th>Inductive Reactance @ 60Hz (triplexed) Ω</th>
<th>Capacitive Reactance @ 60Hz (triplexed) Ω</th>
<th>Positive-Sequence Impedance* Ω</th>
<th>Zero-Sequence Impedance* Ω</th>
<th>Short Circuit Current (each phase conductor) @ 60Hz kAmps</th>
<th>Allowable Ampacities in Ventilated Cable Tray †</th>
<th>Allowable Ampacities Directly Buried in Earth ‡</th>
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<tbody>
<tr>
<td>AL115F63-002</td>
<td>1194</td>
<td>5313</td>
<td>0.265</td>
<td>0.869</td>
<td>0.333</td>
<td>0.0989</td>
<td>0.3245</td>
<td>0.0575</td>
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* Calculations are based on 5 mil 25% overlap copper tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† Ampacities are based on Table D17N of the 2015 Canadian Electrical Code Part I (40° C Ambient Air Temperature, indoor installation)

‡ Ampacities are based on Table D17E of the 2015 Canadian Electrical Code Part I