**Product Highlights**

Southwire’s 35KV 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 encaseable.

**Construction**

- **Conductor**
  - Class B - compact stranded -8000 Series Aluminum - ACM

- **Options**
  - 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**
  - No-lead EPR (Ethylene Propylene Rubber)
  - Thickness: 0.345 inches (8.76mm) - 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.1/0 AWG = 0.11 inches (2.79mm)
  - No.2/0 AWG to 350 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.1/0 AWG to 350 kcmil = 0.085 inches (2.16mm)

- **Typical Print Legend**

<table>
<thead>
<tr>
<th>HVTECK Product Code</th>
<th>AWG or kcmil</th>
<th>Diameter Over Insulation</th>
<th>Diameter Over Insulation Shield</th>
<th>Bonding Cond. Size</th>
<th>Diameter Over Inner Jacket</th>
<th>Diameter Over Armour</th>
<th>Approx. Overall Diameter</th>
<th>Approx. Weight of Cable</th>
<th>Max. Real Weight (reel and cable)</th>
<th>Max. Real Diameter / Width **</th>
<th>Max. Real Length of Cable on Reel **</th>
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<tbody>
<tr>
<td>AL345KL38-010</td>
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<td>0.336</td>
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**TABLE 2 - ENGINEERING SPECIFICATIONS**

| HVTECK Product Code | Maximum Pulling Tension | DC Resistance @ 25°C $R_{dc}$ | DC Resistance @ 90°C 60 Hz (triplex formation) $R_{dc}$ | Inductance L | Capacitance C | Inductive Reactance @ 60Hz (triplexed) $X_L$ | Capacitive Reactance @ 60Hz (triplexed) $X_C$ | Positive - Sequence Impedance $Z_{ph}$ | Zero - Sequence Impedance $Z_{z}$ | Short Circuit Current (each phase conductor) @ 60Hz | Allowable Ampacities in Ventilated Cable Tray 1 | Allowable Ampacities in Earth 2 |
|---------------------|-------------------------|---------------------------------|-----------------------------------------------|--------------|--------------|------------------------------------------|------------------------------------------|--------------------------------------|---------------------------------------|---------------------------------|----------------------------------|
| AL345K38-010        | 1901                    | 1645                             | 0.168                                         | 0.551        | 0.168        | 0.0429                                    | 0.0408                                    | 0.0188                              | 0.0188                               | 0.212 + j0.050                    | 0.565 + j0.312                   | 4.7                              | 181                             | 200                             |
| AL345K38-020        | 2396                    | 10657                            | 0.133                                         | 0.436        | 0.133        | 0.0459                                    | 0.0436                                    | 0.0188                              | 0.0188                               | 0.198 + j0.048                    | 0.517 + j0.300                   | 5.9                              | 208                             | 228                             |
| AL345K38-030        | 3020                    | 13435                            | 0.105                                         | 0.345        | 0.105        | 0.0494                                    | 0.0472                                    | 0.0188                              | 0.0188                               | 0.182 + j0.046                    | 0.476 + j0.286                   | 7.4                              | 239                             | 268                             |
| AL345K38-040        | 3809                    | 16842                            | 0.084                                         | 0.274        | 0.084        | 0.0494                                    | 0.0472                                    | 0.0188                              | 0.0188                               | 0.182 + j0.046                    | 0.476 + j0.286                   | 7.4                              | 239                             | 268                             |
| AL345K38-250        | 4520                    | 20017                            | 0.071                                         | 0.232        | 0.071        | 0.0494                                    | 0.0472                                    | 0.0188                              | 0.0188                               | 0.182 + j0.046                    | 0.476 + j0.286                   | 7.4                              | 239                             | 268                             |
| AL345K38-350        | 6300                    | 28024                            | 0.051                                         | 0.168        | 0.051        | 0.0494                                    | 0.0472                                    | 0.0188                              | 0.0188                               | 0.182 + j0.046                    | 0.476 + j0.286                   | 7.4                              | 239                             | 268                             |

* 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

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

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

**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 (NECA WC 74) 5 to 46 kV - Shielded Power Cable
- AEIC CS-8 - Qualification Testing Requirements

**Flame Test Ratings**
- FT1 - Flame Test - (1,706 BTU/Hr/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/Hr.)

**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

**Product Ratings**
- CSA C22.2 No. 2568 & No. 0.3 - Wire and Cable Test Methods
- CSA UTG5 (40°C) - as per C68.10 - 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

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