HVTECK SPECIFICATIONS
HVTECK CU 1/C 90TRXLPE CB PVC AIA PVC 5KV 100% CSA

PRODUCT HIGHLIGHTS
Southwire's 5KV 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. When used in a 3 phase system, the combination of each bond conductor from each single conductor cable provides a 100% bonded system to ground.

CONSTRUCTION
Conductor
- Class B compressed stranded copper
  - in accordance with ASTM B3 and ASTM B9
Options
- Class B compact stranded -8000 Series Aluminum -ACM
- Class B compact stranded copper
Conductor Shield
- Extruded semi-conducting thermosetting polymeric layer
Insulation
- TR-XLPE - (Tree Retardent Cross Linked Polyethylene)
  - Thickness: 0.09 inches (2.29mm) - nominal
- Conductor Shield/Insulation Shield/Coverage: 0.28 inches (7.11mm) - nominal
- Insulation level: 100%
- 105°C rated
- CSA Standard C88.10 and Table 16A, Canadian Electrical Code Part 1
- Nominal Thickness:
  - 
  - * Other conductor sizes and outer jacket colours are available upon request.
** Longer maximum lengths may be possible. Standard sizes and lengths may be supplied.
*** Concentric 1/3 Bond size values are available on request.

Insulation Shield
- Extruded Semi-conducting thermostetting polymeric layer
- CSA B8.10 - Shield Removal/termination requirements are printed on the surface
- Meets requirement of ICEA but built to CSA standards

Copper Bond Wire Shield
- Concentrically applied copper bond / shield wires
- ** Longer maximum lengths may be possible.
- *** Concentric 1/3 Bond size values are available on request.

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

Overall Jacket
- Orange PVC (optional colours available)
- Nominal Thickness:
- No.2 AWG to 250 kcmil = 0.06 inches (1.27mm)
  - 350 kcmil to 1000 kcmil = 0.06 inches (1.27mm)

Typical Print Legend
- (CSA) SOUTHWIRE [NESC] #P# (#AWG or #kcmil) CU 90 TRXLPE AIA 5KV 100% INS LEVEL CB [No. x SIZE] AWG SUN RES 105°C FT4 HL (-40°C) LTG RoHS YEAR [SEQUENTIAL METER MARKS]

NOTE: These are minimum average dimensions as per CSA Standards.
* Other conductor sizes and outer jacket colours are available upon request. (#s in brackets represent # of strands / conductor)
** Longer maximum lengths may be possible. Standard sizes and lengths may be supplied. Reel sizes are not guaranteed. The factory reserves the right to make changes as necessary to optimize manufacturing requirements.
*** Concentric 1/3 Bond size values are available on request.

TABLE 1 - WEIGHTS & MEASUREMENTS

<table>
<thead>
<tr>
<th>HVTECK Product Code</th>
<th>AWG or Kcmil</th>
<th>°C</th>
<th>Diameter Over Insulation</th>
<th>Diameter Over Insulation Shield</th>
<th>CB Shield **</th>
<th>Diameter Over Inner Jacket</th>
<th>Diameter Over Armour</th>
<th>Approx. Overall Diameter</th>
<th>Min. Bend Radius</th>
<th>Approx. Weight of Cable</th>
<th>Max. Real Weight (Reel and Cable) **</th>
<th>Max. Reel Diameter / Width **</th>
<th>Max. Length of Cable Reel **</th>
</tr>
</thead>
<tbody>
<tr>
<td>CU90G75-002</td>
<td>2/0</td>
<td>72</td>
<td>0.493</td>
<td>0.573</td>
<td>14.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CU90G75-001</td>
<td>1/0</td>
<td>82</td>
<td>0.532</td>
<td>0.612</td>
<td>15.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CU90G75-010</td>
<td>1/0</td>
<td>92</td>
<td>0.572</td>
<td>0.652</td>
<td>16.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CU90G75-020</td>
<td>2/0</td>
<td>103</td>
<td>0.615</td>
<td>0.695</td>
<td>17.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CU90G75-030</td>
<td>3/0</td>
<td>116</td>
<td>0.666</td>
<td>0.746</td>
<td>18.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CU90G75-040</td>
<td>4/0</td>
<td>129</td>
<td>0.722</td>
<td>0.802</td>
<td>20.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CU90G75-050</td>
<td>5/0</td>
<td>142</td>
<td>0.779</td>
<td>0.881</td>
<td>22.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CU90G75-250</td>
<td>750/16</td>
<td>988</td>
<td>2.46</td>
<td>3.27</td>
<td>32.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CU90G75-500</td>
<td>1000/61</td>
<td>1117</td>
<td>2.84</td>
<td>3.42</td>
<td>34.2</td>
<td>1.427</td>
<td>36.2</td>
<td>8.51</td>
<td>50.3</td>
<td>2,101</td>
<td>53.4</td>
<td>25.2</td>
<td>640</td>
</tr>
</tbody>
</table>

NOTE: These are minimum average dimensions as per CSA Standards.
* Other conductor sizes and outer jacket colours are available upon request. (#s in brackets represent # of strands / conductor)
** Longer maximum lengths may be possible. Standard sizes and lengths may be supplied. Reel sizes are not guaranteed. The factory reserves the right to make changes as necessary to optimize manufacturing requirements.
*** Concentric 1/3 Bond size values are available on request.

© 2017 Southwire Company, LLC. All Rights Reserved.
HVTECK SPECIFICATIONS

HVTECK CU 1/C 90TRXLPE CB PVC AIA PVC 5KV 100% CSA

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
- ICEA S-93-593 (NEMA 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. 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 338 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000 BTU/Hr.)

Ampacities are based on Table D17M of the 2015 Canadian Electrical Code Part I (40°C Ambient Air Temperature, indoor installation)

Product Ratings
- CSA C22.2 No. 2568 & No. 0.3 - Wire and Cable Test Methods
- CSA LG56 (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

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

TABLE 2 - ENGINEERING SPECIFICATIONS

<table>
<thead>
<tr>
<th>HVTECK Product Code</th>
<th>Maximum Pulling Tension (lb/1000 ft)</th>
<th>DC Resistance @ 25°C (Ω/m)</th>
<th>AC Resistance @ 50°C 60 Hz Triplex (Ω/m)</th>
<th>Inductance L</th>
<th>Capacitance C µF/1000 ft.</th>
<th>Reactance @ 60Hz (X) Ω/1000 ft.</th>
<th>Impedance Ω/1000 ft.</th>
<th>MOA @ 50V/M</th>
<th>MOA @ 500V/M</th>
<th>Ω @ 1000ft.</th>
<th>M @ 1000ft.</th>
<th>Positive - Sequence Impedance Ω</th>
<th>Zero - Sequence Impedance Ω</th>
<th>Short Circuit Current (each phase conductor) @ 50Hz kAmps</th>
<th>Allowable Ampacities in Ventilated Cable Tray (1)</th>
<th>Allowable Ampacities Directly Buried in Earth (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CU90G75-002</td>
<td>531</td>
<td>0.162</td>
<td>0.532</td>
<td>0.203</td>
<td>0.685</td>
<td>0.0914</td>
<td>0.2999</td>
<td>0.0702</td>
<td>0.2304</td>
<td>0.0345</td>
<td>0.1131</td>
<td>0.0318</td>
<td>0.0115</td>
<td>0.205 + j0.054</td>
<td>0.502 + j0.187</td>
<td>4.8</td>
</tr>
<tr>
<td>CU90G75-001</td>
<td>670</td>
<td>0.129</td>
<td>0.423</td>
<td>0.161</td>
<td>0.529</td>
<td>0.0882</td>
<td>0.2893</td>
<td>0.0776</td>
<td>0.2547</td>
<td>0.0332</td>
<td>0.1091</td>
<td>0.0332</td>
<td>0.0104</td>
<td>0.165 + j0.051</td>
<td>0.386 + j0.105</td>
<td>6.0</td>
</tr>
<tr>
<td>CU90G75-100</td>
<td>845</td>
<td>0.102</td>
<td>0.335</td>
<td>0.128</td>
<td>0.419</td>
<td>0.0855</td>
<td>0.2804</td>
<td>0.0852</td>
<td>0.2795</td>
<td>0.0322</td>
<td>0.1057</td>
<td>0.0311</td>
<td>0.0095</td>
<td>0.131 + j0.050</td>
<td>0.352 + j0.104</td>
<td>7.6</td>
</tr>
<tr>
<td>CU90G75-020</td>
<td>1065</td>
<td>0.081</td>
<td>0.266</td>
<td>0.101</td>
<td>0.333</td>
<td>0.0830</td>
<td>0.2724</td>
<td>0.0933</td>
<td>0.3611</td>
<td>0.0313</td>
<td>0.1027</td>
<td>0.0284</td>
<td>0.0087</td>
<td>0.105 + j0.048</td>
<td>0.325 + j0.103</td>
<td>9.6</td>
</tr>
<tr>
<td>CU90G75-030</td>
<td>1340</td>
<td>0.064</td>
<td>0.211</td>
<td>0.080</td>
<td>0.264</td>
<td>0.0807</td>
<td>0.2647</td>
<td>0.1029</td>
<td>0.3768</td>
<td>0.0304</td>
<td>0.0996</td>
<td>0.0258</td>
<td>0.0079</td>
<td>0.085 + j0.046</td>
<td>0.270 + j0.077</td>
<td>12.1</td>
</tr>
<tr>
<td>CU90G75-040</td>
<td>1693</td>
<td>0.051</td>
<td>0.167</td>
<td>0.084</td>
<td>0.210</td>
<td>0.0785</td>
<td>0.2576</td>
<td>0.134</td>
<td>0.3721</td>
<td>0.0296</td>
<td>0.0971</td>
<td>0.0234</td>
<td>0.0071</td>
<td>0.068 + j0.045</td>
<td>0.253 + j0.076</td>
<td>15.2</td>
</tr>
<tr>
<td>CU90G75-050</td>
<td>2000</td>
<td>0.043</td>
<td>0.141</td>
<td>0.054</td>
<td>0.178</td>
<td>0.0778</td>
<td>0.2564</td>
<td>0.1173</td>
<td>0.3848</td>
<td>0.0293</td>
<td>0.0963</td>
<td>0.0226</td>
<td>0.0069</td>
<td>0.059 + j0.043</td>
<td>0.207 + j0.056</td>
<td>18.0</td>
</tr>
<tr>
<td>CU90G75-125</td>
<td>2800</td>
<td>0.031</td>
<td>0.101</td>
<td>0.039</td>
<td>0.138</td>
<td>0.0751</td>
<td>0.2463</td>
<td>0.1352</td>
<td>0.4451</td>
<td>0.0293</td>
<td>0.0929</td>
<td>0.0196</td>
<td>0.0060</td>
<td>0.044 + j0.041</td>
<td>0.164 + j0.044</td>
<td>25.2</td>
</tr>
<tr>
<td>CU90G75-500</td>
<td>6000</td>
<td>0.014</td>
<td>0.047</td>
<td>0.019</td>
<td>0.063</td>
<td>0.0706</td>
<td>0.2315</td>
<td>0.1828</td>
<td>0.5999</td>
<td>0.0266</td>
<td>0.0872</td>
<td>0.0145</td>
<td>0.0044</td>
<td>0.026 + j0.05</td>
<td>0.101 + j0.027</td>
<td>53.9</td>
</tr>
<tr>
<td>CU90G75-1000</td>
<td>8000</td>
<td>0.011</td>
<td>0.035</td>
<td>0.015</td>
<td>0.050</td>
<td>0.0690</td>
<td>0.2263</td>
<td>0.2082</td>
<td>0.6830</td>
<td>0.0260</td>
<td>0.0853</td>
<td>0.0127</td>
<td>0.0039</td>
<td>0.021 + j0.034</td>
<td>0.097 + j0.026</td>
<td>71.9</td>
</tr>
</tbody>
</table>

* Calculations are based on three cables triplexed / 5% mil 25% over lapping 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 D17M of the 2015 Canadian Electrical Code Part I (40°C Ambient Air Temperature, indoor installation)

2 Ampacities are based on Table D17A of the 2015 Canadian Electrical Code Part I