### HVTECK SPECIFICATIONS

**HVTECK CU 1/C 260TRXLPE CB PVC AIA PVC 25KV 100% CSA**

### PRODUCT HIGHLIGHTS
Southwire’s 25KV 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. When used in a 3 phase system, the combination of each bond conductor from each single conductor cable provide a 100% bonded system to ground.

### CONSTRUCTION

#### Conductor
- Class B compressed stranded copper
  - in accordance with ASTM B3 and ASTM B8
- **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: 0.26 inches (6.60mm) - nominal
  - Insulation level: 100%
  - 105°C rated

#### Insulation Shield
- Extruded semi-conducting thermosetting polymeric layer
  - CSA 68.10 - Shield Removal/termination requirements are printed on the surface
  - Meets requirement of IEC but built to CSA standards

#### Copper Full Bond Wire Shield
- Concentrally applied copper bond / shield wires
- **Armour**
  - Aluminum Interlocked Armour (AIA)
  - Optional Galvanized Steel Interlocked Armour (GSIA)

#### Overall Jacket
- Black PVC (optional colours available)
- Nominal Thickness:
  - No.1 AWG = 0.05 inches (1.27mm)
  - No.1/0 AWG to 750 kcmil = 0.06 inches (1.52mm)
  - 1000 kcmil = 0.075 inches (1.91mm)

#### Typical Print Legend
- [CSA] SOUTHWIRE (NESC) #P# [#AWG or #kcmil]
- CU 260 TRXLPE AIA 25KV 100% INS LEVEL CB (No. x SIZE) AWG SUN RES 105° FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

### TABLE 1 - WEIGHTS & MEASUREMENTS

<table>
<thead>
<tr>
<th>HVTECK Product Code</th>
<th>AWG or kcmil</th>
<th>Diameter Over Insulation mm</th>
<th>Insulation Shield Diameter Over Insulation Shield mm</th>
<th>CB Shield Width mm</th>
<th>Diameter Over Armour mm</th>
<th>Approx. Overall Diameter mm</th>
<th>Minimum Bend Radius</th>
<th>Approx. Weight of Cable lb / 1000ft</th>
<th>Max. Real Weight (reel and cable) **</th>
<th>Max. Real Diameter / Width **</th>
<th>Max. Length of Cable on Reel **</th>
</tr>
</thead>
<tbody>
<tr>
<td>CU260B51-001</td>
<td>1(19)</td>
<td>0.322</td>
<td>8.2</td>
<td>0.672</td>
<td>22.1</td>
<td>1.952</td>
<td>24.2</td>
<td>1279</td>
<td>1199</td>
<td>1784</td>
<td>8536</td>
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<tr>
<td>CU260B51-010</td>
<td>1/0(19)</td>
<td>0.362</td>
<td>9.2</td>
<td>0.912</td>
<td>23.2</td>
<td>1.523</td>
<td>25.2</td>
<td>1203</td>
<td>1301</td>
<td>1822</td>
<td>1031</td>
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<tr>
<td>CU260B51-020</td>
<td>2/0(19)</td>
<td>0.405</td>
<td>10.3</td>
<td>0.955</td>
<td>24.3</td>
<td>1.586</td>
<td>26.3</td>
<td>1246</td>
<td>1265</td>
<td>1849</td>
<td>1060</td>
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<td>CU260B51-030</td>
<td>3/0(19)</td>
<td>0.456</td>
<td>11.6</td>
<td>1.006</td>
<td>25.6</td>
<td>1.617</td>
<td>27.6</td>
<td>1279</td>
<td>1297</td>
<td>1882</td>
<td>1080</td>
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<td>CU260B51-040</td>
<td>4/0(19)</td>
<td>0.512</td>
<td>13.0</td>
<td>1.062</td>
<td>27.0</td>
<td>1.673</td>
<td>29.0</td>
<td>1301</td>
<td>1320</td>
<td>1925</td>
<td>1117</td>
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<td>CU260B51-250</td>
<td>250(37)</td>
<td>0.681</td>
<td>16.8</td>
<td>1.221</td>
<td>31.0</td>
<td>1.955</td>
<td>33.0</td>
<td>1525</td>
<td>1543</td>
<td>1988</td>
<td>1165</td>
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<td>CU260B51-350</td>
<td>350(37)</td>
<td>0.806</td>
<td>19.0</td>
<td>1.349</td>
<td>34.3</td>
<td>2.193</td>
<td>36.3</td>
<td>1643</td>
<td>1662</td>
<td>2043</td>
<td>1233</td>
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<td>CU260B51-500</td>
<td>500(37)</td>
<td>1.007</td>
<td>21.6</td>
<td>1.538</td>
<td>36.9</td>
<td>3.181</td>
<td>39.1</td>
<td>1829</td>
<td>1851</td>
<td>2309</td>
<td>1303</td>
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<td>CU260B51-750</td>
<td>750(31)</td>
<td>1.263</td>
<td>25.0</td>
<td>1.788</td>
<td>41.1</td>
<td>2.232</td>
<td>43.8</td>
<td>2020</td>
<td>2047</td>
<td>2528</td>
<td>1398</td>
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<td>CU260B51-1000</td>
<td>1000(31)</td>
<td>1.711</td>
<td>31.5</td>
<td>1.987</td>
<td>46.8</td>
<td>3.767</td>
<td>49.9</td>
<td>2501</td>
<td>2528</td>
<td>3160</td>
<td>1500</td>
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</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

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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
- ICEA 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 - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr.) - Vertical Tray Test
- CSA C22.2 No. 3566 & No. 0.3. - Wire and Cable Test Methods
- IEEE 1202  - Flame Test  - (70,000 BTU/Hr. - Vertical Tray Test)
- CSA C22.2 No. 2556 & No. 0.3. - Wire and Cable Test Methods
- ICEA S-93-639 (NEMA WC 74) 5 to 46 kV - Shielded Power Cable
- AEIC CS-8 - Qualification Testing Requirements

### 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</th>
<th>DC Resistance @ 25°C $R_d$</th>
<th>AC Resistance @ 60°C 60 Hz (triplex formation) $R_{ac}$</th>
<th>Inductance $L$</th>
<th>Capacitance $C$</th>
<th>Inductive Reactance @ 50Hz (triplexed) $X_L$</th>
<th>Capacitive Reactance @ 50Hz (triplexed) $X_C$</th>
<th>Positive - Sequence Impedance* $Z_p$</th>
<th>Zero - Sequence Impedance* $Z_0$</th>
<th>Short Circuit Current (each phase conductor) @ 60Hz</th>
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<tbody>
<tr>
<td>CU260B51-001</td>
<td>670</td>
<td>0.129</td>
<td>0.423</td>
<td>0.161</td>
<td>0.529</td>
<td>0.1183</td>
<td>0.3882</td>
<td>0.0361</td>
<td>0.1284</td>
<td>0.0446</td>
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<td>CU260B51-010</td>
<td>845</td>
<td>0.102</td>
<td>0.335</td>
<td>0.128</td>
<td>0.419</td>
<td>0.1119</td>
<td>0.3737</td>
<td>0.0422</td>
<td>0.1384</td>
<td>0.0429</td>
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<tr>
<td>CU260B51-020</td>
<td>1065</td>
<td>0.081</td>
<td>0.266</td>
<td>0.101</td>
<td>0.333</td>
<td>0.0999</td>
<td>0.3605</td>
<td>0.0454</td>
<td>0.1491</td>
<td>0.0414</td>
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<td>CU260B51-030</td>
<td>1342</td>
<td>0.064</td>
<td>0.211</td>
<td>0.080</td>
<td>0.264</td>
<td>0.1068</td>
<td>0.3472</td>
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<td>CU260B51-040</td>
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<td>0.051</td>
<td>0.167</td>
<td>0.064</td>
<td>0.210</td>
<td>0.1021</td>
<td>0.3348</td>
<td>0.0534</td>
<td>0.1753</td>
<td>0.0385</td>
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<td>CU260B51-250</td>
<td>2000</td>
<td>0.043</td>
<td>0.141</td>
<td>0.054</td>
<td>0.178</td>
<td>0.0999</td>
<td>0.3279</td>
<td>0.0561</td>
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<td>0.0377</td>
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<td>CU260B51-350</td>
<td>2600</td>
<td>0.031</td>
<td>0.101</td>
<td>0.039</td>
<td>0.129</td>
<td>0.0950</td>
<td>0.3118</td>
<td>0.0635</td>
<td>0.2084</td>
<td>0.0358</td>
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<td>CU260B51-500</td>
<td>4000</td>
<td>0.022</td>
<td>0.071</td>
<td>0.028</td>
<td>0.062</td>
<td>0.0903</td>
<td>0.2962</td>
<td>0.0727</td>
<td>0.2284</td>
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<td>CU260B51-750</td>
<td>6000</td>
<td>0.014</td>
<td>0.047</td>
<td>0.019</td>
<td>0.062</td>
<td>0.0856</td>
<td>0.2815</td>
<td>0.0842</td>
<td>0.2762</td>
<td>0.0323</td>
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<tr>
<td>CU260B51-1000</td>
<td>8000</td>
<td>0.011</td>
<td>0.035</td>
<td>0.015</td>
<td>0.049</td>
<td>0.0827</td>
<td>0.2714</td>
<td>0.0945</td>
<td>0.3102</td>
<td>0.0312</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