**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
- Strand blocking technology
- Tinning on copper conductors

**Conductor Shield**
- Extruded semi-conducting thermosetting polymeric layer

**Insulation**
- No-lead EPR (Ethylene Propylene Rubber)
- Thickness: 0.32 inches (8.13mm) - nominal
- Insulation level: 133%
- 105°C rated

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

**Copper Tape Shield**
- Helically wrapped 5 mil copper tape with 25% overlap
- Not designed to carry ground fault current
- A separate bonding/grounding conductor may be required

**Overall Jacket**
- Black - Low Smoke Zero Halogen XLPE Solonon jacket
- Nominal Thickness:
  - No.1 AWG to 500 kcmil = 0.08 inches (2.03mm)
  - 500 kcmil to 1000 kcmil = 0.11 inches (2.79mm)

**Typical Print Legend**
- (CSA) SOUTHWIRE (NESC) #P# [#AWG or #kcmil] CU 320 EPR 25KV 133% INS LEVEL 25% TS SUN RES TC-ER 105° FT4-ST1 LSZH SOLONNON (-25°C) LTD RoHS YEAR [SEQUENTIAL METER MARKS]

---

**TABLE 1 - WEIGHTS & MEASUREMENTS**

<table>
<thead>
<tr>
<th>HVTC Product Code</th>
<th>AWG or Kcmil</th>
<th>Conductor Diameter</th>
<th>Diameter Over Insulation</th>
<th>Diameter Over Insulation Shield</th>
<th>Approx. Overall Diameter</th>
<th>Minimum Bend Radius</th>
<th>Approx. Weight of Cable</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>CU320G35-001</td>
<td>11/19</td>
<td>0.322</td>
<td>8.2</td>
<td>0.992</td>
<td>25.2</td>
<td>1.072</td>
<td>27.2</td>
<td>1.252</td>
<td>31.8</td>
<td>15.0</td>
</tr>
<tr>
<td>CU320G35-010</td>
<td>1/019</td>
<td>0.362</td>
<td>9.2</td>
<td>1.052</td>
<td>36.2</td>
<td>1.112</td>
<td>30.2</td>
<td>1.292</td>
<td>35.8</td>
<td>15.5</td>
</tr>
<tr>
<td>CU320G35-020</td>
<td>2/019</td>
<td>0.405</td>
<td>10.3</td>
<td>1.075</td>
<td>47.3</td>
<td>1.155</td>
<td>37.3</td>
<td>1.335</td>
<td>40.3</td>
<td>18.0</td>
</tr>
<tr>
<td>CU320G35-030</td>
<td>3/019</td>
<td>0.456</td>
<td>11.6</td>
<td>1.126</td>
<td>60.2</td>
<td>1.206</td>
<td>51.2</td>
<td>1.386</td>
<td>55.3</td>
<td>16.6</td>
</tr>
<tr>
<td>CU320G35-040</td>
<td>4/019</td>
<td>0.512</td>
<td>13.0</td>
<td>1.162</td>
<td>93.0</td>
<td>1.262</td>
<td>63.1</td>
<td>1.442</td>
<td>67.3</td>
<td>17.3</td>
</tr>
<tr>
<td>CU320G35-050</td>
<td>5/019</td>
<td>0.595</td>
<td>15.6</td>
<td>1.195</td>
<td>120.7</td>
<td>1.341</td>
<td>85.6</td>
<td>1.601</td>
<td>91.4</td>
<td>19.2</td>
</tr>
<tr>
<td>CU320G35-060</td>
<td>6/019</td>
<td>0.661</td>
<td>17.8</td>
<td>1.238</td>
<td>156.7</td>
<td>1.421</td>
<td>108.7</td>
<td>1.789</td>
<td>115.1</td>
<td>21.5</td>
</tr>
<tr>
<td>CU320G35-070</td>
<td>7/019</td>
<td>0.765</td>
<td>20.0</td>
<td>1.282</td>
<td>194.7</td>
<td>1.549</td>
<td>135.4</td>
<td>1.987</td>
<td>133.8</td>
<td>23.7</td>
</tr>
<tr>
<td>CU320G35-080</td>
<td>8/019</td>
<td>0.886</td>
<td>22.5</td>
<td>1.335</td>
<td>234.5</td>
<td>1.735</td>
<td>160.3</td>
<td>2.197</td>
<td>151.6</td>
<td>26.7</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.

© 2016 Southwire Company, LLC. All Rights Reserved.
HVTC SPECIFICATIONS

HVTC CU 1/C 320EPR TS LSZH SOLONON® 25KV 133% CSA

DESIGN

Qualification Standards
- CSA C68.10 - Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 kV
- CSA C68.3 - Shielded & Concontric Neutral Power Cable - 5 to 46 kV
- CSA C22.2 No. 230 - Tray Cables
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- 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 - (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 383 - Flame Test - (70,000 BTU/Hr.)
- IEEE T-29-520 - Vertical Cable Tray Flame Test - (210,000 BTU/Hr.)
- CSA ST1 Smoke Test - marked FT4-ST1

Product Ratings
- CSA C22.2 No. 2568 & No. 0.3 - Wire and Cable Test Methods
- CSA FT4 - for Flame Retardancy rating
- CSA SUN RES - for Sunlight Resistant rating
- CSA TC-ER (marked TC for No. 1/0 AWG and larger)***

Operating Temperatures
- -25°C - CSA Cold Bend and Impact Temperature
- -10°C - Min. Installation Temperature
- 105°C - Max. Continuous Operating Temperature
- 250°C for Short Circuit Temperature
- 140°C for Emergency Overload Temperature
- 169°C for Emergency Overload Temperature

TABLE 2 - ENGINEERING SPECIFICATIONS

<table>
<thead>
<tr>
<th>HVTC Product Code</th>
<th>Maximum Pulling Tension</th>
<th>DC Resistance @ 25°C</th>
<th>AC Resistance @ 90°C-60 Hz</th>
<th>Inductance L</th>
<th>Capacitance C</th>
<th>Inductive Reactance @ 60Hz</th>
<th>Capacitive Reactance @ 60Hz</th>
<th>Positive -Sequence Impedance</th>
<th>Zero -Sequence Impedance</th>
<th>Short Circuit Current (each phase conductor) @ 60Hz</th>
<th>Allowable Ampacities in Directly Buried</th>
<th>Allowable Ampacities in Earth</th>
</tr>
</thead>
<tbody>
<tr>
<td>CU320G35-001</td>
<td>670</td>
<td>0.129</td>
<td>0.423</td>
<td>0.161</td>
<td>0.529</td>
<td>0.1262</td>
<td>0.4140</td>
<td>0.0437</td>
<td>0.1433</td>
<td>0.0476</td>
<td>0.1561</td>
<td>0.0607</td>
</tr>
<tr>
<td>CU320G35-010</td>
<td>845</td>
<td>0.102</td>
<td>0.335</td>
<td>0.128</td>
<td>0.419</td>
<td>0.1214</td>
<td>0.3985</td>
<td>0.0469</td>
<td>0.1539</td>
<td>0.0468</td>
<td>0.1502</td>
<td>0.0565</td>
</tr>
<tr>
<td>CU320G35-020</td>
<td>1065</td>
<td>0.081</td>
<td>0.266</td>
<td>0.101</td>
<td>0.333</td>
<td>0.1171</td>
<td>0.3842</td>
<td>0.0503</td>
<td>0.1652</td>
<td>0.0441</td>
<td>0.1448</td>
<td>0.0527</td>
</tr>
<tr>
<td>CU320G35-030</td>
<td>1362</td>
<td>0.064</td>
<td>0.211</td>
<td>0.080</td>
<td>0.264</td>
<td>0.1127</td>
<td>0.3697</td>
<td>0.0544</td>
<td>0.1784</td>
<td>0.0425</td>
<td>0.1394</td>
<td>0.0488</td>
</tr>
<tr>
<td>CU320G35-040</td>
<td>1693</td>
<td>0.051</td>
<td>0.167</td>
<td>0.064</td>
<td>0.210</td>
<td>0.1086</td>
<td>0.3652</td>
<td>0.0567</td>
<td>0.1927</td>
<td>0.0409</td>
<td>0.1343</td>
<td>0.0452</td>
</tr>
<tr>
<td>CU320G35-050</td>
<td>2060</td>
<td>0.043</td>
<td>0.141</td>
<td>0.054</td>
<td>0.178</td>
<td>0.1062</td>
<td>0.3483</td>
<td>0.0617</td>
<td>0.2023</td>
<td>0.0400</td>
<td>0.1313</td>
<td>0.0430</td>
</tr>
<tr>
<td>CU320G35-060</td>
<td>2860</td>
<td>0.031</td>
<td>0.101</td>
<td>0.039</td>
<td>0.128</td>
<td>0.1007</td>
<td>0.3304</td>
<td>0.0689</td>
<td>0.2279</td>
<td>0.0390</td>
<td>0.1246</td>
<td>0.0382</td>
</tr>
<tr>
<td>CU320G35-070</td>
<td>4000</td>
<td>0.022</td>
<td>0.071</td>
<td>0.038</td>
<td>0.229</td>
<td>0.0791</td>
<td>0.2594</td>
<td>0.0360</td>
<td>0.1181</td>
<td>0.0335</td>
<td>0.0102</td>
<td>0.029 + j0.040</td>
</tr>
<tr>
<td>CU320G35-080</td>
<td>6000</td>
<td>0.014</td>
<td>0.047</td>
<td>0.019</td>
<td>0.063</td>
<td>0.0954</td>
<td>0.2958</td>
<td>0.0913</td>
<td>0.2996</td>
<td>0.0341</td>
<td>0.1118</td>
<td>0.0290</td>
</tr>
<tr>
<td>CU320G35-100</td>
<td>8000</td>
<td>0.011</td>
<td>0.035</td>
<td>0.015</td>
<td>0.049</td>
<td>0.0869</td>
<td>0.2851</td>
<td>0.1022</td>
<td>0.3522</td>
<td>0.0328</td>
<td>0.1075</td>
<td>0.0260</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
3 For use in cable trays, exposed run and hazardous locations as per the limitations in the Canadian Electrical Code Part I, particularly Table 19.

© 2016 Southwire Company, LLC. All Rights Reserved.