HVTECK SPECIFICATIONS
HVTECK AL 3/C 280EPR TS LSZH AIA LSZH SOLONON® 28KV 100% CSA

PRODUCT HIGHLIGHTS
Southwire’s 28KV HVTECK Solonon® low smoke zero halogen jacketed cable is a CSA armoured cable for industrial and commercial medium voltage applications. Rated FT4-ST1, -25°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
- Class B compact stranded copper
- Class B compressed stranded copper
- Strand blocking technology
- Timing on copper conductors

Options
- Extruded semi-conducting thermosetting polymeric layer
- No-lead EPR (Ethylene Propylene Rubber)
- Insulation level: 100% - grounded system
- 105°C rated

Insulation Shield
- Extruded semi-conducting thermosetting polymeric layer
- CSA 88.10 - 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
- in accordance with ASTM B3 and B8

Bonding Conductor
- Class B compressed stranded bare copper
- Non-wicking, non-hygrosopic

Fillers
- Black - Low Smoke Zero Halogen XLPE Solonon jacket
- Optional Galvanized Steel Interlocked Armour (GSIA)

Inner Jacket
- Black PVC
- Thickness:
  - No.1 AWG to No.3/0 AWG = 0.11 inches (2.79mm)
  - No.4/0 AWG to 500 kcmil = 0.14 inches (3.6mm)

Armour
- Aluminum Interlocked Armour (AIA)
- Optional Galvanized Steel Interlocked Armour (GSIA)
- Black - Low Smoke Zero Halogen XLPE Solonon jacket
- Nominal Thickness:
  - No.1 AWG to No.3/0 AWG = 0.075 inches (1.91mm)
  - No.4/0 AWG to 500 kcmil = 0.085 inches (2.16mm)

Overall Jacket
- Black - Low Smoke Zero Halogen XLPE Solonon jacket
- Nominal Thickness:
  - No.1 AWG to No.3/0 AWG = 0.075 inches (1.91mm)
  - No.4/0 AWG to 500 kcmil = 0.085 inches (2.16mm)
- Typical Print Legend
  - (CSA) SOUTHWIRE [NESC] #P* 3/C [AWG or kcmil] CPT AL 28 EPR AIA 28KV 100% INS LEVEL 25% TS SUN RES 105° FT4-ST1 LSZH SOLONON HL (-25°C) LTDD RoHS YEAR [SEQUENTIAL METER MARKS]

**TABLE 1 - WEIGHTS & MEASUREMENTS**

<table>
<thead>
<tr>
<th>HVTECK Product Code</th>
<th>AWG or kcmil</th>
<th>Conductor Diameter</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>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. Real Length of Cable on Reel **</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL280W12-001</td>
<td>1(19)</td>
<td>0.299</td>
<td>7.6</td>
<td>0.889</td>
<td>22.6</td>
<td>0.969</td>
<td>24.8</td>
<td>2.356</td>
<td>59.8</td>
<td>2.686</td>
<td>68.2</td>
<td>2.836</td>
<td>72.0</td>
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<tr>
<td>AL280W12-010</td>
<td>1(19)</td>
<td>0.336</td>
<td>8.5</td>
<td>0.926</td>
<td>23.5</td>
<td>1.066</td>
<td>25.6</td>
<td>2.436</td>
<td>61.9</td>
<td>2.766</td>
<td>70.3</td>
<td>2.916</td>
<td>74.1</td>
</tr>
<tr>
<td>AL280W12-020</td>
<td>2(19)</td>
<td>0.376</td>
<td>9.6</td>
<td>0.966</td>
<td>24.5</td>
<td>1.046</td>
<td>26.6</td>
<td>2.523</td>
<td>64.1</td>
<td>2.653</td>
<td>72.5</td>
<td>3.003</td>
<td>76.3</td>
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<tr>
<td>AL280W12-030</td>
<td>3(19)</td>
<td>0.423</td>
<td>10.7</td>
<td>1.013</td>
<td>25.7</td>
<td>1.093</td>
<td>27.8</td>
<td>2.624</td>
<td>66.7</td>
<td>2.954</td>
<td>75.0</td>
<td>3.104</td>
<td>78.8</td>
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<tr>
<td>AL280W12-040</td>
<td>4(19)</td>
<td>0.475</td>
<td>12.1</td>
<td>1.065</td>
<td>27.1</td>
<td>1.145</td>
<td>28.1</td>
<td>2.796</td>
<td>71.0</td>
<td>3.126</td>
<td>79.4</td>
<td>3.296</td>
<td>83.7</td>
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<tr>
<td>AL280W12-250</td>
<td>250(37)</td>
<td>0.520</td>
<td>13.2</td>
<td>1.220</td>
<td>28.4</td>
<td>1.200</td>
<td>30.5</td>
<td>2.915</td>
<td>74.0</td>
<td>3.245</td>
<td>82.4</td>
<td>3.415</td>
<td>86.7</td>
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<tr>
<td>AL280W12-350</td>
<td>350(37)</td>
<td>0.616</td>
<td>15.6</td>
<td>1.216</td>
<td>30.9</td>
<td>1.296</td>
<td>32.9</td>
<td>3.123</td>
<td>79.5</td>
<td>3.453</td>
<td>87.7</td>
<td>3.623</td>
<td>92.0</td>
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<tr>
<td>AL280W12-500</td>
<td>500(37)</td>
<td>0.736</td>
<td>18.7</td>
<td>1.336</td>
<td>33.9</td>
<td>1.416</td>
<td>36.0</td>
<td>3.382</td>
<td>85.9</td>
<td>3.712</td>
<td>94.3</td>
<td>3.882</td>
<td>98.6</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.
### TABLE 2 - ENGINEERING SPECIFICATIONS

<table>
<thead>
<tr>
<th>HVTECK Product Code</th>
<th>Maximum Pulling Tension</th>
<th>DC Resistance @ 25°C [Ω/1000 ft.]</th>
<th>AC Resistance @ 50°C-60Hz [Ω/1000 ft.]</th>
<th>Inductance [L]</th>
<th>Capacitance [C]</th>
<th>Inductive Reactance @ 60Hz [Ω/1000 ft.]</th>
<th>Capacitive Reactance @ 60Hz [Ω/1000 ft.]</th>
<th>Positive - Sequence Impedance*</th>
<th>Zero - Sequence Impedance*</th>
<th>Short Circuit Current (each phase conductor) @ 60Hz</th>
<th>Allowable Ampacities in Ventilated Cable Tray †</th>
<th>Allowable Ampacities Directly Buried in Earth ‡</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL280W12-001</td>
<td>1506</td>
<td>0.211</td>
<td>0.892</td>
<td>0.265</td>
<td>0.670</td>
<td>0.1240</td>
<td>0.4069</td>
<td>0.0451</td>
<td>0.1480</td>
<td>0.0286 + j0.049</td>
<td>0.633 + j0.364</td>
<td>3.7</td>
</tr>
<tr>
<td>AL280W12-010</td>
<td>1901</td>
<td>0.168</td>
<td>0.551</td>
<td>0.211</td>
<td>0.693</td>
<td>0.1194</td>
<td>0.3917</td>
<td>0.0485</td>
<td>0.1591</td>
<td>0.0212 + j0.047</td>
<td>0.576 + j0.349</td>
<td>4.7</td>
</tr>
<tr>
<td>AL280W12-020</td>
<td>2396</td>
<td>0.133</td>
<td>0.436</td>
<td>0.167</td>
<td>0.549</td>
<td>0.1151</td>
<td>0.3776</td>
<td>0.0521</td>
<td>0.1709</td>
<td>0.0196 + j0.046</td>
<td>0.529 + j0.335</td>
<td>6.5</td>
</tr>
<tr>
<td>AL280W12-030</td>
<td>3020</td>
<td>0.105</td>
<td>0.345</td>
<td>0.1106</td>
<td>0.433</td>
<td>0.1086</td>
<td>0.3636</td>
<td>0.0563</td>
<td>0.1846</td>
<td>0.0132 + j0.044</td>
<td>0.490 + j0.319</td>
<td>7.4</td>
</tr>
<tr>
<td>AL280W12-040</td>
<td>3809</td>
<td>0.084</td>
<td>0.274</td>
<td>0.105</td>
<td>0.346</td>
<td>0.1068</td>
<td>0.3504</td>
<td>0.0609</td>
<td>0.1281</td>
<td>0.0132 + j0.042</td>
<td>0.458 + j0.302</td>
<td>9.4</td>
</tr>
<tr>
<td>AL280W12-050</td>
<td>4500</td>
<td>0.071</td>
<td>0.217</td>
<td>0.097</td>
<td>0.282</td>
<td>0.0943</td>
<td>0.3424</td>
<td>0.0629</td>
<td>0.1291</td>
<td>0.0126 + j0.041</td>
<td>0.437 + j0.266</td>
<td>11.1</td>
</tr>
<tr>
<td>AL280W12-060</td>
<td>6300</td>
<td>0.051</td>
<td>0.166</td>
<td>0.084</td>
<td>0.209</td>
<td>0.0990</td>
<td>0.3249</td>
<td>0.0723</td>
<td>0.2371</td>
<td>0.0112 + j0.038</td>
<td>0.402 + j0.261</td>
<td>15.5</td>
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<tr>
<td>AL280W12-070</td>
<td>9000</td>
<td>0.035</td>
<td>0.116</td>
<td>0.045</td>
<td>0.147</td>
<td>0.0629</td>
<td>0.2024</td>
<td>0.0204</td>
<td>0.0543</td>
<td>0.0145 + j0.037</td>
<td>0.371 + j0.234</td>
<td>22.2</td>
</tr>
</tbody>
</table>

* Calculations are based on 5 mil 25% over lapping 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