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.

## PRODUCT HIGHLIGHTS
Southwire’s 28KV HVTC is a CSA approved copper tape shielded cable for Industrial and Commercial medium voltage applications. FT4, -40°C, and 105°C rated for use in harsh Canadian environments. Rated for installation in cable trays, duct banks, direct burial, troughs, continuous rigid cable supports and concrete encaseable. For use in cable trays, exposed run and hazardous locations as per the limitations in the Canadian Electrical Code Part I, particularly Table 19.

## 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**
- TR-XLPE - (Tree Retardent Cross Linked Polyethylene)
- Thickness: 0.28 inches (7.11mm) - 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
- 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 PVC (optional colours available)
- Nominal Thickness:
  - No.1 AWG to 500 kcmil = 0.08 inches (2.03mm)
  - 750 kcmil = 0.11 inches (2.79mm)

**Typical Print Legend**
- (CSA) SOUTHWIRE [NESC] #P# (#AWG or #kcmil) CPT AL 280 TRXLPE 28KV 100% INS LEVEL 25% TS SUN RES TC-ER 105° FT4 (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

## TABLE 1 - WEIGHTS & MEASUREMENTS

<table>
<thead>
<tr>
<th>HVTC Product Code</th>
<th>AWG or Kcmil</th>
<th>Conductor Size</th>
<th>Conductor Diameter</th>
<th>Diameter Over Insulation</th>
<th>Diameter Over Insulation Shield</th>
<th>Approx. Overall Diameter</th>
<th>Approx. Overall Insulation Shield</th>
<th>Approx. Overall Shield</th>
<th>Min. Bend Radius</th>
<th>Approx. Weight of Cable</th>
<th>Max. Reel Weight [reel and cable]**</th>
<th>Overall Diameter / Width **</th>
<th>Max. Length of Cable on Reel **</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL280V34-001</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>24.6</td>
<td>1.149</td>
<td>23.2</td>
<td>13.8</td>
<td>350</td>
<td>593</td>
<td>1954</td>
</tr>
<tr>
<td>AL280V34-010</td>
<td>1/0(19)</td>
<td>0.336</td>
<td>8.5</td>
<td>0.926</td>
<td>23.5</td>
<td>1.006</td>
<td>25.6</td>
<td>1.186</td>
<td>30.1</td>
<td>14.2</td>
<td>361</td>
<td>638</td>
<td>2077</td>
</tr>
<tr>
<td>AL280V34-020</td>
<td>2/0(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>1.226</td>
<td>31.1</td>
<td>14.7</td>
<td>374</td>
<td>691</td>
<td>2220</td>
</tr>
<tr>
<td>AL280V34-030</td>
<td>3/0(19)</td>
<td>0.423</td>
<td>10.7</td>
<td>1.013</td>
<td>27.3</td>
<td>1.093</td>
<td>28.4</td>
<td>1.273</td>
<td>32.3</td>
<td>15.3</td>
<td>386</td>
<td>754</td>
<td>2393</td>
</tr>
<tr>
<td>AL280V34-040</td>
<td>4/0(19)</td>
<td>0.475</td>
<td>12.1</td>
<td>1.065</td>
<td>29.1</td>
<td>1.145</td>
<td>31.1</td>
<td>1.325</td>
<td>37.1</td>
<td>16.6</td>
<td>421</td>
<td>906</td>
<td>2642</td>
</tr>
<tr>
<td>AL280V34-250</td>
<td>250(37)</td>
<td>0.520</td>
<td>13.2</td>
<td>1.120</td>
<td>31.9</td>
<td>1.200</td>
<td>34.1</td>
<td>1.380</td>
<td>43.1</td>
<td>18.4</td>
<td>471</td>
<td>1064</td>
<td>2999</td>
</tr>
<tr>
<td>AL280V34-350</td>
<td>350(37)</td>
<td>0.616</td>
<td>15.6</td>
<td>1.216</td>
<td>35.9</td>
<td>1.296</td>
<td>37.9</td>
<td>1.476</td>
<td>47.9</td>
<td>20.5</td>
<td>527</td>
<td>1235</td>
<td>3423</td>
</tr>
<tr>
<td>AL280V34-450</td>
<td>450(37)</td>
<td>0.736</td>
<td>18.7</td>
<td>1.336</td>
<td>39.3</td>
<td>1.396</td>
<td>41.3</td>
<td>1.616</td>
<td>52.6</td>
<td>22.2</td>
<td>603</td>
<td>1492</td>
<td>3856</td>
</tr>
<tr>
<td>AL280V34-750</td>
<td>750(61)</td>
<td>0.908</td>
<td>23.1</td>
<td>1.518</td>
<td>45.6</td>
<td>1.598</td>
<td>48.6</td>
<td>1.838</td>
<td>60.9</td>
<td>24.1</td>
<td>721</td>
<td>1882</td>
<td>4424</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.
### HVTC SPECIFICATIONS

**HVTC AL 1/C 280TRXLPE TS PVC 28KV 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. 230 - Tray Cables
- 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./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.)

**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>HVTC Product Code</th>
<th>Maximum Pulling Tension</th>
<th>DC Resistance @ 25°C Rdc</th>
<th>AC Resistance @ 90°C 60Hz (triplex formation) Rac</th>
<th>Inductance L</th>
<th>Capacitance C</th>
<th>Inductive Reactance @ 60Hz (triplexed) Xl</th>
<th>Capacitive Reactance @ 60Hz (triplexed) Xc</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>AL280V34-001</td>
<td>502 lb</td>
<td>0.211 Ω/1000 ft.</td>
<td>0.892 Ω/km</td>
<td>0.925 Ω/1000 ft.</td>
<td>0.870 Ω/1000 ft.</td>
<td>0.1240 μH/1000 ft.</td>
<td>0.0358 μH/1000 ft.</td>
<td>0.0467 Ω/1000 ft.</td>
<td>0.0226 Ω/1000 ft.</td>
<td>0.266 + j0.053 Ω/1000 ft.</td>
<td>3.9 kAmps</td>
<td>193 Amps</td>
</tr>
<tr>
<td>AL280V34-010</td>
<td>634 lb</td>
<td>0.168 Ω/1000 ft.</td>
<td>0.751 Ω/km</td>
<td>0.893 Ω/1000 ft.</td>
<td>0.834 Ω/1000 ft.</td>
<td>0.1080 μH/1000 ft.</td>
<td>0.0391 μH/1000 ft.</td>
<td>0.0450 Ω/1000 ft.</td>
<td>0.0210 Ω/1000 ft.</td>
<td>0.168 + j0.049 Ω/1000 ft.</td>
<td>5.0 kAmps</td>
<td>221 Amps</td>
</tr>
<tr>
<td>AL280V34-020</td>
<td>799 lb</td>
<td>0.133 Ω/1000 ft.</td>
<td>0.657 Ω/km</td>
<td>0.869 Ω/1000 ft.</td>
<td>0.800 Ω/1000 ft.</td>
<td>0.0933 μH/1000 ft.</td>
<td>0.0376 μH/1000 ft.</td>
<td>0.0434 Ω/1000 ft.</td>
<td>0.0196 Ω/1000 ft.</td>
<td>0.168 + j0.049 Ω/1000 ft.</td>
<td>6.3 kAmps</td>
<td>253 Amps</td>
</tr>
<tr>
<td>AL280V34-030</td>
<td>1007 lb</td>
<td>0.105 Ω/1000 ft.</td>
<td>0.545 Ω/km</td>
<td>0.840 Ω/1000 ft.</td>
<td>0.766 Ω/1000 ft.</td>
<td>0.0802 μH/1000 ft.</td>
<td>0.0317 μH/1000 ft.</td>
<td>0.0418 Ω/1000 ft.</td>
<td>0.0181 Ω/1000 ft.</td>
<td>0.168 + j0.047 Ω/1000 ft.</td>
<td>7.9 kAmps</td>
<td>288 Amps</td>
</tr>
<tr>
<td>AL280V34-040</td>
<td>1270 lb</td>
<td>0.094 Ω/1000 ft.</td>
<td>0.467 Ω/km</td>
<td>0.840 Ω/1000 ft.</td>
<td>0.726 Ω/1000 ft.</td>
<td>0.0761 μH/1000 ft.</td>
<td>0.0304 μH/1000 ft.</td>
<td>0.0405 Ω/1000 ft.</td>
<td>0.0173 Ω/1000 ft.</td>
<td>0.168 + j0.047 Ω/1000 ft.</td>
<td>9.9 kAmps</td>
<td>327 Amps</td>
</tr>
<tr>
<td>AL280V34-050</td>
<td>1500 lb</td>
<td>0.071 Ω/1000 ft.</td>
<td>0.329 Ω/km</td>
<td>0.814 Ω/1000 ft.</td>
<td>0.680 Ω/1000 ft.</td>
<td>0.0670 μH/1000 ft.</td>
<td>0.0270 μH/1000 ft.</td>
<td>0.0390 Ω/1000 ft.</td>
<td>0.0169 Ω/1000 ft.</td>
<td>0.168 + j0.047 Ω/1000 ft.</td>
<td>11.8 kAmps</td>
<td>387 Amps</td>
</tr>
<tr>
<td>AL280V34-060</td>
<td>1900 lb</td>
<td>0.060 Ω/1000 ft.</td>
<td>0.256 Ω/km</td>
<td>0.769 Ω/1000 ft.</td>
<td>0.631 Ω/1000 ft.</td>
<td>0.0615 μH/1000 ft.</td>
<td>0.0243 μH/1000 ft.</td>
<td>0.0370 Ω/1000 ft.</td>
<td>0.0163 Ω/1000 ft.</td>
<td>0.168 + j0.047 Ω/1000 ft.</td>
<td>16.6 kAmps</td>
<td>443 Amps</td>
</tr>
<tr>
<td>AL280V34-070</td>
<td>2350 lb</td>
<td>0.051 Ω/1000 ft.</td>
<td>0.207 Ω/km</td>
<td>0.725 Ω/1000 ft.</td>
<td>0.580 Ω/1000 ft.</td>
<td>0.0551 μH/1000 ft.</td>
<td>0.0224 μH/1000 ft.</td>
<td>0.0355 Ω/1000 ft.</td>
<td>0.0158 Ω/1000 ft.</td>
<td>0.168 + j0.047 Ω/1000 ft.</td>
<td>21.6 kAmps</td>
<td>529 Amps</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
*** 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.