### HVTECK SPECIFICATIONS

### HVTECK CU 1/C 320TRXLPE CB PVC AIA PVC 25KV 133% 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 encasable. 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: 0.32 inches (8.13mm) - nominal
  - Insulation level: 133%
  - **105°C rated**

- **Insulation Shield**
  - Extruded Semi-conducting thermosetting polymeric layer
  - Cored Semiconductor, extruded Semi-Conducting layer on surface

- **Armour**
  - Aluminum Interlocked Armour (AIA)
  - Optional Galvanized Steel Interlocked Armour (GSA)

- **Overall Jacket**
  - Black PVC (optional colours available)
  - Nominal Thickness:
    - No.1 AWG to 500 kcmil = 0.06 inches (1.52mm)
    - 750 kcmil to 1000 kcmil = 0.075 inches (1.91mm)

- **Typical Print Legend**
  - (CSA) SOUTHWIRE (NESC) #P# (#AWG or #kcmil) CU 320 TRXLPE AIA 25KV 133% 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</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>Approx. Overall Weight of Cable</th>
<th>Min. Bend Radius</th>
<th>Max. Reel Weight</th>
<th>Max. Reel Diameter/Width **</th>
<th>Max. Length of Cable on Reel **</th>
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<tbody>
<tr>
<td>CU320Z55-001</td>
<td>1(19)</td>
<td>0.322</td>
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**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
- IEEE 1202 - Flame Test - (70,000 BTU/Hr.)
- CSA C22.2 No. 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 383 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- CSA HL - for Hazardous Locations rating
- CSA FT4 - 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
- 250°C for Short Circuit Temperature

**TABLE 2 - ENGINEERING SPECIFICATIONS**

| HVTECK Product Code | Maximum Pulling Tension | DC Resistance @ 25°C RΩ | AC Resistance @ 50°C-60 Hz (triplex formation) RAC | Inductance L | Capacitance C | Inductive Reactance @ 60Hz (triplexed) XL | Capacitive Reactance @ 60Hz (triplexed) Xc | Positive - Sequence Impedance* | Zero - Sequence Impedance* | Short Circuit Current (each phase conductor) @ 60Hz | Allowable Ampacities in Ventilated Cable Tray | Allowable Ampacities Directly Buried in Earth |
|---------------------|-------------------------|-------------------------|-----------------------------------------------|---------------|----------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| CU320Z55-001        | 670                     | 0.129                    | 0.423                                         | 0.161         | 0.529          | 0.1262                                         | 0.4140                                        | 0.0346                                        | 0.1137                                        | 0.0476                                        | 0.1561                                        | 0.0766                                         | 0.233                                         | 0.164 + j0.060                                 | 0.383 + j0.120                               | 6.0                                           | 245                                           | 244                                           |
| CU320Z55-010        | 845                     | 0.102                    | 0.335                                         | 0.128         | 0.419          | 0.1214                                         | 0.3895                                        | 0.0372                                        | 0.1221                                        | 0.0458                                        | 0.1502                                        | 0.0713                                         | 0.217                                         | 0.130 + j0.058                                 | 0.349 + j0.118                               | 7.6                                           | 278                                           | 272                                           |
| CU320Z55-020        | 1065                    | 0.081                    | 0.266                                         | 0.101         | 0.333          | 0.1171                                         | 0.3842                                        | 0.0399                                        | 0.1310                                        | 0.0441                                        | 0.1448                                        | 0.0664                                         | 0.202                                         | 0.104 + j0.056                                 | 0.323 + j0.117                               | 9.6                                           | 316                                           | 303                                           |
| CU320Z55-030        | 1342                    | 0.064                    | 0.211                                         | 0.080         | 0.264          | 0.1127                                         | 0.3697                                        | 0.0431                                        | 0.1415                                        | 0.0425                                        | 0.1394                                        | 0.0615                                         | 0.187                                         | 0.083 + j0.054                                 | 0.268 + j0.090                               | 12.1                                          | 356                                           | 333                                           |
| CU320Z55-040        | 1693                    | 0.051                    | 0.167                                         | 0.084         | 0.210          | 0.1086                                         | 0.3562                                        | 0.0466                                        | 0.1529                                        | 0.0409                                        | 0.1343                                        | 0.0569                                         | 0.174                                         | 0.067 + j0.052                                 | 0.252 + j0.088                               | 15.2                                          | 403                                           | 367                                           |
| CU320Z55-050        | 2000                    | 0.043                    | 0.141                                         | 0.054         | 0.178          | 0.1062                                         | 0.3483                                        | 0.0489                                        | 0.1605                                        | 0.0400                                        | 0.1373                                        | 0.0542                                         | 0.185                                         | 0.058 + j0.050                                 | 0.206 + j0.086                               | 18.0                                          | 465                                           | 411                                           |
| CU320Z55-060        | 2600                    | 0.031                    | 0.101                                         | 0.039         | 0.129          | 0.1007                                         | 0.3304                                        | 0.0551                                        | 0.1808                                        | 0.0390                                        | 0.1246                                        | 0.0481                                         | 0.147                                         | 0.043 + j0.047                                 | 0.164 + j0.054                               | 25.2                                          | 537                                           | 469                                           |
| CU320Z55-070        | 4000                    | 0.014                    | 0.047                                         | 0.019         | 0.062          | 0.0964                                         | 0.2865                                        | 0.0724                                        | 0.2376                                        | 0.0341                                        | 0.1118                                        | 0.0366                                         | 0.0112                                        | 0.025 + j0.041                                 | 0.101 + j0.034                               | 53.9                                          | 716                                           | 557                                           |
| CU320Z55-1000       | 8000                    | 0.011                    | 0.035                                         | 0.015         | 0.049          | 0.0869                                         | 0.2651                                        | 0.0810                                        | 0.2659                                        | 0.0328                                        | 0.1075                                        | 0.0327                                         | 0.0100                                        | 0.021 + j0.040                                 | 0.097 + j0.033                               | 71.9                                          | 825                                           | 608                                           |

* 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