



HVTECK AL 1/C 260TRXLPE TS PVC AIA PVC 25kV 100% CSA

Single Conductor, 260 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

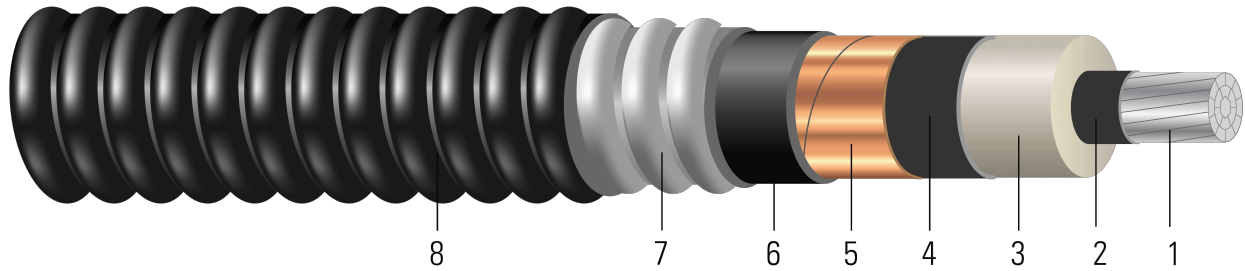


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
2. **Conductor Shield:** Semi-conducting cross-linked copolymer; A conductor separator is used for cable size larger than or equal to 500 Kcmil
3. **Insulation:** 260 Mils Tree Retardant Cross Linked Polyethylene 100% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
6. **Inner Jacket:** PVC inner jacket
7. **Armor:** Aluminum Interlocked Armour (AIA)
8. **Overall Jacket:** Black Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 25kV HVTECK is a CSA armoured cable for industrial and commercial medium voltage applications. Rated FT4, -40°C, Hazardous Locations (HL). These cables are capable of operating continuously at the conductor temperature not in excess of 105°C for normal operation, 140°C for emergency overload, and 250°C for short circuit conditions. Rated for 1000 lbs /FT maximum sidewall pressure. These cables feature sunlight and moisture resistance, exceptional corona resistance, resistance to most chemical soils and acids and are flame retardant.

SPECIFICATIONS:

- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- CSA C22.2 No. 174 Cables in Hazardous Locations
- CSA C22.2 No. 2556 & No. 0.3 Wire and Cable Test Methods
- 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 LTGG [-40°C] - as per C68.10 - for Cold Bend and Impact rating
- CSA HL - for Hazardous Locations rating
- CSA SUN RES - for Sunlight Resistant rating
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- ICEA T-29-520 Flame Test (210,000 BTU/Hr)
- IEEE 383 Flame Test (70,000 btu)
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)





- FT1 Flame Test (1,706 BTU/Hr nominal - Vertical Wire Flame Test)
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)

SAMPLE PRINT LEGEND:

(CSA) SOUTHWIRE (NESC) #P# 1/C [#AWG or #kcmil] CPT AL 260 TRXLPE AIA 25kV 100% INS LEVEL 25% TS SUN RES 105°C FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

Table 1 – Weights and Measurements

| Cond. Size | Strand | Diameter Over Conductor | Diameter Over Insulation | Insul. Thickness | Diameter Over Insulation Shield | Inner Jacket Thickness | Dia. Over Armour | Overall Jacket Thickness | Approx. OD | Approx. Weight |
|------------|--------|-------------------------|--------------------------|------------------|---------------------------------|------------------------|------------------|--------------------------|------------|----------------|
| AWG/ Kcmil | No. | inch | inch | mil | inch | mil | inch | mil | inch | lb/1000ft |
| 1 | 19 | 0.298 | 0.856 | 260 | 0.916 | 80 | 1.428 | 50 | 1.528 | 890 |
| 1/0 | 19 | 0.336 | 0.894 | 260 | 0.954 | 80 | 1.466 | 50 | 1.566 | 948 |
| 2/0 | 19 | 0.376 | 0.934 | 260 | 0.994 | 80 | 1.506 | 60 | 1.626 | 1043 |
| 3/0 | 19 | 0.422 | 0.980 | 260 | 1.040 | 80 | 1.552 | 60 | 1.672 | 1119 |
| 4/0 | 19 | 0.474 | 1.032 | 260 | 1.092 | 80 | 1.604 | 60 | 1.724 | 1210 |
| 250 | 37 | 0.520 | 1.086 | 260 | 1.146 | 80 | 1.682 | 60 | 1.802 | 1337 |
| 350 | 37 | 0.615 | 1.181 | 260 | 1.241 | 80 | 1.777 | 60 | 1.897 | 1523 |
| 500 | 37 | 0.735 | 1.301 | 260 | 1.361 | 80 | 1.897 | 60 | 2.017 | 1878 |
| 750 | 61 | 0.908 | 1.484 | 260 | 1.544 | 110 | 2.140 | 60 | 2.260 | 2436 |
| 1000 | 61 | 1.060 | 1.636 | 260 | 1.696 | 110 | 2.292 | 75 | 2.442 | 2913 |

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

* Strand count meets minimum number per ASTM

TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.





Table 2 – Electrical and Engineering Data

| Cond. Size | Min Bending Radius | Max Pull Tension | DC Resistance @ 25°C | AC Resistance @ 90°C | Capacitive Reactance @ 60Hz | Inductive Reactance @ 60Hz | Zero Sequence Impedance | Positive Sequence Impedance | Phase Short Circuit Current @ 6 Cycles | Allowable Ampacity In Air 90°C | Allowable Ampacity Directly Buried 90°C |
|------------|--------------------|------------------|----------------------|----------------------|-----------------------------|----------------------------|-------------------------|-----------------------------|--|--------------------------------|---|
| AWG/Kcmil | inch | lb | Ω/1000ft | Ω/1000ft | MΩ*1000ft | Ω/1000ft | Ω/1000ft | Ω/1000ft | Amp | Amp | Amp |
| 1 | 18.3 | 502 | 0.211 | 0.266 | 0.067 | 0.059 | 0.626 + j0.380 | 0.267 + j0.058 | 2869 | 193 | 194 |
| 1/0 | 18.8 | 633 | 0.168 | 0.211 | 0.062 | 0.057 | 0.569 + j0.365 | 0.212 + j0.056 | 2986 | 221 | 219 |
| 2/0 | 19.5 | 798 | 0.133 | 0.167 | 0.058 | 0.055 | 0.523 + j0.350 | 0.168 + j0.054 | 3110 | 253 | 246 |
| 3/0 | 20.1 | 1006 | 0.105 | 0.133 | 0.054 | 0.053 | 0.486 + j0.333 | 0.134 + j0.052 | 3253 | 288 | 275 |
| 4/0 | 20.7 | 1269 | 0.084 | 0.105 | 0.050 | 0.051 | 0.455 + j0.316 | 0.106 + j0.050 | 3414 | 327 | 305 |
| 250 | 21.6 | 1500 | 0.071 | 0.090 | 0.047 | 0.050 | 0.435 + j0.300 | 0.091 + j0.049 | 3581 | 367 | 343 |
| 350 | 22.8 | 2100 | 0.050 | 0.065 | 0.041 | 0.048 | 0.402 + j0.273 | 0.066 + j0.046 | 3875 | 443 | 399 |
| 500 | 24.2 | 3000 | 0.035 | 0.046 | 0.036 | 0.045 | 0.373 + j0.244 | 0.047 + j0.043 | 4247 | 529 | 451 |
| 750 | 27.1 | 4500 | 0.024 | 0.033 | 0.031 | 0.043 | 0.342 + j0.208 | 0.034 + j0.041 | 4814 | 633 | 505 |
| 1000 | 29.3 | 6000 | 0.018 | 0.026 | 0.027 | 0.041 | 0.321 + j0.184 | 0.027 + j0.040 | 5285 | 711 | 544 |

* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.

* CEC ampacities are based on:

3-1/C in air copper and aluminum: D17M

3-1/C direct buried copper and aluminum: D17A

Table 3 – Weights and Measurements (Metric)

| Cond. Size | Strand | Diameter Over Conductor | Diameter Over Insulation | Insul. Thickness | Diameter Over Insulation Shield | Inner Jacket Thickness | Dia. Over Armour | Overall Jacket Thickness | Approx. OD | Approx. Weight |
|------------|--------|-------------------------|--------------------------|------------------|---------------------------------|------------------------|------------------|--------------------------|------------|----------------|
| AWG/Kcmil | No. | mm | mm | mm | mm | mm | mm | mm | mm | kg/km |
| 1 | 19 | 7.57 | 21.74 | 6.60 | 23.27 | 2.03 | 36.27 | 1.27 | 38.81 | 1324 |
| 1/0 | 19 | 8.53 | 22.71 | 6.60 | 24.23 | 2.03 | 37.24 | 1.27 | 39.78 | 1411 |
| 2/0 | 19 | 9.55 | 23.72 | 6.60 | 25.25 | 2.03 | 38.25 | 1.52 | 41.30 | 1552 |
| 3/0 | 19 | 10.72 | 24.89 | 6.60 | 26.42 | 2.03 | 39.42 | 1.52 | 42.47 | 1665 |
| 4/0 | 19 | 12.04 | 26.21 | 6.60 | 27.74 | 2.03 | 40.74 | 1.52 | 43.79 | 1801 |
| 250 | 37 | 13.21 | 27.58 | 6.60 | 29.11 | 2.03 | 42.72 | 1.52 | 45.77 | 1990 |
| 350 | 37 | 15.62 | 30.00 | 6.60 | 31.52 | 2.03 | 45.14 | 1.52 | 48.18 | 2266 |
| 500 | 37 | 18.67 | 33.05 | 6.60 | 34.57 | 2.03 | 48.18 | 1.52 | 51.23 | 2795 |
| 750 | 61 | 23.06 | 37.69 | 6.60 | 39.22 | 2.79 | 54.36 | 1.52 | 57.40 | 3625 |
| 1000 | 61 | 26.92 | 41.55 | 6.60 | 43.08 | 2.79 | 58.22 | 1.91 | 62.03 | 4335 |

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Table 4 – Electrical and Engineering Data (Metric)

| Cond. Size | Min Bending Radius | Max Pull Tension | DC Resistance @ 25°C | AC Resistance @ 90°C | Capacitive Reactance @ 60Hz | Inductive Reactance @ 60Hz | Zero Sequence Impedance | Positive Sequence Impedance | Phase Short Circuit Current @ 6 Cycles | Allowable Ampacity In Air 90°C | Allowable Ampacity Directly Buried 90°C |
|---------------|--------------------|------------------|----------------------|----------------------|-----------------------------|----------------------------|-------------------------|-----------------------------|--|--------------------------------|---|
| AWG/ Kcmil | mm | newton | Ω/km | Ω/km | MΩ*km | Ω/km | Ω/1000ft | Ω/1000ft | Amp | Amp | Amp |
| 1 | 464.82 | 2234 | 0.6923 | 0.87 | 0.0204 | 0.1936 | 0.626 + j0.380 | 0.267 + j0.058 | 2869 | 193 | 194 |
| 1/0 | 477.52 | 2817 | 0.5512 | 0.69 | 0.0189 | 0.1870 | 0.569 + j0.365 | 0.212 + j0.056 | 2986 | 221 | 219 |
| 2/0 | 495.30 | 3551 | 0.4364 | 0.55 | 0.0177 | 0.1804 | 0.523 + j0.350 | 0.168 + j0.054 | 3110 | 253 | 246 |
| 3/0 | 510.54 | 4477 | 0.3445 | 0.44 | 0.0165 | 0.1739 | 0.486 + j0.333 | 0.134 + j0.052 | 3253 | 288 | 275 |
| 4/0 | 525.78 | 5647 | 0.2756 | 0.34 | 0.0152 | 0.1673 | 0.455 + j0.316 | 0.106 + j0.050 | 3414 | 327 | 305 |
| 250 | 548.64 | 6675 | 0.2329 | 0.30 | 0.0143 | 0.1640 | 0.435 + j0.300 | 0.091 + j0.049 | 3581 | 367 | 343 |
| 350 | 579.12 | 9345 | 0.1640 | 0.21 | 0.0125 | 0.1575 | 0.402 + j0.273 | 0.066 + j0.046 | 3875 | 443 | 399 |
| 500 | 614.68 | 13350 | 0.1148 | 0.15 | 0.0110 | 0.1476 | 0.373 + j0.244 | 0.047 + j0.043 | 4247 | 529 | 451 |
| 750 | 688.34 | 20025 | 0.0787 | 0.11 | 0.0094 | 0.1411 | 0.342 + j0.208 | 0.034 + j0.041 | 4814 | 633 | 505 |
| 1000 | 744.22 | 26700 | 0.0591 | 0.09 | 0.0082 | 0.1345 | 0.321 + j0.184 | 0.027 + j0.040 | 5285 | 711 | 544 |

* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.

* CEC ampacities are based on:

3-1/C in air copper and aluminum: D17M

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