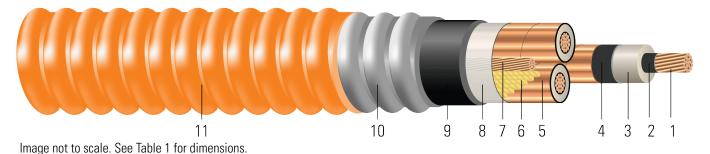


HVTECK CU 3/C 90TRXLPE TS PVC AIA PVC 5kV 100% CSA

3 Conductor, 90 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket



CONSTRUCTION:

- 1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8
- 2. **Conductor Shield:** Semi-conducting cross-linked copolymer
- 3. Insulation: 90 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. Filler: Non-wicking, non-hygroscopic and flame retardant polypropylene filler
- 7. **Grounding Conductor:** Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8
- 8. Binder: Polypropylene tape
- 9. Inner Jacket: PVC inner jacket
- 10. Armour: Aluminum Interlocked Armour (AIA)
- 11. **Overall Jacket:** Orange Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 5kV 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 B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper 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
- 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# 3/C [#AWG or #kcmil] CU 90 TRXLPE AIA 5kV 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 | Ground Size | Inner Jacket Thickness | Dia. Over Armour | Overall Jacket Thickness | Approx. OD | Copper Weight | Approx. Weight |
|---------------|--------|-------------------------------|--------------------------------|---------------------|---------------------------------------|----------------|---------------------------|---------------------|--------------------------------|---------------|------------------|-------------------|
| AWG/ Kcmil | No. | inch | inch | mil | inch | AWG | mil | inch | mil | inch | lb/1000ft | lb/1000ft |
| 1 | 19 | 0.322 | 0.540 | 90 | 0.600 | 6 | 80 | 1.855 | 60 | 1.975 | 899 | 2130 |

All dimensions are nominal and subject to normal manufacturing tolerances

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 | 13.8 | 2008 | 0.128 | 0.162 | 0.030 | 0.037 | 0.531 + j0.518 | 0.162 + j0.037 | 1889 | 197 | 228 |

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

Table 3 – Weights and Measurements (Metric)

| Cond. Size | Strand | Diameter Over Conductor | Diameter Over Insulation | Insul. Thickness | Diameter Over Insulation Shield | Ground Size | Inner Jacket Thickness | Dia. Over Armour | Overall Jacket Thickness | Approx. OD | Copper Weight | Approx. Weight |
|---------------|--------|-------------------------------|--------------------------------|---------------------|---------------------------------------|----------------|---------------------------|---------------------|--------------------------------|---------------|------------------|-------------------|
| AWG/ Kcmil | No. | mm | mm | mm | mm | AWG | mm | mm | mm | mm | kg/km | kg/km |
| 1 | 19 | 8.18 | 13.72 | 2.29 | 15.24 | 6 | 2.03 | 47.12 | 1.52 | 50.17 | 1338 | 3170 |

All dimensions are nominal and subject to normal manufacturing tolerances



[♦] Cable marked with this symbol is a standard stock item

¹ Comply with ICEA S-93-639 Appendix C for jacket thickness determination

^{*} 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 Canadian Electrical Code Part I (40°C Ambient Air Temperature, indoor installation)

^{*} Ampacities are based on Table D17E of the Canadian Electrical Code Part I

^{*} CEC ampacities are based on:

^{3/}C in air copper and aluminum: D17N

^{3/}C direct buried copper and aluminum: D17E

[♦] Cable marked with this symbol is a standard stock item

¹ Comply with ICEA S-93-639 Appendix C for jacket thickness determination

Stock # TBA | SPEC 26151

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 | 350.52 | 8936 | 0.4199 | 0.53 | 0.0091 | 0.1214 | 0.531 + j0.518 | 0.162 + j0.037 | 1889 | 197 | 228 |

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

3/C in air copper and aluminum: D17N

3/C direct buried copper and aluminum: D17E



^{*} 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 Canadian Electrical Code Part I (40°C Ambient Air Temperature, indoor installation)

^{*} Ampacities are based on Table D17E of the Canadian Electrical Code Part I

^{*} CEC ampacities are based on: