

# **HVTECK AL 1/C 220TRXLPE CB PVC AIA PVC 15kV 133% CSA**

Single Conductor, 220 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Concentric Bond, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

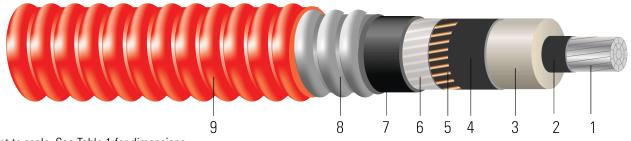


Image not to scale. See Table 1 for dimensions.

#### **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**: 220 Mils Tree Retardant Cross Linked Polyethylene 133% insulation level
- 4. Insulation Shield: Strippable semi-conducting cross-linked copolymer
- 5. **Concentric Shield:** Concentrically applied copper bond / shield wires. Complies with greater than the minimum requirement as per Table 44, CSA Standard C68.10 and Table 16A, Canadian Electrical Code Part 1
- 6. **Neutral Separator:** Mylar tape
- 7. Inner Jacket: PVC inner jacket
- 8. Armour: Aluminum Interlocked Armour (AIA)
- 9. Overall Jacket: Red Polyvinyl Chloride (PVC) Jacket

#### **APPLICATIONS AND FEATURES:**

Southwire's 15kV 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 220 TRXLPE AIA 15kV 133% INS LEVEL CB [No. x SIZE] AWG 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	Concentric Neutral	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
AWG/ Kcmil	No.	inch	inch	mil	inch	No. x AWG	mil	inch	mil	inch	lb/1000ft
3/0	19	0.422	0.900	220	0.960	11x14	80	1.580	60	1.700	1195

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
3/0	20.4	1006	0.105	0.133	0.048	0.054	0.488 + j0.360	0.134 + j0.052	8577	290	278

<sup>\*</sup> 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	Concentric Neutral	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
AWG/ Kcmil	No.	mm	mm	mm	mm	No. x AWG	mm	mm	mm	mm	kg/km
3/0	19	10.72	22.86	5.59	24.38	11x14	2.03	40.13	1.52	43.18	1778

All dimensions are nominal and subject to normal manufacturing tolerances



<sup>♦</sup> Cable marked with this symbol is a standard stock item

<sup>\*</sup> Strand count meets minimum number per ASTM

<sup>\*</sup> CEC ampacities are based on:

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

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

<sup>♦</sup> Cable marked with this symbol is a standard stock item

<sup>\*</sup> Strand count meets minimum number per ASTM



## **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
3/0	518.16	4477	0.3445	0.44	0.0146	0.1772	0.488 + j0.360	0.134 + j0.052	8577	290	278

<sup>\*</sup> Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.



<sup>\*</sup> CEC ampacities are based on:

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

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