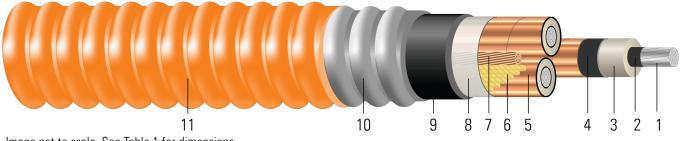


# **HVTECK AL 3/C 90NLEPR TS PVC AIA PVC 5kV 100% CSA**

3 Conductor, 90 Mils No Lead Ethylene Propylene Rubber (NL-EPR), 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**: 90 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 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:** Interstices filled with non-hydroscoping/non-wicking fillers
- 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 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
- 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] CPT AL 90 NLEPR 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		Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
AWG/ Kcmil	No.	inch	inch	mil	inch	AWG	mil	inch	mil	inch	lb/1000ft
1/0	19	0.336	0.554	90	0.614	6	80	1.885	60	2.005	1622

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
1/0	14.0	1900	0.168	0.211	0.020	0.036	0.581 + j0.508	0.211 + j0.035	1933	176	202

<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		Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
AWG/ Kcmil	No.	mm	mm	mm	mm	AWG	mm	mm	mm	mm	kg/km
1/0	19	8.53	14.07	2.29	15.60	6	2.03	47.88	1.52	50.93	2414

All dimensions are nominal and subject to normal manufacturing tolerances

# Table 4 – Electrical and Engineering Data (Metric)

1/0	355.60	8455	0.5512	0.69	0.0061	0.1181	0.581 + j0.508	0.211 + j0.035	1933	176	202



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

<sup>\*</sup> 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.

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

<sup>3/</sup>C in air copper and aluminum: D17N

<sup>3/</sup>C direct buried copper and aluminum: D17E

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

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

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- \* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
- \* CEC ampacities are based on:
- 3/C in air copper and aluminum: D17N
- 3/C direct buried copper and aluminum: D17E

