HVTECK AL 3/C 175NLEPR TS PVC AIA PVC 15kV 100% CSA

3 Conductor, 175 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

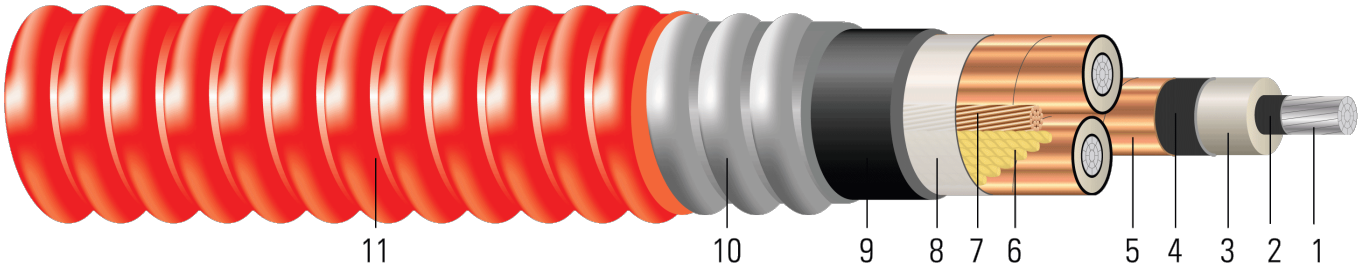

Image not to scale. See Table 1 for dimensions.

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:** 175 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:** 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
- 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

SAMPLE PRINT LEGEND:

(CSA) SOUTHWIRE (NESC) #P# 3/C [#AWG or #kcmil] CPT AL 175 NLEPR AIA 15kV 100% INS LEVEL 25% TS SUN RES 105°C FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

Table 1 – Weights and Measurements

Stock Number	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	Approx. Weight
	AWG/ Kcmil	No.	inch	inch	mil	inch	AWG	mil	inch	mil	inch	lb/1000ft
TBA	2	7	0.268	0.656	175	0.716	8	110	2.165	60	2.285	2116
TBA	1	19	0.298	0.686	175	0.746	6	110	2.230	60	2.350	2253
TBA	1/0	19	0.336	0.724	175	0.784	6	110	2.312	75	2.462	2501
TBA	2/0	19	0.376	0.764	175	0.824	6	110	2.399	75	2.549	2703
TBA	3/0	19	0.422	0.810	175	0.870	6	110	2.498	75	2.648	2942
578144^	4/0	18	0.474	0.863	175	0.923	4	110	2.607	60	2.727	3356
578135^	250	35	0.520	0.916	175	0.976	4	110	2.721	60	2.841	3856
TBA	350	37	0.615	1.011	175	1.071	4	110	2.932	75	3.082	4102
TBA	500	37	0.735	1.131	175	1.191	3	125	3.221	85	3.391	5080
578149^	750	58	0.908	1.326	175	1.406	1/0	125	3.700	70	3.840	6668

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

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 @ 60Hz	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
2	15.9	1194	0.267	0.336	0.046	0.045	0.71 + j0.47	0.336 + j0.045	2218	135	157
1	16.4	1506	0.211	0.266	0.043	0.043	0.641 + j0.453	0.266 + j0.042	2311	154	178
1/0	17.2	1900	0.168	0.211	0.040	0.042	0.586 + j0.434	0.211 + j0.04	2429	176	202
2/0	17.8	2395	0.133	0.167	0.036	0.040	0.541 + j0.415	0.167 + j0.039	2552	204	229
3/0	18.5	3020	0.105	0.133	0.033	0.039	0.506 + j0.394	0.133 + j0.037	2695	234	260
4/0	19.0	3808	0.084	0.105	0.031	0.037	0.476 + j0.372	0.105 + j0.036	2856	268	294
250	19.8	4500	0.071	0.090	0.029	0.037	0.457 + j0.352	0.09 + j0.035	3024	296	323
350	21.5	6300	0.050	0.065	0.025	0.035	0.425 + j0.319	0.065 + j0.033	3318	363	386
500	23.7	9000	0.035	0.046	0.022	0.033	0.396 + j0.283	0.046 + j0.032	3689	447	465
750	26.8	13500	0.024	0.033	0.019	0.032	0.365 + j0.238	0.033 + j0.03	4257	566	563

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

Table 3 – Weights and Measurements (Metric)

Stock Number	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	Approx. Weight
	AWG/ Kcmil	No.	mm	mm	mm	mm	AWG	mm	mm	mm	mm	kg/km
TBA	2	7	6.81	16.66	4.44	18.19	8	2.79	54.99	1.52	58.04	3149
TBA	1	19	7.57	17.42	4.44	18.95	6	2.79	56.64	1.52	59.69	3353
TBA	1/0	19	8.53	18.39	4.44	19.91	6	2.79	58.72	1.91	62.53	3722
TBA	2/0	19	9.55	19.41	4.44	20.93	6	2.79	60.93	1.91	64.74	4023
TBA	3/0	19	10.72	20.57	4.44	22.10	6	2.79	63.45	1.91	67.26	4378
578144^	4/0	18	12.04	21.92	4.44	23.44	4	2.79	66.22	1.52	69.27	4994
578135^	250	35	13.21	23.27	4.44	24.79	4	2.79	69.11	1.52	72.16	5738
TBA	350	37	15.62	25.68	4.44	27.20	4	2.79	74.47	1.91	78.28	6104
TBA	500	37	18.67	28.73	4.44	30.25	3	3.18	81.81	2.16	86.13	7560
578149^	750	58	23.06	33.68	4.44	35.71	1/0	3.18	93.98	1.78	97.54	9923

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

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 @ 60Hz	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
2	403.86	5313	0.8760	1.10	0.0140	0.1476	0.71 + j0.47	0.336 + j0.045	2218	135	157
1	416.56	6702	0.6923	0.87	0.0131	0.1411	0.641 + j0.453	0.266 + j0.042	2311	154	178
1/0	436.88	8455	0.5512	0.69	0.0122	0.1378	0.586 + j0.434	0.211 + j0.04	2429	176	202
2/0	452.12	10658	0.4364	0.55	0.0110	0.1312	0.541 + j0.415	0.167 + j0.039	2552	204	229
3/0	469.90	13439	0.3445	0.44	0.0101	0.1280	0.506 + j0.394	0.133 + j0.037	2695	234	260
4/0	482.60	16946	0.2756	0.34	0.0094	0.1214	0.476 + j0.372	0.105 + j0.036	2856	268	294
250	502.92	20025	0.2329	0.30	0.0088	0.1214	0.457 + j0.352	0.09 + j0.035	3024	296	323
350	546.10	28035	0.1640	0.21	0.0076	0.1148	0.425 + j0.319	0.065 + j0.033	3318	363	386
500	601.98	40050	0.1148	0.15	0.0067	0.1083	0.396 + j0.283	0.046 + j0.032	3689	447	465
750	680.72	60075	0.0787	0.11	0.0058	0.1050	0.365 + j0.238	0.033 + j0.03	4257	566	563

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