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

3 Conductor, 175 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

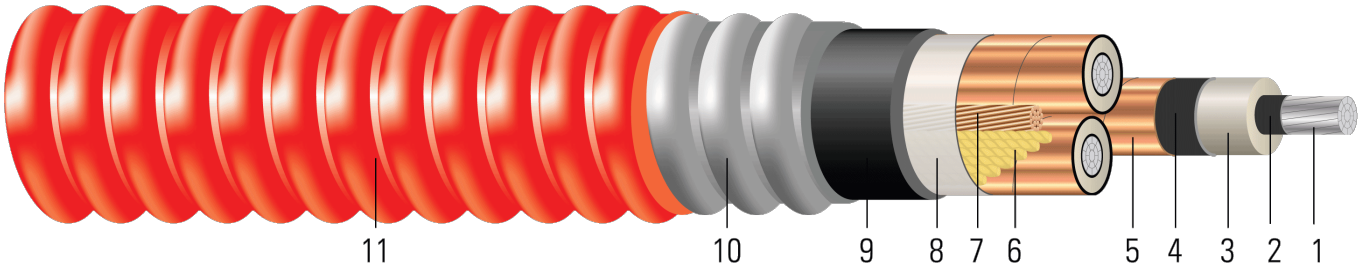

Image not to scale. See Table 1 for dimensions.

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:** 175 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:** 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

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- 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 175 TRXLPE 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

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
2	7	0.268	0.656	175	0.716	8	110	2.166	60	2.286	1998
1	19	0.298	0.686	175	0.746	6	110	2.231	60	2.351	2141
1/0	19	0.336	0.724	175	0.784	6	110	2.313	75	2.463	2382
2/0	19	0.376	0.764	175	0.824	6	110	2.399	75	2.549	2574
3/0	19	0.422	0.810	175	0.870	6	110	2.498	75	2.648	2807
4/0	19	0.474	0.862	175	0.922	6	110	2.611	75	2.761	3082
250	37	0.520	0.916	175	0.976	4	110	2.727	75	2.877	3375
350	37	0.615	1.011	175	1.071	4	110	2.933	75	3.083	3944
500	37	0.735	1.131	175	1.191	3	125	3.222	85	3.392	4911
750	61	0.908	1.314	175	1.374	2	125	3.617	85	3.787	6250

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.

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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
2	16.0	1194	0.267	0.336	0.056	0.045	0.711 + j0.465	0.336 + j0.045	2249	135	157
1	16.5	1506	0.211	0.266	0.052	0.043	0.642 + j0.448	0.266 + j0.042	2342	154	178
1/0	17.2	1900	0.168	0.211	0.048	0.042	0.586 + j0.429	0.211 + j0.040	2459	176	202
2/0	17.8	2395	0.133	0.167	0.044	0.040	0.542 + j0.410	0.167 + j0.039	2584	204	229
3/0	18.5	3020	0.105	0.133	0.041	0.039	0.506 + j0.390	0.133 + j0.037	2726	234	260
4/0	19.3	3808	0.084	0.105	0.037	0.037	0.475 + j0.369	0.105 + j0.036	2887	268	294
250	20.1	4500	0.071	0.090	0.035	0.037	0.457 + j0.348	0.090 + j0.035	3054	296	323
350	21.6	6300	0.050	0.065	0.030	0.030	0.425 + j0.316	0.065 + j0.033	3349	363	386
500	23.7	9000	0.035	0.046	0.030	0.030	0.395 + j0.280	0.046 + j0.032	3721	447	465
750	26.5	13500	0.020	0.030	0.020	0.030	0.364 + j0.236	0.034 + j0.030	4288	566	563

* 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

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	Approx. Weight
AWG/ Kcmil	No.	mm	mm	mm	mm	AWG	mm	mm	mm	mm	kg/km
2	7	6.81	16.66	4.44	18.19	8	2.79	55.02	1.52	58.06	2973
1	19	7.57	17.42	4.44	18.95	6	2.79	56.67	1.52	59.72	3186
1/0	19	8.53	18.39	4.44	19.91	6	2.79	58.75	1.91	62.56	3545
2/0	19	9.55	19.41	4.44	20.93	6	2.79	60.93	1.91	64.74	3831
3/0	19	10.72	20.57	4.44	22.10	6	2.79	63.45	1.91	67.26	4177
4/0	19	12.04	21.89	4.44	23.42	6	2.79	66.32	1.91	70.13	4587
250	37	13.21	23.27	4.44	24.79	4	2.79	69.27	1.91	73.08	5023
350	37	15.62	25.68	4.44	27.20	4	2.79	74.50	1.91	78.31	5869
500	37	18.67	28.73	4.44	30.25	3	3.18	81.84	2.16	86.16	7308
750	61	23.06	33.38	4.44	34.90	2	3.18	91.87	2.16	96.19	9301

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item

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* 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 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
2	406.40	5313	0.8760	1.10	0.0171	0.1476	0.711 + j0.465	0.336 + j0.045	2249	135	157
1	419.10	6702	0.6923	0.87	0.0158	0.1411	0.642 + j0.448	0.266 + j0.042	2342	154	178
1/0	436.88	8455	0.5512	0.69	0.0146	0.1378	0.586 + j0.429	0.211 + j0.040	2459	176	202
2/0	452.12	10658	0.4364	0.55	0.0134	0.1312	0.542 + j0.410	0.167 + j0.039	2584	204	229
3/0	469.90	13439	0.3445	0.44	0.0125	0.1280	0.506 + j0.390	0.133 + j0.037	2726	234	260
4/0	490.22	16946	0.2756	0.34	0.0113	0.1214	0.475 + j0.369	0.105 + j0.036	2887	268	294
250	510.54	20025	0.2329	0.30	0.0107	0.1214	0.457 + j0.348	0.090 + j0.035	3054	296	323
350	548.64	28035	0.1640	0.21	0.0091	0.0984	0.425 + j0.316	0.065 + j0.033	3349	363	386
500	601.98	40050	0.1148	0.15	0.0091	0.0984	0.395 + j0.280	0.046 + j0.032	3721	447	465
750	673.10	60075	0.0656	0.10	0.0061	0.0984	0.364 + j0.236	0.034 + j0.030	4288	566	563

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

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