HVTECK AL 3/C 140TRXLPE TS PVC AIA PVC 8kV 133% CSA

3 Conductor, 140 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

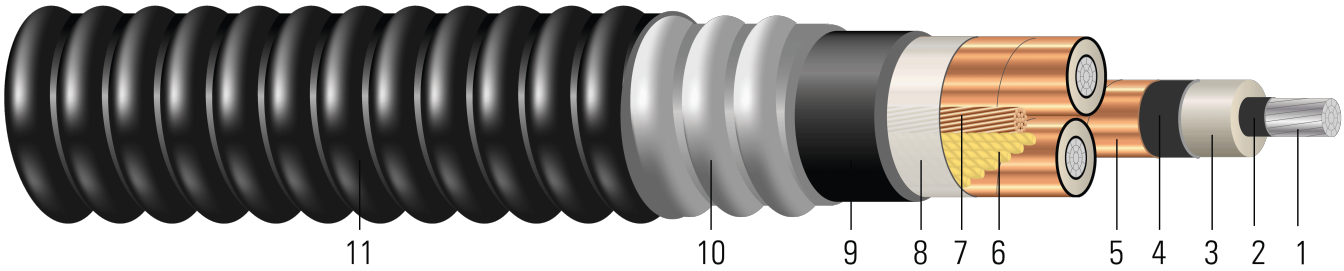


Image not to scale. See Table 1 for dimensions.

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:** 140 Mils Tree Retardant Cross Linked Polyethylene 133% 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:** Black Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 8kV 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 (1/0 and Larger)
- 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 140 TRXLPE AIA 8kV 133% 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	Ground Size	Inner Jacket Thickness	Dia. Over Inner Jacket	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Conduit Size*
	AWG/ Kcmil	No.	inch	inch	mil	inch	No. x AWG	AWG	mil	inch	inch	mil	inch	lb/ 1000ft	lb/ 1000ft	inch
673689	2	8	0.268	0.586	140	0.646	1x8	8	80	1.581	1.949	60	2.069	234	1737	2.5
652778	1	19	0.299	0.617	140	0.677	1x6	6	80	1.648	2.076	60	2.196	271	1996	3
672079	1/0	10	0.336	0.654	140	0.714	1x6	6	110	1.788	2.156	60	2.276	279	2183	3
674249	2/0	12	0.376	0.694	140	0.754	1x6	6	110	1.875	2.242	60	2.362	288	2371	3
TBA	3/0	19	0.423	0.741	140	0.801	1x6	6	110	1.976	2.286	75	2.436	284	2121	3
672070	4/0	19	0.475	0.793	140	0.853	1x6	6	110	2.088	2.456	75	2.606	310	2909	3.5
TBA	250	37	0.52	0.846	140	0.906	1x4	4	110	2.203	2.513	75	2.663	357	2625	3.5
652787	350	37	0.616	0.942	140	1.002	1x4	4	110	2.41	2.778	75	2.928	393	3765	4
674257	500	34	0.736	1.086	140	1.146	1x3	3	110	2.721	3.139	85	3.309	460	4770	4.5
TBA	750	61	0.908	1.244	140	1.304	1x2	2	125	3.093	3.403	85	3.573	531	5038	4.5
TBA	1000	61	1.117	1.453	140	1.513	1x2	2	125	3.544	3.854	85	4.024	583	6191	5.5

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	14.5	1194	0.266	0.365	0.044	0.026	0.725+j0.540	0.365+j0.042	2033	135	157
1	15.4	1506	0.211	0.289	0.041	0.025	0.652+j0.522	0.289+j0.040	2129	154	178
1/0	15.9	1900	0.167	0.229	0.038	0.023	0.595+j0.503	0.229+j0.038	2243	176	202
2/0	16.5	2395	0.133	0.182	0.035	0.022	0.550+j0.483	0.182+j0.037	2367	204	229
3/0	17.1	3020	0.105	0.144	0.032	0.021	0.514+j0.461	0.144+j0.036	2513	234	260
4/0	18.2	3808	0.084	0.115	0.03	0.019	0.486+j0.439	0.115+j0.034	2674	268	294
250	18.6	4500	0.07	0.096	0.027	0.019	0.467+j0.417	0.096+j0.033	2838	296	323
350	20.5	6300	0.051	0.07	0.024	0.017	0.438+j0.381	0.070+j0.032	3136	363	386
500	23.2	9000	0.036	0.05	0.022	0.016	0.411+j0.334	0.050+j0.031	3582	447	465
750	25	13500	0.023	0.033	0.017	0.014	0.383+j0.291	0.033+j0.029	4071	566	563
1000	28.2	18000	0.017	0.025	0.015	0.013	0.358+j0.246	0.025+j0.029	4719	661	638

* 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)

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Ground	Ground Size	Inner Jacket Thickness	Dia. Over Inner Jacket	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Conduit Size*
	AWG/ Kcmil	No.	mm	mm	mm	mm	No. x AWG	AWG	mm	mm	mm	mm	mm	kg/km	kg/km	inch
673689	2	8	6.81	14.88	3.56	16.41	1x8	8	2.03	40.16	49.50	1.52	52.55	348	2585	2.5
652778	1	19	7.59	15.67	3.56	17.20	1x6	6	2.03	41.86	52.73	1.52	55.78	403	2970	3
672079	1/0	10	8.53	16.61	3.56	18.14	1x6	6	2.79	45.42	54.76	1.52	57.81	415	3249	3
674249	2/0	12	9.55	17.63	3.56	19.15	1x6	6	2.79	47.63	56.95	1.52	59.99	429	3528	3
TBA	3/0	19	10.74	18.82	3.56	20.35	1x6	6	2.79	50.19	58.06	1.91	61.87	423	3156	3
672070	4/0	19	12.07	20.14	3.56	21.67	1x6	6	2.79	53.04	62.38	1.91	66.19	461	4329	3.5
TBA	250	37	13.21	21.49	3.56	23.01	1x4	4	2.79	55.96	63.83	1.91	67.64	531	3906	3.5
652787	350	37	15.65	23.93	3.56	25.45	1x4	4	2.79	61.21	70.56	1.91	74.37	585	5603	4
674257	500	34	18.69	27.58	3.56	29.11	1x3	3	2.79	69.11	79.73	2.16	84.05	685	7099	4.5
TBA	750	61	23.06	31.60	3.56	33.12	1x2	2	3.18	78.56	86.44	2.16	90.75	790	7497	4.5
TBA	1000	61	28.37	36.91	3.56	38.43	1x2	2	3.18	90.02	97.89	2.16	102.21	868	9213	5.5

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 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	368.30	5313	0.8727	1.20	0.0134	0.0853	0.725+j0.540	0.365+j0.042	2033	135	157
1	391.16	6702	0.6923	0.95	0.0125	0.0820	0.652+j0.522	0.289+j0.040	2129	154	178
1/0	403.86	8455	0.5479	0.75	0.0116	0.0755	0.595+j0.503	0.229+j0.038	2243	176	202
2/0	419.10	10658	0.4364	0.60	0.0107	0.0722	0.550+j0.483	0.182+j0.037	2367	204	229
3/0	434.34	13439	0.3445	0.47	0.0098	0.0689	0.514+j0.461	0.144+j0.036	2513	234	260
4/0	462.28	16946	0.2756	0.38	0.0091	0.0623	0.486+j0.439	0.115+j0.034	2674	268	294
250	472.44	20025	0.2297	0.31	0.0082	0.0623	0.467+j0.417	0.096+j0.033	2838	296	323
350	520.70	28035	0.1673	0.23	0.0073	0.0558	0.438+j0.381	0.070+j0.032	3136	363	386
500	589.28	40050	0.1181	0.16	0.0067	0.0525	0.411+j0.334	0.050+j0.031	3582	447	465
750	635.00	60075	0.0755	0.11	0.0052	0.0459	0.383+j0.291	0.033+j0.029	4071	566	563
1000	716.28	80100	0.0558	0.08	0.0046	0.0427	0.358+j0.246	0.025+j0.029	4719	661	638

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