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

3 Conductor, 140 Mils No Lead Ethylene Propylene Rubber (NL-EPR), 133% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

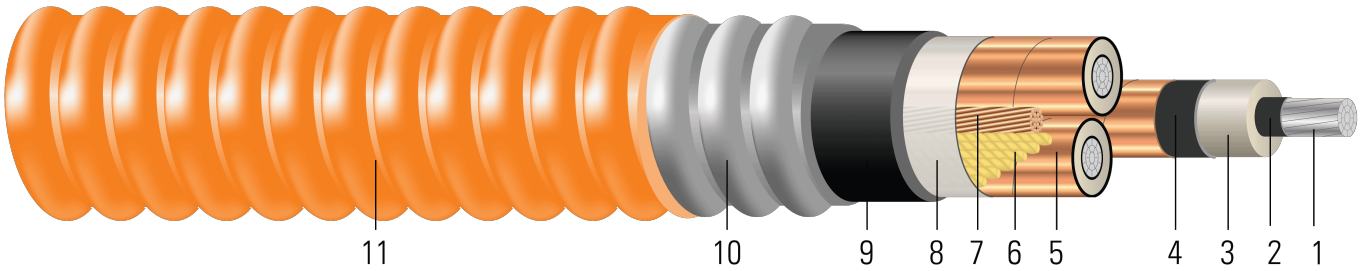


Image not to scale. See Table 1 for dimensions.

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 No Lead Ethylene Propylene Rubber (NL-EPR) 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:** Orange 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:

{SQMTR} {CSA} SOUTHWIRE POWER CABLE {NESC} 3/C XXX AWG COMPACT AL.--- {ALUMAFLEX}® AA8176 X.XX mm (140 mils) TR-XLPE AIA 8KV 133% INS LEVEL 25%TS SUN. RES. 90°C FT4 HL (-40°C) LTGG RoHS

Table 1 – Weights and Measurements

Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Ground	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Conduit Size*
AWG/ Kcmil	No.	inch	inch	mil	inch	No. x AWG	mil	inch	mil	inch	lb/ 1000ft	lb/ 1000ft	inch
2	7	0.268	0.586	140	0.646	1x8	80	1.891	60	2.011	215	1417	2.5
1	19	0.299	0.617	140	0.677	1x6	80	1.958	60	2.078	253	1556	2.5
1/0	19	0.336	0.654	140	0.714	1x6	110	2.098	60	2.218	262	1706	3
2/0	19	0.376	0.694	140	0.754	1x6	110	2.185	60	2.305	272	1864	3
3/0	19	0.423	0.741	140	0.801	1x6	110	2.286	75	2.436	284	2121	3
4/0	19	0.475	0.793	140	0.853	1x6	110	2.398	75	2.548	296	2349	3
250	37	0.52	0.846	140	0.906	1x4	110	2.513	75	2.663	357	2625	3.5
350	37	0.616	0.942	140	1.002	1x4	110	2.72	75	2.87	380	3105	3.5
500	37	0.736	1.062	140	1.122	1x3	110	2.98	75	3.13	448	3818	4
750	61	0.908	1.244	140	1.304	1x2	125	3.403	85	3.573	531	5038	4.5
1000	61	1.117	1.453	140	1.513	1x2	125	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	14.1	1194	0.266	0.365	0.034	0.026	0.725+j0.540	0.365+j0.042	2033	135	157
1	14.5	1506	0.211	0.289	0.032	0.025	0.652+j0.522	0.289+j0.040	2129	154	178
1/0	15.5	1900	0.167	0.229	0.029	0.023	0.595+j0.503	0.229+j0.038	2243	176	202
2/0	16.1	2395	0.133	0.182	0.027	0.022	0.550+j0.483	0.182+j0.037	2367	204	229
3/0	17.1	3020	0.105	0.144	0.025	0.021	0.514+j0.461	0.144+j0.036	2513	234	260
4/0	17.8	3808	0.084	0.115	0.023	0.019	0.486+j0.439	0.115+j0.034	2674	268	294
250	18.6	4500	0.07	0.096	0.021	0.019	0.467+j0.417	0.096+j0.033	2838	296	323
350	20.1	6300	0.051	0.07	0.018	0.017	0.438+j0.381	0.070+j0.032	3136	363	386
500	21.9	9000	0.036	0.05	0.016	0.016	0.413+j0.341	0.050+j0.030	3507	447	465
750	25	13500	0.023	0.033	0.013	0.014	0.383+j0.291	0.033+j0.029	4071	566	563
1000	28.2	18000	0.017	0.025	0.011	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)

Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Ground	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Conduit Size*
AWG/ Kcmil	No.	mm	mm	mm	mm	No. x AWG	mm	mm	mm	mm	kg/km	kg/km	inch
2	7	6.81	14.88	3.56	16.41	1x8	2.03	48.03	1.52	51.08	320	2109	2.5
1	19	7.59	15.67	3.56	17.20	1x6	2.03	49.73	1.52	52.78	377	2316	2.5
1/0	19	8.53	16.61	3.56	18.14	1x6	2.79	53.29	1.52	56.34	390	2539	3
2/0	19	9.55	17.63	3.56	19.15	1x6	2.79	55.50	1.52	58.55	405	2774	3
3/0	19	10.74	18.82	3.56	20.35	1x6	2.79	58.06	1.91	61.87	423	3156	3
4/0	19	12.07	20.14	3.56	21.67	1x6	2.79	60.91	1.91	64.72	440	3496	3
250	37	13.21	21.49	3.56	23.01	1x4	2.79	63.83	1.91	67.64	531	3906	3.5
350	37	15.65	23.93	3.56	25.45	1x4	2.79	69.09	1.91	72.90	566	4621	3.5
500	37	18.69	26.97	3.56	28.50	1x3	2.79	75.69	1.91	79.50	667	5682	4
750	61	23.06	31.60	3.56	33.12	1x2	3.18	86.44	2.16	90.75	790	7497	4.5
1000	61	28.37	36.91	3.56	38.43	1x2	3.18	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	358.14	5313	0.8727	1.20	0.0104	0.0853	0.725+j0.540	0.365+j0.042	2033	135	157
1	368.30	6702	0.6923	0.95	0.0098	0.0820	0.652+j0.522	0.289+j0.040	2129	154	178
1/0	393.70	8455	0.5479	0.75	0.0088	0.0755	0.595+j0.503	0.229+j0.038	2243	176	202
2/0	408.94	10658	0.4364	0.60	0.0082	0.0722	0.550+j0.483	0.182+j0.037	2367	204	229
3/0	434.34	13439	0.3445	0.47	0.0076	0.0689	0.514+j0.461	0.144+j0.036	2513	234	260
4/0	452.12	16946	0.2756	0.38	0.0070	0.0623	0.486+j0.439	0.115+j0.034	2674	268	294
250	472.44	20025	0.2297	0.31	0.0064	0.0623	0.467+j0.417	0.096+j0.033	2838	296	323
350	510.54	28035	0.1673	0.23	0.0055	0.0558	0.438+j0.381	0.070+j0.032	3136	363	386
500	556.26	40050	0.1181	0.16	0.0049	0.0525	0.413+j0.341	0.050+j0.030	3507	447	465
750	635.00	60075	0.0755	0.11	0.0040	0.0459	0.383+j0.291	0.033+j0.029	4071	566	563
1000	716.28	80100	0.0558	0.08	0.0034	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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