HVTECK AL 1/C 140NLEPR CB PVC AIA PVC 8kV 133% CSA

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

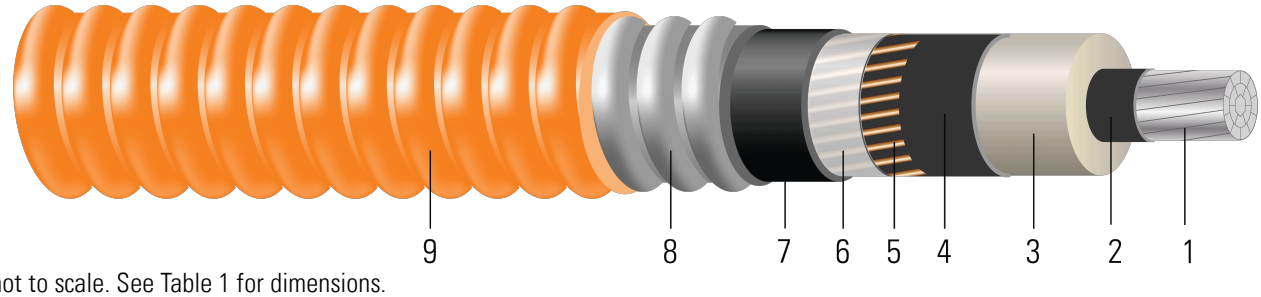

Image not to scale. See Table 1 for dimensions.

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. **Concentric Shield:** Concentrically applied copper bond / shield wires. Complies with greater than the minimum requirement as per Table 44, CSA Standard C68.10 and Table 16A, Canadian Electrical Code Part 1
6. **Neutral Separator:** Mylar tape
7. **Inner Jacket:** PVC inner jacket
8. **Armour:** Aluminum Interlocked Armour (AIA)
9. **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
- ICEA T-29-520 Flame Test (210,000 BTU/Hr)

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- IEEE 383 Flame Test (70,000 btu)
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)
- 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# 1/C [#AWG or #kcmil] CPT AL 140 NLEPR AIA 8kV 133% INS LEVEL CB [No. x SIZE] AWG 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	Concentric Neutral	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
AWG/ Kcmil	No.	inch	inch	mil	inch	No. x AWG	mil	inch	mil	inch	lb/1000ft
2	7	0.268	0.586	140	0.646	7x14	80	1.156	50	1.256	706
1	19	0.298	0.616	140	0.676	7x14	80	1.186	50	1.286	743
1/0	19	0.336	0.654	140	0.714	7x14	80	1.334	50	1.434	804
2/0	19	0.376	0.694	140	0.754	11x14	80	1.374	50	1.474	913
3/0	19	0.422	0.740	140	0.800	11x14	80	1.420	50	1.520	978
4/0	19	0.474	0.792	140	0.852	11x14	80	1.472	50	1.572	1058
250	37	0.520	0.846	140	0.906	13x14	80	1.526	60	1.646	1195
350	37	0.615	0.941	140	1.001	17x14	80	1.679	60	1.799	1464
500	37	0.735	1.061	140	1.121	21x14	80	1.799	60	1.919	1753
750	61	0.908	1.244	140	1.304	17x12	80	1.982	60	2.102	2305
1000	61	1.060	1.396	140	1.456	17x12	110	2.194	60	2.314	2794

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	15.1	398	0.267	0.336	0.037	0.057	0.690 + j0.494	0.337 + j0.057	5458	169	176
1	15.4	502	0.211	0.266	0.034	0.055	0.622 + j0.476	0.267 + j0.054	5458	194	198
1/0	17.2	633	0.168	0.211	0.031	0.055	0.567 + j0.457	0.212 + j0.054	5458	222	223
2/0	17.7	798	0.133	0.167	0.029	0.053	0.525 + j0.437	0.168 + j0.052	8577	255	250
3/0	18.2	1006	0.105	0.133	0.026	0.051	0.492 + j0.416	0.134 + j0.050	8577	290	278
4/0	18.9	1269	0.084	0.105	0.024	0.049	0.464 + j0.394	0.106 + j0.048	8577	329	309
250	19.8	1500	0.071	0.090	0.023	0.048	0.447 + j0.373	0.091 + j0.047	10137	370	347
350	21.6	2100	0.050	0.065	0.020	0.046	0.417 + j0.339	0.066 + j0.045	13256	446	402
500	23.0	3000	0.035	0.046	0.017	0.044	0.391 + j0.301	0.047 + j0.042	16376	533	451
750	25.2	4500	0.024	0.033	0.014	0.041	0.363 + j0.254	0.034 + j0.039	21062	631	500
1000	27.8	6000	0.018	0.026	0.013	0.040	0.342 + j0.222	0.027 + j0.038	21062	707	539

* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
***** CEC ampacities are based on:
3-1/C in air copper and aluminum: D17M
3-1/C direct buried copper and aluminum: D17A

Table 3 – Weights and Measurements (Metric)

Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Concentric Neutral	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
AWG/ Kcmil	No.	mm	mm	mm	mm	No. x AWG	mm	mm	mm	mm	kg/km
2	7	6.81	14.88	3.56	16.41	7x14	2.03	29.36	1.27	31.90	1051
1	19	7.57	15.65	3.56	17.17	7x14	2.03	30.12	1.27	32.66	1106
1/0	19	8.53	16.61	3.56	18.14	7x14	2.03	33.88	1.27	36.42	1196
2/0	19	9.55	17.63	3.56	19.15	11x14	2.03	34.90	1.27	37.44	1359
3/0	19	10.72	18.80	3.56	20.32	11x14	2.03	36.07	1.27	38.61	1455
4/0	19	12.04	20.12	3.56	21.64	11x14	2.03	37.39	1.27	39.93	1574
250	37	13.21	21.49	3.56	23.01	13x14	2.03	38.76	1.52	41.81	1778
350	37	15.62	23.90	3.56	25.43	17x14	2.03	42.65	1.52	45.69	2179
500	37	18.67	26.95	3.56	28.47	21x14	2.03	45.69	1.52	48.74	2609
750	61	23.06	31.60	3.56	33.12	17x12	2.03	50.34	1.52	53.39	3430
1000	61	26.92	35.46	3.56	36.98	17x12	2.79	55.73	1.52	58.78	4158

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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.

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	383.54	1771	0.8760	1.10	0.0113	0.1870	0.690 + j0.494	0.337 + j0.057	5458	169	176
1	391.16	2234	0.6923	0.87	0.0104	0.1804	0.622 + j0.476	0.267 + j0.054	5458	194	198
1/0	436.88	2817	0.5512	0.69	0.0094	0.1804	0.567 + j0.457	0.212 + j0.054	5458	222	223
2/0	449.58	3551	0.4364	0.55	0.0088	0.1739	0.525 + j0.437	0.168 + j0.052	8577	255	250
3/0	462.28	4477	0.3445	0.44	0.0079	0.1673	0.492 + j0.416	0.134 + j0.050	8577	290	278
4/0	480.06	5647	0.2756	0.34	0.0073	0.1608	0.464 + j0.394	0.106 + j0.048	8577	329	309
250	502.92	6675	0.2329	0.30	0.0070	0.1575	0.447 + j0.373	0.091 + j0.047	10137	370	347
350	548.64	9345	0.1640	0.21	0.0061	0.1509	0.417 + j0.339	0.066 + j0.045	13256	446	402
500	584.20	13350	0.1148	0.15	0.0052	0.1444	0.391 + j0.301	0.047 + j0.042	16376	533	451
750	640.08	20025	0.0787	0.11	0.0043	0.1345	0.363 + j0.254	0.034 + j0.039	21062	631	500
1000	706.12	26700	0.0591	0.09	0.0040	0.1312	0.342 + j0.222	0.027 + j0.038	21062	707	539

* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
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3-1/C direct buried copper and aluminum: D17A

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