HVTECK AL 1/C 260NLEPR CB PVC AIA PVC 25kV 100% CSA

Single Conductor, 260 Mils No Lead Ethylene Propylene Rubber (NL-EPR), 100% Insulation Level, Concentric Bond, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

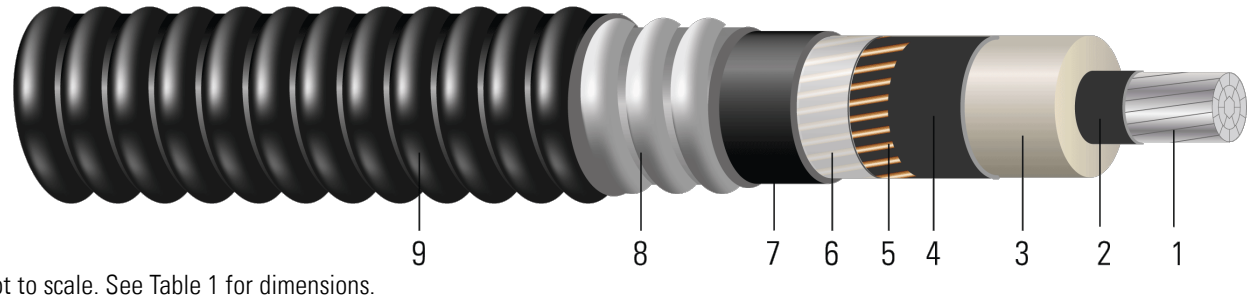


Image not to scale. See Table 1 for dimensions.

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:** 260 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% 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:** Black Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 25kV 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 260 NLEPR AIA 25kV 100% 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	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
1	19	0.299	0.857	260	0.917	5x12	80	1.677	60	1.797	157	1611	4.5
1/0	19	0.336	0.894	260	0.954	5x12	80	1.714	60	1.834	160	1682	5
2/0	19	0.376	0.934	260	0.994	7x12	80	1.754	60	1.874	211	1813	5
3/0	19	0.423	0.981	260	1.041	7x12	80	1.801	60	1.921	215	1911	5
4/0	19	0.475	1.033	260	1.093	7x12	80	1.853	60	1.973	219	2024	5
250	37	0.52	1.086	260	1.146	9x12	80	1.906	60	2.026	261	2177	5.5
350	37	0.616	1.182	260	1.242	11x12	110	2.062	60	2.182	307	2559	5.5
500	37	0.736	1.302	260	1.362	13x12	110	2.182	60	2.302	371	2930	6
750	61	0.908	1.484	260	1.544	17x12	110	2.364	75	2.514	453	3574	6.5
1000	61	1.117	1.693	260	1.753	17x12	110	2.573	75	2.723	470	4121	7

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
1	12.6	502	0.211	0.289	0.049	0.063	0.584+j0.201	0.292+j0.067	2770	193	194
1/0	12.8	633	0.167	0.229	0.045	0.061	0.524+j0.199	0.232+j0.064	2770	221	219
2/0	13.1	798	0.133	0.182	0.042	0.059	0.424+j0.129	0.186+j0.062	3879	253	246
3/0	13.4	1006	0.105	0.144	0.039	0.056	0.385+j0.127	0.148+j0.060	3879	288	275
4/0	13.8	1269	0.084	0.115	0.037	0.054	0.356+j0.126	0.119+j0.058	3879	327	305
250	14.2	1500	0.07	0.096	0.034	0.053	0.296+j0.090	0.101+j0.056	4987	367	343
350	15.3	2100	0.051	0.07	0.03	0.051	0.240+j0.068	0.076+j0.054	6095	443	399
500	16.1	3000	0.036	0.05	0.027	0.048	0.197+j0.054	0.056+j0.050	7203	529	451
750	17.6	4500	0.023	0.033	0.023	0.045	0.148+j0.038	0.041+j0.047	9420	633	505
1000	19.1	6000	0.017	0.025	0.019	0.042	0.140+j0.038	0.032+j0.046	9420	711	544

* 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	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
1	19	7.59	21.77	6.60	23.29	5x12	2.03	42.60	1.52	45.64	234	2397	4.5
1/0	19	8.53	22.71	6.60	24.23	5x12	2.03	43.54	1.52	46.58	238	2503	5
2/0	19	9.55	23.72	6.60	25.25	7x12	2.03	44.55	1.52	47.60	314	2698	5
3/0	19	10.74	24.92	6.60	26.44	7x12	2.03	45.75	1.52	48.79	320	2844	5
4/0	19	12.07	26.24	6.60	27.76	7x12	2.03	47.07	1.52	50.11	326	3012	5
250	37	13.21	27.58	6.60	29.11	9x12	2.03	48.41	1.52	51.46	388	3240	5.5
350	37	15.65	30.02	6.60	31.55	11x12	2.79	52.37	1.52	55.42	457	3808	5.5
500	37	18.69	33.07	6.60	34.59	13x12	2.79	55.42	1.52	58.47	552	4360	6
750	61	23.06	37.69	6.60	39.22	17x12	2.79	60.05	1.91	63.86	674	5319	6.5
1000	61	28.37	43.00	6.60	44.53	17x12	2.79	65.35	1.91	69.16	699	6133	7

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
1	320.04	2234	0.6923	0.95	0.0149	0.2067	0.584+j0.201	0.292+j0.067	2770	193	194
1/0	325.12	2817	0.5479	0.75	0.0137	0.2001	0.524+j0.199	0.232+j0.064	2770	221	219
2/0	332.74	3551	0.4364	0.60	0.0128	0.1936	0.424+j0.129	0.186+j0.062	3879	253	246
3/0	340.36	4477	0.3445	0.47	0.0119	0.1837	0.385+j0.127	0.148+j0.060	3879	288	275
4/0	350.52	5647	0.2756	0.38	0.0113	0.1772	0.356+j0.126	0.119+j0.058	3879	327	305
250	360.68	6675	0.2297	0.31	0.0104	0.1739	0.296+j0.090	0.101+j0.056	4987	367	343
350	388.62	9345	0.1673	0.23	0.0091	0.1673	0.240+j0.068	0.076+j0.054	6095	443	399
500	408.94	13350	0.1181	0.16	0.0082	0.1575	0.197+j0.054	0.056+j0.050	7203	529	451
750	447.04	20025	0.0755	0.11	0.0070	0.1476	0.148+j0.038	0.041+j0.047	9420	633	505
1000	485.14	26700	0.0558	0.08	0.0058	0.1378	0.140+j0.038	0.032+j0.046	9420	711	544

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

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