HVTECK AL 1/C 280NLEPR CB PVC AIA PVC 28kV 100% CSA

Single Conductor, 280 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

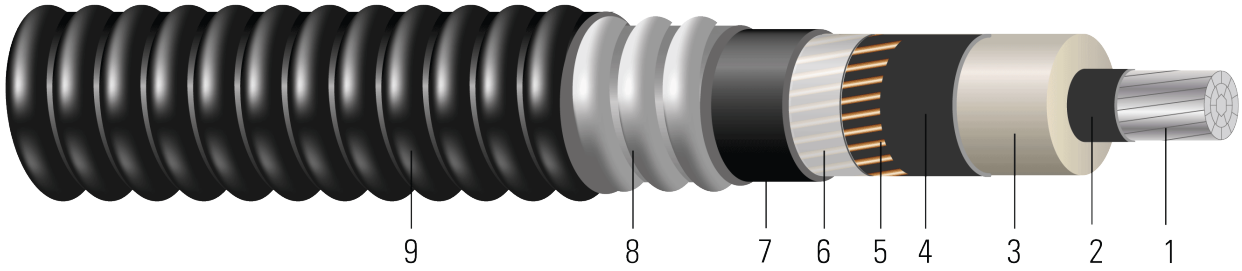


Image not to scale. See Table 1 for dimensions.

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:** 280 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 28kV 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 280 NLEPR AIA 28kV 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	Approx. Weight
AWG/ Kcmil	No.	inch	inch	mil	inch	No. x AWG	mil	inch	mil	inch	lb/1000ft
1	19	0.298	0.896	280	0.956	7x14	80	1.576	60	1.696	1092
1/0	19	0.336	0.934	280	0.994	7x14	80	1.614	60	1.734	1152
2/0	19	0.376	0.974	280	1.034	11x14	80	1.678	60	1.798	1302
3/0	19	0.422	1.020	280	1.080	11x14	80	1.724	60	1.844	1382
4/0	19	0.474	1.072	280	1.132	11x14	80	1.776	60	1.896	1475
250	37	0.520	1.126	280	1.186	13x14	80	1.830	60	1.950	1596
350	37	0.615	1.221	280	1.281	17x14	80	1.959	60	2.079	1951
500	37	0.735	1.341	280	1.401	21x14	110	2.139	60	2.259	2397
750	61	0.908	1.524	280	1.584	17x12	110	2.322	75	2.472	2989

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

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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	20.4	502	0.211	0.266	0.054	0.062	0.621 + j0.369	0.267 + j0.060	5458	193	194
1/0	20.8	633	0.168	0.211	0.050	0.059	0.565 + j0.355	0.212 + j0.058	5458	221	219
2/0	21.6	798	0.133	0.167	0.047	0.058	0.518 + j0.340	0.168 + j0.056	8577	253	246
3/0	22.1	1006	0.105	0.133	0.043	0.056	0.481 + j0.324	0.134 + j0.054	8577	288	275
4/0	22.8	1269	0.084	0.105	0.040	0.054	0.450 + j0.308	0.106 + j0.052	8577	327	305
250	23.4	1500	0.071	0.090	0.038	0.052	0.430 + j0.292	0.091 + j0.051	10137	367	343
350	24.9	2100	0.050	0.065	0.033	0.050	0.397 + j0.267	0.066 + j0.048	13256	443	399
500	27.1	3000	0.035	0.046	0.029	0.047	0.367 + j0.240	0.047 + j0.046	16376	529	451
750	29.7	4500	0.024	0.033	0.025	0.045	0.337 + j0.205	0.034 + j0.043	21062	633	505

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

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
1	19	7.57	22.76	7.11	24.28	7x14	2.03	40.03	1.52	43.08	1625
1/0	19	8.53	23.72	7.11	25.25	7x14	2.03	41.00	1.52	44.04	1714
2/0	19	9.55	24.74	7.11	26.26	11x14	2.03	42.62	1.52	45.67	1938
3/0	19	10.72	25.91	7.11	27.43	11x14	2.03	43.79	1.52	46.84	2057
4/0	19	12.04	27.23	7.11	28.75	11x14	2.03	45.11	1.52	48.16	2195
250	37	13.21	28.60	7.11	30.12	13x14	2.03	46.48	1.52	49.53	2375
350	37	15.62	31.01	7.11	32.54	17x14	2.03	49.76	1.52	52.81	2903
500	37	18.67	34.06	7.11	35.59	21x14	2.79	54.33	1.52	57.38	3567
750	61	23.06	38.71	7.11	40.23	17x12	2.79	58.98	1.91	62.79	4448

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

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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	518.16	2234	0.6923	0.87	0.0165	0.2034	0.621 + j0.369	0.267 + j0.060	5458	193	194
1/0	528.32	2817	0.5512	0.69	0.0152	0.1936	0.565 + j0.355	0.212 + j0.058	5458	221	219
2/0	548.64	3551	0.4364	0.55	0.0143	0.1903	0.518 + j0.340	0.168 + j0.056	8577	253	246
3/0	561.34	4477	0.3445	0.44	0.0131	0.1837	0.481 + j0.324	0.134 + j0.054	8577	288	275
4/0	579.12	5647	0.2756	0.34	0.0122	0.1772	0.450 + j0.308	0.106 + j0.052	8577	327	305
250	594.36	6675	0.2329	0.30	0.0116	0.1706	0.430 + j0.292	0.091 + j0.051	10137	367	343
350	632.46	9345	0.1640	0.21	0.0101	0.1640	0.397 + j0.267	0.066 + j0.048	13256	443	399
500	688.34	13350	0.1148	0.15	0.0088	0.1542	0.367 + j0.240	0.047 + j0.046	16376	529	451
750	754.38	20025	0.0787	0.11	0.0076	0.1476	0.337 + j0.205	0.034 + j0.043	21062	633	505

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