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

Single Conductor, 280 Mils No Lead Ethylene Propylene Rubber (NL-EPR), 100% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

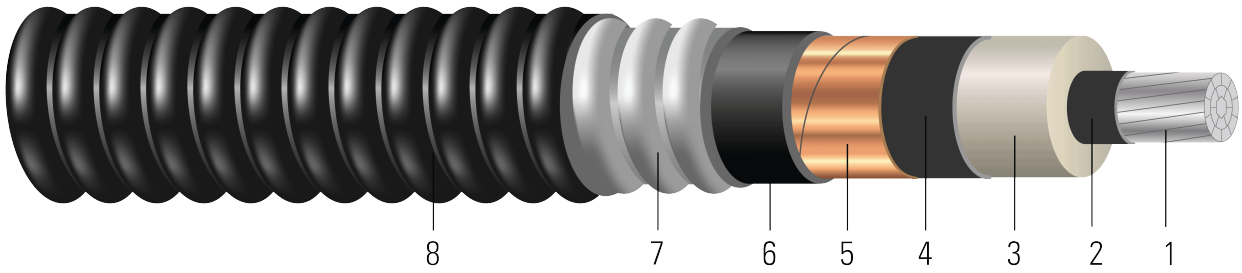


Image not to scale. See Table 1 for dimensions.

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:** 280 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% 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. **Inner Jacket:** PVC inner jacket
7. **Armour:** Aluminum Interlocked Armour (AIA)
8. **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)
- IEEE 383 Flame Test (70,000 btu)
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)

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- 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 25% TS 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	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
AWG/ Kcmil	No.	inch	inch	mil	inch	mil	inch	mil	inch	lb/1000ft
1	19	0.298	0.896	280	0.956	80	1.468	50	1.568	938
1/0	19	0.336	0.934	280	0.994	80	1.506	60	1.626	1029
2/0	19	0.376	0.974	280	1.034	80	1.546	60	1.666	1094
3/0	19	0.422	1.020	280	1.080	80	1.592	60	1.712	1173
4/0	19	0.474	1.072	280	1.132	80	1.668	60	1.788	1299
250	37	0.520	1.126	280	1.186	80	1.722	60	1.842	1393
350	37	0.615	1.221	280	1.281	80	1.817	60	1.937	1584
500	37	0.735	1.341	280	1.401	80	1.937	60	2.057	1944
750	61	0.908	1.524	280	1.584	110	2.180	60	2.300	2511

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	18.8	502	0.211	0.266	0.054	0.060	0.624 + j0.367	0.267 + j0.058	2992	193	194
1/0	19.5	633	0.168	0.211	0.050	0.058	0.567 + j0.352	0.212 + j0.056	3110	221	219
2/0	20.0	798	0.133	0.167	0.047	0.056	0.521 + j0.338	0.168 + j0.054	3234	253	246
3/0	20.5	1006	0.105	0.133	0.043	0.054	0.484 + j0.322	0.134 + j0.052	3377	288	275
4/0	21.5	1269	0.084	0.105	0.040	0.052	0.451 + j0.306	0.106 + j0.051	3538	327	305
250	22.1	1500	0.071	0.090	0.038	0.051	0.432 + j0.290	0.091 + j0.049	3705	367	343
350	23.2	2100	0.050	0.065	0.033	0.048	0.399 + j0.265	0.066 + j0.046	3999	443	399
500	24.7	3000	0.035	0.046	0.029	0.045	0.369 + j0.237	0.047 + j0.044	4371	529	451
750	27.6	4500	0.024	0.033	0.025	0.043	0.338 + j0.202	0.034 + j0.041	4938	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	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
AWG/ Kcmil	No.	mm	mm	mm	mm	mm	mm	mm	mm	kg/km
1	19	7.57	22.76	7.11	24.28	2.03	37.29	1.27	39.83	1396
1/0	19	8.53	23.72	7.11	25.25	2.03	38.25	1.52	41.30	1531
2/0	19	9.55	24.74	7.11	26.26	2.03	39.27	1.52	42.32	1628
3/0	19	10.72	25.91	7.11	27.43	2.03	40.44	1.52	43.48	1746
4/0	19	12.04	27.23	7.11	28.75	2.03	42.37	1.52	45.42	1933
250	37	13.21	28.60	7.11	30.12	2.03	43.74	1.52	46.79	2073
350	37	15.62	31.01	7.11	32.54	2.03	46.15	1.52	49.20	2357
500	37	18.67	34.06	7.11	35.59	2.03	49.20	1.52	52.25	2893
750	61	23.06	38.71	7.11	40.23	2.79	55.37	1.52	58.42	3737

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	477.52	2234	0.6923	0.87	0.0165	0.1969	0.624 + j0.367	0.267 + j0.058	2992	193	194
1/0	495.30	2817	0.5512	0.69	0.0152	0.1903	0.567 + j0.352	0.212 + j0.056	3110	221	219
2/0	508.00	3551	0.4364	0.55	0.0143	0.1837	0.521 + j0.338	0.168 + j0.054	3234	253	246
3/0	520.70	4477	0.3445	0.44	0.0131	0.1772	0.484 + j0.322	0.134 + j0.052	3377	288	275
4/0	546.10	5647	0.2756	0.34	0.0122	0.1706	0.451 + j0.306	0.106 + j0.051	3538	327	305
250	561.34	6675	0.2329	0.30	0.0116	0.1673	0.432 + j0.290	0.091 + j0.049	3705	367	343
350	589.28	9345	0.1640	0.21	0.0101	0.1575	0.399 + j0.265	0.066 + j0.046	3999	443	399
500	627.38	13350	0.1148	0.15	0.0088	0.1476	0.369 + j0.237	0.047 + j0.044	4371	529	451
750	701.04	20025	0.0787	0.11	0.0076	0.1411	0.338 + j0.202	0.034 + j0.041	4938	633	505

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