HVTECK AL 1/C 115NLEPR TS PVC AIA PVC 5kV 133% CSA

Single Conductor, 115 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

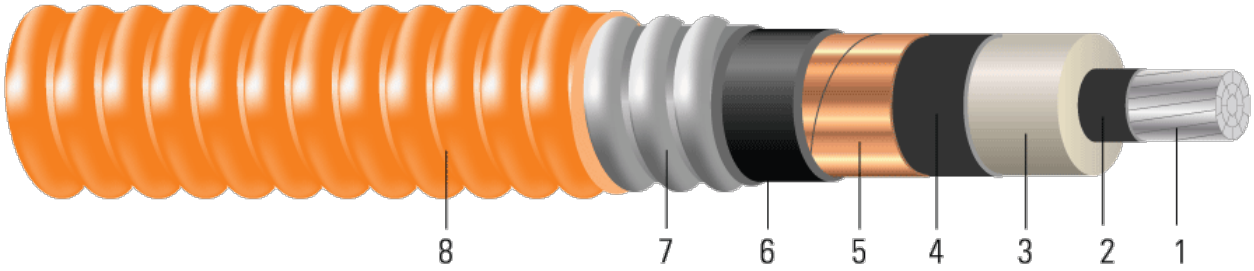

Image not to scale. See Table 1 for dimensions.

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:** 115 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. **Inner Jacket:** PVC inner jacket
7. **Armour:** Aluminum Interlocked Armour (AIA)
8. **Overall Jacket:** Orange Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 5kV 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)

- 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 115 NLEPR AIA 5kV 133% 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
2	7	0.268	0.536	115	0.596	65	0.968	50	1.068	502
1	19	0.298	0.566	115	0.626	65	0.998	50	1.098	539
1/0	19	0.336	0.604	115	0.664	65	1.036	50	1.136	585
2/0	19	0.376	0.644	115	0.704	80	1.106	50	1.206	671
3/0	19	0.422	0.690	115	0.750	80	1.152	50	1.252	736
4/0	19	0.474	0.742	115	0.802	80	1.204	50	1.304	813
250	37	0.520	0.796	115	0.856	80	1.368	50	1.468	902
350	37	0.615	0.891	115	0.951	80	1.463	50	1.563	1063
500	37	0.735	1.011	115	1.071	80	1.583	60	1.703	1325
750	61	0.908	1.194	115	1.254	80	1.790	60	1.910	1738
1000	61	1.060	1.346	115	1.406	80	1.942	60	2.062	2184

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 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	12.8	398	0.267	0.336	0.032	0.053	0.690 + j0.516	0.337 + j0.053	1877	169	176
1	13.2	502	0.211	0.266	0.030	0.052	0.623 + j0.498	0.267 + j0.050	1970	194	198
1/0	13.6	633	0.168	0.211	0.027	0.050	0.571 + j0.478	0.212 + j0.048	2088	222	223
2/0	14.5	798	0.133	0.167	0.025	0.048	0.529 + j0.457	0.168 + j0.047	2212	255	250
3/0	15.0	1006	0.105	0.133	0.023	0.047	0.496 + j0.435	0.134 + j0.045	2354	290	278
4/0	15.6	1269	0.084	0.105	0.021	0.045	0.469 + j0.411	0.106 + j0.043	2515	329	309
250	17.6	1500	0.071	0.090	0.019	0.046	0.452 + j0.389	0.091 + j0.044	2683	370	347
350	18.8	2100	0.050	0.065	0.017	0.043	0.423 + j0.352	0.066 + j0.042	2977	446	402
500	20.4	3000	0.035	0.046	0.014	0.041	0.397 + j0.312	0.047 + j0.039	3349	533	451
750	22.9	4500	0.024	0.033	0.012	0.039	0.369 + j0.262	0.034 + j0.037	3916	631	500
1000	24.7	6000	0.018	0.026	0.011	0.037	0.348 + j0.228	0.027 + j0.036	4387	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	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
2	7	6.81	13.61	2.92	15.14	1.65	24.59	1.27	27.13	747
1	19	7.57	14.38	2.92	15.90	1.65	25.35	1.27	27.89	802
1/0	19	8.53	15.34	2.92	16.87	1.65	26.31	1.27	28.85	871
2/0	19	9.55	16.36	2.92	17.88	2.03	28.09	1.27	30.63	999
3/0	19	10.72	17.53	2.92	19.05	2.03	29.26	1.27	31.80	1095
4/0	19	12.04	18.85	2.92	20.37	2.03	30.58	1.27	33.12	1210
250	37	13.21	20.22	2.92	21.74	2.03	34.75	1.27	37.29	1342
350	37	15.62	22.63	2.92	24.16	2.03	37.16	1.27	39.70	1582
500	37	18.67	25.68	2.92	27.20	2.03	40.21	1.52	43.26	1972
750	61	23.06	30.33	2.92	31.85	2.03	45.47	1.52	48.51	2586
1000	61	26.92	34.19	2.92	35.71	2.03	49.33	1.52	52.37	3250

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
2	325.12	1771	0.8760	1.10	0.0098	0.1739	0.690 + j0.516	0.337 + j0.053	1877	169	176
1	335.28	2234	0.6923	0.87	0.0091	0.1706	0.623 + j0.498	0.267 + j0.050	1970	194	198
1/0	345.44	2817	0.5512	0.69	0.0082	0.1640	0.571 + j0.478	0.212 + j0.048	2088	222	223
2/0	368.30	3551	0.4364	0.55	0.0076	0.1575	0.529 + j0.457	0.168 + j0.047	2212	255	250
3/0	381.00	4477	0.3445	0.44	0.0070	0.1542	0.496 + j0.435	0.134 + j0.045	2354	290	278
4/0	396.24	5647	0.2756	0.34	0.0064	0.1476	0.469 + j0.411	0.106 + j0.043	2515	329	309
250	447.04	6675	0.2329	0.30	0.0058	0.1509	0.452 + j0.389	0.091 + j0.044	2683	370	347
350	477.52	9345	0.1640	0.21	0.0052	0.1411	0.423 + j0.352	0.066 + j0.042	2977	446	402
500	518.16	13350	0.1148	0.15	0.0043	0.1345	0.397 + j0.312	0.047 + j0.039	3349	533	451
750	581.66	20025	0.0787	0.11	0.0037	0.1280	0.369 + j0.262	0.034 + j0.037	3916	631	500
1000	627.38	26700	0.0591	0.09	0.0034	0.1214	0.348 + j0.228	0.027 + j0.036	4387	707	539

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