HVTECK AL 1/C 115TRXLPE CB PVC AIA PVC 5kV 133% CSA

Single Conductor, 115 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Concentric Bond, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

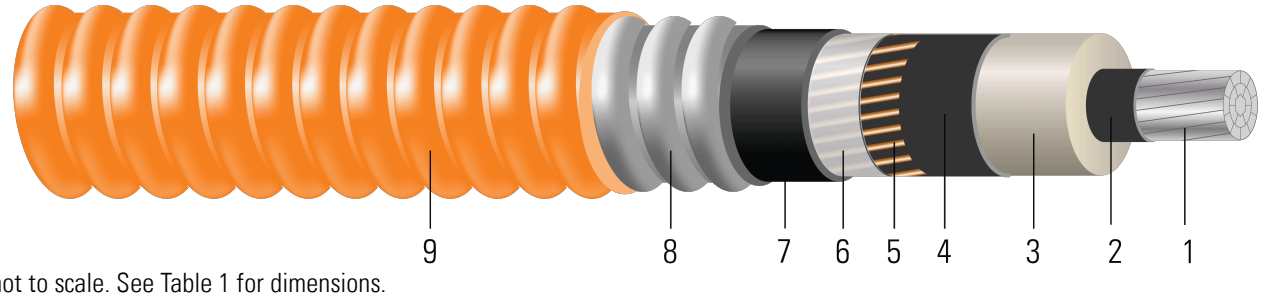

Image not to scale. See Table 1 for dimensions.

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:** 115 Mils Tree Retardant Cross Linked Polyethylene 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 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 TRXLPE AIA 5kV 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	0.536	115	0.596	7x14	80	1.106	50	1.206	659
1	19	0.298	0.566	115	0.626	7x14	80	1.136	50	1.236	696
1/0	19	0.336	0.604	115	0.664	7x14	80	1.174	50	1.274	744
2/0	19	0.376	0.644	115	0.704	11x14	80	1.324	50	1.424	863
3/0	19	0.422	0.690	115	0.750	11x14	80	1.370	50	1.470	926
4/0	19	0.474	0.742	115	0.802	11x14	80	1.422	50	1.522	1003
250	37	0.520	0.796	115	0.856	13x14	80	1.476	50	1.576	1106
350	37	0.615	0.891	115	0.951	17x14	80	1.605	60	1.725	1368
500	37	0.735	1.011	115	1.071	21x14	80	1.749	60	1.869	1685
750	61	0.908	1.194	115	1.254	17x12	80	1.932	60	2.052	2226
1000	61	1.060	1.346	115	1.406	17x12	110	2.144	60	2.264	2707

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	14.5	398	0.267	0.336	0.042	0.056	0.684 + j0.517	0.337 + j0.056	5458	169	176
1	14.8	502	0.211	0.266	0.039	0.054	0.618 + j0.499	0.267 + j0.053	5458	194	198
1/0	15.3	633	0.168	0.211	0.036	0.052	0.566 + j0.479	0.212 + j0.051	5458	222	223
2/0	17.1	798	0.133	0.167	0.033	0.052	0.523 + j0.458	0.168 + j0.051	8577	255	250
3/0	17.6	1006	0.105	0.133	0.030	0.050	0.491 + j0.436	0.134 + j0.049	8577	290	278
4/0	18.3	1269	0.084	0.105	0.027	0.048	0.464 + j0.413	0.106 + j0.047	8577	329	309
250	18.9	1500	0.071	0.090	0.026	0.047	0.449 + j0.391	0.091 + j0.046	10137	370	347
350	20.7	2100	0.050	0.065	0.022	0.045	0.420 + j0.355	0.066 + j0.044	13256	446	402
500	22.4	3000	0.035	0.046	0.019	0.043	0.394 + j0.315	0.047 + j0.042	16376	533	451
750	24.6	4500	0.024	0.033	0.016	0.040	0.367 + j0.264	0.034 + j0.039	21062	631	500
1000	27.2	6000	0.018	0.026	0.014	0.039	0.347 + j0.231	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	13.61	2.92	15.14	7x14	2.03	28.09	1.27	30.63	981
1	19	7.57	14.38	2.92	15.90	7x14	2.03	28.85	1.27	31.39	1036
1/0	19	8.53	15.34	2.92	16.87	7x14	2.03	29.82	1.27	32.36	1107
2/0	19	9.55	16.36	2.92	17.88	11x14	2.03	33.63	1.27	36.17	1284
3/0	19	10.72	17.53	2.92	19.05	11x14	2.03	34.80	1.27	37.34	1378
4/0	19	12.04	18.85	2.92	20.37	11x14	2.03	36.12	1.27	38.66	1493
250	37	13.21	20.22	2.92	21.74	13x14	2.03	37.49	1.27	40.03	1646
350	37	15.62	22.63	2.92	24.16	17x14	2.03	40.77	1.52	43.82	2036
500	37	18.67	25.68	2.92	27.20	21x14	2.03	44.42	1.52	47.47	2508
750	61	23.06	30.33	2.92	31.85	17x12	2.03	49.07	1.52	52.12	3313
1000	61	26.92	34.19	2.92	35.71	17x12	2.79	54.46	1.52	57.51	4028

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	368.30	1771	0.8760	1.10	0.0128	0.1837	0.684 + j0.517	0.337 + j0.056	5458	169	176
1	375.92	2234	0.6923	0.87	0.0119	0.1772	0.618 + j0.499	0.267 + j0.053	5458	194	198
1/0	388.62	2817	0.5512	0.69	0.0110	0.1706	0.566 + j0.479	0.212 + j0.051	5458	222	223
2/0	434.34	3551	0.4364	0.55	0.0101	0.1706	0.523 + j0.458	0.168 + j0.051	8577	255	250
3/0	447.04	4477	0.3445	0.44	0.0091	0.1640	0.491 + j0.436	0.134 + j0.049	8577	290	278
4/0	464.82	5647	0.2756	0.34	0.0082	0.1575	0.464 + j0.413	0.106 + j0.047	8577	329	309
250	480.06	6675	0.2329	0.30	0.0079	0.1542	0.449 + j0.391	0.091 + j0.046	10137	370	347
350	525.78	9345	0.1640	0.21	0.0067	0.1476	0.420 + j0.355	0.066 + j0.044	13256	446	402
500	568.96	13350	0.1148	0.15	0.0058	0.1411	0.394 + j0.315	0.047 + j0.042	16376	533	451
750	624.84	20025	0.0787	0.11	0.0049	0.1312	0.367 + j0.264	0.034 + j0.039	21062	631	500
1000	690.88	26700	0.0591	0.09	0.0043	0.1280	0.347 + j0.231	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