HVTECK CU 1/C 140TRXLPE CB PVC AIA PVC 8kV 133% CSA

Single Conductor, 140 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Concentric Bond, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

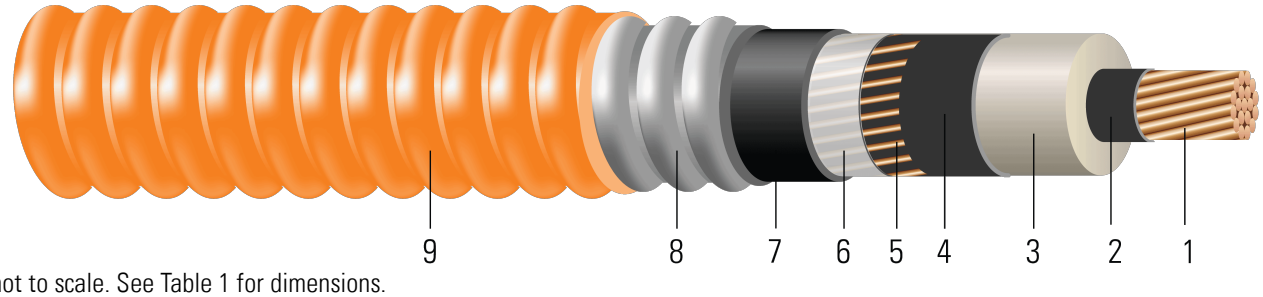

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 140 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 8kV 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 B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper 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] CU 140 TRXLPE AIA 8kV 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	Copper Weight	Approx. Weight
AWG/ Kcmil	No.	inch	inch	mil	inch	No. x AWG	mil	inch	mil	inch	lb/ 1000ft	lb/1000ft
2	7	0.282	0.600	140	0.660	7x14	80	1.170	50	1.270	299	858
1	19	0.322	0.640	140	0.700	11x14	80	1.210	50	1.310	407	996
1/0	19	0.361	0.679	140	0.739	11x14	80	1.359	50	1.459	474	1101
2/0	19	0.405	0.723	140	0.783	11x14	80	1.403	50	1.503	559	1219
3/0	19	0.456	0.774	140	0.834	13x14	80	1.454	50	1.554	694	1391
4/0	19	0.512	0.830	140	0.890	13x14	80	1.510	60	1.630	829	1599
250	37	0.558	0.884	140	0.944	17x14	80	1.564	60	1.684	1001	1814
350	37	0.661	0.987	140	1.047	21x14	80	1.725	60	1.845	1365	2306
500	37	0.789	1.115	140	1.175	26x14	80	1.853	60	1.973	1896	3025
750	61	0.968	1.304	140	1.364	21x12	110	2.102	60	2.222	2753	4170
1000	61	1.117	1.453	140	1.513	21x12	110	2.251	75	2.401	3525	5147

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
1 Comply with ICEA S-93-639 Appendix C for jacket thickness determination
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	15.2	530	0.162	0.204	0.046	0.056	0.559 + j0.487	0.205 + j0.057	5458	215	221
1	15.7	669	0.128	0.162	0.042	0.054	0.520 + j0.466	0.163 + j0.054	8577	245	247
1/0	17.5	844	0.102	0.128	0.039	0.054	0.485 + j0.446	0.129 + j0.054	8577	278	275
2/0	18.0	1064	0.081	0.102	0.036	0.052	0.460 + j0.426	0.103 + j0.052	8577	317	306
3/0	18.6	1342	0.064	0.081	0.033	0.050	0.440 + j0.404	0.082 + j0.050	10137	357	335
4/0	19.6	1692	0.051	0.065	0.030	0.048	0.423 + j0.381	0.066 + j0.049	10137	404	369
250	20.2	2000	0.043	0.056	0.028	0.047	0.412 + j0.360	0.057 + j0.047	13256	456	412
350	22.1	2800	0.031	0.041	0.024	0.045	0.391 + j0.325	0.042 + j0.045	16376	537	456
500	23.7	4000	0.022	0.030	0.021	0.043	0.371 + j0.287	0.031 + j0.043	20275	616	497
750	26.7	6000	0.014	0.023	0.018	0.041	0.347 + j0.242	0.024 + j0.041	26018	706	551
1000	28.8	8000	0.011	0.019	0.016	0.039	0.330 + j0.212	0.020 + j0.039	26018	813	596

* 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
AWG/ Kcmil	No.	mm	mm	mm	mm	No. x AWG	mm	mm	mm	mm	kg/km	kg/km
2	7	7.16	15.24	3.56	16.76	7x14	2.03	29.72	1.27	32.26	445	1277
1	19	8.18	16.26	3.56	17.78	11x14	2.03	30.73	1.27	33.27	606	1482
1/0	19	9.17	17.25	3.56	18.77	11x14	2.03	34.52	1.27	37.06	705	1638
2/0	19	10.29	18.36	3.56	19.89	11x14	2.03	35.64	1.27	38.18	832	1814
3/0	19	11.58	19.66	3.56	21.18	13x14	2.03	36.93	1.27	39.47	1033	2070
4/0	19	13.00	21.08	3.56	22.61	13x14	2.03	38.35	1.52	41.40	1234	2380
250	37	14.17	22.45	3.56	23.98	17x14	2.03	39.73	1.52	42.77	1490	2700
350	37	16.79	25.07	3.56	26.59	21x14	2.03	43.82	1.52	46.86	2031	3432
500	37	20.04	28.32	3.56	29.85	26x14	2.03	47.07	1.52	50.11	2822	4502
750	61	24.59	33.12	3.56	34.65	21x12	2.79	53.39	1.52	56.44	4097	6206
1000	61	28.37	36.91	3.56	38.43	21x12	2.79	57.18	1.91	60.99	5246	7660

UPDATED: Dec. 31, 2024, 11:07 p.m.UTC REVISION: 1.000.000

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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	386.08	2359	0.5315	0.67	0.0140	0.1837	0.559 + j0.487	0.205 + j0.057	5458	215	221
1	398.78	2977	0.4199	0.53	0.0128	0.1772	0.520 + j0.466	0.163 + j0.054	8577	245	247
1/0	444.50	3756	0.3346	0.42	0.0119	0.1772	0.485 + j0.446	0.129 + j0.054	8577	278	275
2/0	457.20	4735	0.2657	0.33	0.0110	0.1706	0.460 + j0.426	0.103 + j0.052	8577	317	306
3/0	472.44	5972	0.2100	0.27	0.0101	0.1640	0.440 + j0.404	0.082 + j0.050	10137	357	335
4/0	497.84	7529	0.1673	0.21	0.0091	0.1575	0.423 + j0.381	0.066 + j0.049	10137	404	369
250	513.08	8900	0.1411	0.18	0.0085	0.1542	0.412 + j0.360	0.057 + j0.047	13256	456	412
350	561.34	12460	0.1017	0.13	0.0073	0.1476	0.391 + j0.325	0.042 + j0.045	16376	537	456
500	601.98	17800	0.0722	0.10	0.0064	0.1411	0.371 + j0.287	0.031 + j0.043	20275	616	497
750	678.18	26700	0.0459	0.08	0.0055	0.1345	0.347 + j0.242	0.024 + j0.041	26018	706	551
1000	731.52	35600	0.0361	0.06	0.0049	0.1280	0.330 + j0.212	0.020 + j0.039	26018	813	596

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