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

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

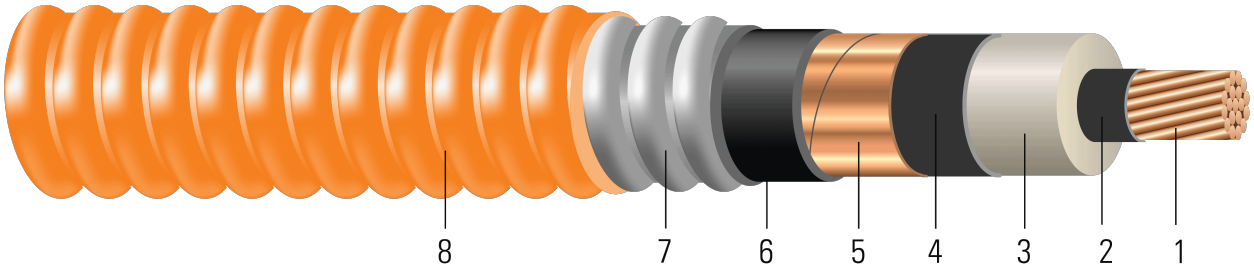

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B 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. **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 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)

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- 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 25% TS SUN RES 105°C FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

Table 1 – Weights and Measurements

Stock Number	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	Copper Weight	Approx. Weight
	AWG/ Kcmil	No.	inch	inch	mil	inch	mil	inch	mil	inch	lb/1000ft	lb/1000ft
TBA	2	7	0.282	0.600	140	0.660	65	1.032	50	1.132	217	699
TBA	1	19	0.322	0.640	140	0.700	80	1.102	50	1.202	272	816
TBA	1/0	19	0.361	0.679	140	0.739	80	1.141	50	1.241	340	912
TBA	2/0	19	0.405	0.723	140	0.783	80	1.185	50	1.285	426	1029
TBA	3/0	19	0.456	0.774	140	0.834	80	1.346	50	1.446	535	1186
TBA	4/0	19	0.512	0.830	140	0.890	80	1.402	50	1.502	671	1364
664706^	4/0	19	0.512	0.830	140	0.890	80	1.414	50	1.514	727	1470
TBA	250	37	0.558	0.884	140	0.944	80	1.456	50	1.556	790	1524
TBA	350	37	0.661	0.987	140	1.047	80	1.559	60	1.679	1102	1945
664685^	500	37	0.789	1.115	140	1.175	80	1.699	60	1.819	1638	2626
TBA	750	61	0.968	1.304	140	1.364	80	1.900	60	2.020	2343	3566
TBA	1000	61	1.117	1.453	140	1.513	110	2.109	60	2.229	3118	4587

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
^ Black overall jacket
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.

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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
2	13.6	530	0.162	0.204	0.046	0.054	0.564 + j0.486	0.205 + j0.055	2075	215	221
1	14.4	669	0.128	0.162	0.042	0.052	0.524 + j0.464	0.163 + j0.052	2199	245	247
1/0	14.9	844	0.102	0.128	0.039	0.050	0.491 + j0.445	0.129 + j0.050	2320	278	275
2/0	15.4	1064	0.081	0.102	0.036	0.048	0.466 + j0.424	0.103 + j0.048	2456	317	306
3/0	17.4	1342	0.064	0.081	0.033	0.048	0.443 + j0.401	0.082 + j0.048	2614	357	335
4/0	18.0	1692	0.051	0.065	0.030	0.046	0.426 + j0.379	0.066 + j0.047	2788	404	369
4/0	18.2	1692	0.051	0.065	0.030	0.047	0.426 + j0.378	0.066 + j0.047	2788	404	369
250	18.7	2000	0.043	0.056	0.028	0.045	0.415 + j0.358	0.057 + j0.045	2955	456	412
350	20.1	2800	0.031	0.041	0.024	0.043	0.394 + j0.323	0.042 + j0.043	3274	537	456
500	21.8	4000	0.022	0.030	0.021	0.041	0.373 + j0.285	0.031 + j0.041	3671	616	497
750	24.2	6000	0.014	0.023	0.018	0.039	0.349 + j0.239	0.024 + j0.039	4257	706	551
1000	26.7	8000	0.011	0.019	0.016	0.038	0.331 + j0.210	0.020 + j0.037	4718	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

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Table 3 – Weights and Measurements (Metric)

Stock Number	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	Copper Weight	Approx. Weight
	AWG/ Kcmil	No.	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	kg/km
TBA	2	7	7.16	15.24	3.56	16.76	1.65	26.21	1.27	28.75	323	1040
TBA	1	19	8.18	16.26	3.56	17.78	2.03	27.99	1.27	30.53	405	1214
TBA	1/0	19	9.17	17.25	3.56	18.77	2.03	28.98	1.27	31.52	506	1357
TBA	2/0	19	10.29	18.36	3.56	19.89	2.03	30.10	1.27	32.64	634	1531
TBA	3/0	19	11.58	19.66	3.56	21.18	2.03	34.19	1.27	36.73	796	1765
TBA	4/0	19	13.00	21.08	3.56	22.61	2.03	35.61	1.27	38.15	999	2030
664706^	4/0	19	13.00	21.08	3.56	22.61	2.03	35.92	1.27	38.46	1082	2188
TBA	250	37	14.17	22.45	3.56	23.98	2.03	36.98	1.27	39.52	1176	2268
TBA	350	37	16.79	25.07	3.56	26.59	2.03	39.60	1.52	42.65	1640	2894
664685^	500	37	20.04	28.32	3.56	29.85	2.03	43.15	1.52	46.20	2438	3908
TBA	750	61	24.59	33.12	3.56	34.65	2.03	48.26	1.52	51.31	3487	5307
TBA	1000	61	28.37	36.91	3.56	38.43	2.79	53.57	1.52	56.62	4640	6826

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
^ Black overall jacket
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.

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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	345.44	2359	0.5315	0.67	0.0140	0.1772	0.564 + j0.486	0.205 + j0.055	2075	215	221
1	365.76	2977	0.4199	0.53	0.0128	0.1706	0.524 + j0.464	0.163 + j0.052	2199	245	247
1/0	378.46	3756	0.3346	0.42	0.0119	0.1640	0.491 + j0.445	0.129 + j0.050	2320	278	275
2/0	391.16	4735	0.2657	0.33	0.0110	0.1575	0.466 + j0.424	0.103 + j0.048	2456	317	306
3/0	441.96	5972	0.2100	0.27	0.0101	0.1575	0.443 + j0.401	0.082 + j0.048	2614	357	335
4/0	457.20	7529	0.1673	0.21	0.0091	0.1509	0.426 + j0.379	0.066 + j0.047	2788	404	369
4/0	462.28	7529	0.1673	0.21	0.0091	0.1542	0.426 + j0.378	0.066 + j0.047	2788	404	369
250	474.98	8900	0.1411	0.18	0.0085	0.1476	0.415 + j0.358	0.057 + j0.045	2955	456	412
350	510.54	12460	0.1017	0.13	0.0073	0.1411	0.394 + j0.323	0.042 + j0.043	3274	537	456
500	553.72	17800	0.0722	0.10	0.0064	0.1345	0.373 + j0.285	0.031 + j0.041	3671	616	497
750	614.68	26700	0.0459	0.08	0.0055	0.1280	0.349 + j0.239	0.024 + j0.039	4257	706	551
1000	678.18	35600	0.0361	0.06	0.0049	0.1247	0.331 + j0.210	0.020 + j0.037	4718	813	596

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