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

Single Conductor, 140 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

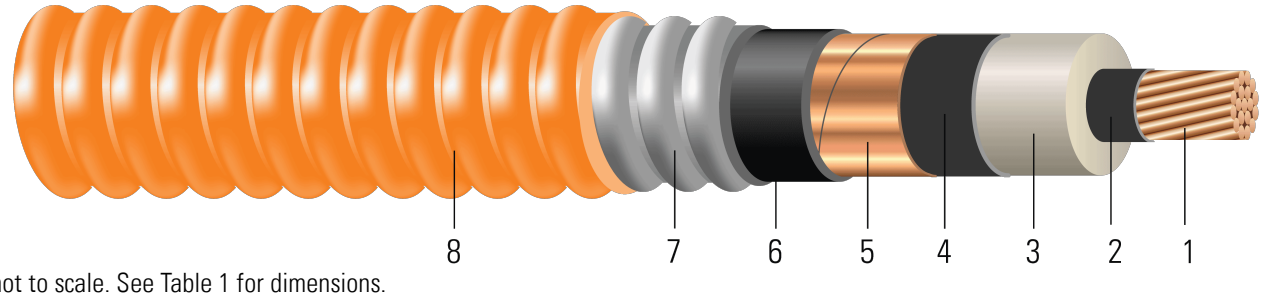


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8
2. **Conductor Shield:** Semi-conducting cross-linked copolymer
3. **Insulation:** 140 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 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 NLEPR 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

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	Conduit Size*
AWG/ Kcmil	No.	inch	inch	mil	inch	mil	inch	mil	inch	lb/1000ft	lb/1000ft	inch
2	7	0.283	0.601	140	0.661	65	1.021	50	1.121	260	769	3
1	19	0.322	0.64	140	0.7	80	1.09	50	1.19	316	885	3
1/0	19	0.362	0.68	140	0.74	80	1.13	50	1.23	387	986	3
2/0	19	0.405	0.723	140	0.783	80	1.173	50	1.273	476	1107	3
3/0	19	0.456	0.774	140	0.834	80	1.224	50	1.324	587	1256	3.5
4/0	19	0.512	0.83	140	0.89	80	1.28	50	1.38	726	1438	3.5
250	37	0.558	0.884	140	0.944	80	1.334	50	1.434	850	1606	3.5
350	37	0.661	0.987	140	1.047	80	1.437	50	1.537	1167	2001	4
500	37	0.789	1.115	140	1.175	80	1.665	60	1.785	1641	2756	4.5
750	61	0.968	1.304	140	1.364	80	1.854	60	1.974	2428	3715	5
1000	61	1.117	1.453	140	1.513	110	2.063	60	2.183	3212	4743	5.5

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	7.8	530	0.162	0.221	0.033	0.053	0.563+j0.522	0.222+j0.060	2079	215	221
1	8.3	669	0.128	0.175	0.03	0.052	0.520+j0.502	0.176+j0.057	2200	245	247
1/0	8.6	844	0.102	0.139	0.028	0.05	0.488+j0.484	0.140+j0.055	2324	278	275
2/0	8.9	1064	0.082	0.112	0.026	0.048	0.463+j0.464	0.113+j0.054	2457	317	306
3/0	9.3	1342	0.064	0.087	0.023	0.046	0.441+j0.443	0.088+j0.052	2615	357	335
4/0	9.7	1692	0.051	0.07	0.021	0.044	0.425+j0.421	0.071+j0.050	2789	404	369
250	10	2000	0.043	0.059	0.02	0.043	0.414+j0.401	0.060+j0.049	2956	456	412
350	10.8	2800	0.031	0.043	0.017	0.041	0.396+j0.365	0.044+j0.046	3275	537	456
500	12.5	4000	0.021	0.03	0.015	0.04	0.377+j0.326	0.031+j0.046	3672	616	497
750	13.8	6000	0.014	0.021	0.013	0.038	0.356+j0.278	0.023+j0.043	4257	706	551
1000	15.3	8000	0.011	0.018	0.011	0.037	0.342+j0.247	0.020+j0.042	4719	813	596

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* 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	Copper Weight	Approx. Weight	Conduit Size*
AWG/ Kcmil	No.	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	kg/km	inch
2	7	7.19	15.27	3.56	16.79	1.65	25.93	1.27	28.47	387	1144	3
1	19	8.18	16.26	3.56	17.78	2.03	27.69	1.27	30.23	470	1317	3
1/0	19	9.19	17.27	3.56	18.80	2.03	28.70	1.27	31.24	576	1467	3
2/0	19	10.29	18.36	3.56	19.89	2.03	29.79	1.27	32.33	708	1647	3
3/0	19	11.58	19.66	3.56	21.18	2.03	31.09	1.27	33.63	874	1869	3.5
4/0	19	13.00	21.08	3.56	22.61	2.03	32.51	1.27	35.05	1080	2140	3.5
250	37	14.17	22.45	3.56	23.98	2.03	33.88	1.27	36.42	1265	2390	3.5
350	37	16.79	25.07	3.56	26.59	2.03	36.50	1.27	39.04	1737	2978	4
500	37	20.04	28.32	3.56	29.85	2.03	42.29	1.52	45.34	2442	4101	4.5
750	61	24.59	33.12	3.56	34.65	2.03	47.09	1.52	50.14	3613	5529	5
1000	61	28.37	36.91	3.56	38.43	2.79	52.40	1.52	55.45	4780	7058	5.5

All dimensions are nominal and subject to normal manufacturing tolerances
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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	198.12	2359	0.5315	0.73	0.0101	0.1739	0.563+j0.522	0.222+j0.060	2079	215	221
1	210.82	2977	0.4199	0.57	0.0091	0.1706	0.520+j0.502	0.176+j0.057	2200	245	247
1/0	218.44	3756	0.3346	0.46	0.0085	0.1640	0.488+j0.484	0.140+j0.055	2324	278	275
2/0	226.06	4735	0.2690	0.37	0.0079	0.1575	0.463+j0.464	0.113+j0.054	2457	317	306
3/0	236.22	5972	0.2100	0.29	0.0070	0.1509	0.441+j0.443	0.088+j0.052	2615	357	335
4/0	246.38	7529	0.1673	0.23	0.0064	0.1444	0.425+j0.421	0.071+j0.050	2789	404	369
250	254.00	8900	0.1411	0.19	0.0061	0.1411	0.414+j0.401	0.060+j0.049	2956	456	412
350	274.32	12460	0.1017	0.14	0.0052	0.1345	0.396+j0.365	0.044+j0.046	3275	537	456
500	317.50	17800	0.0689	0.10	0.0046	0.1312	0.377+j0.326	0.031+j0.046	3672	616	497
750	350.52	26700	0.0459	0.07	0.0040	0.1247	0.356+j0.278	0.023+j0.043	4257	706	551
1000	388.62	35600	0.0361	0.06	0.0034	0.1214	0.342+j0.247	0.020+j0.042	4719	813	596

* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
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3-1/C direct buried copper and aluminum: D17A

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