HVTECK CU 1/C 320TRXLPE TS PVC AIA PVC 25kV 133% CSA

Single Conductor, 320 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

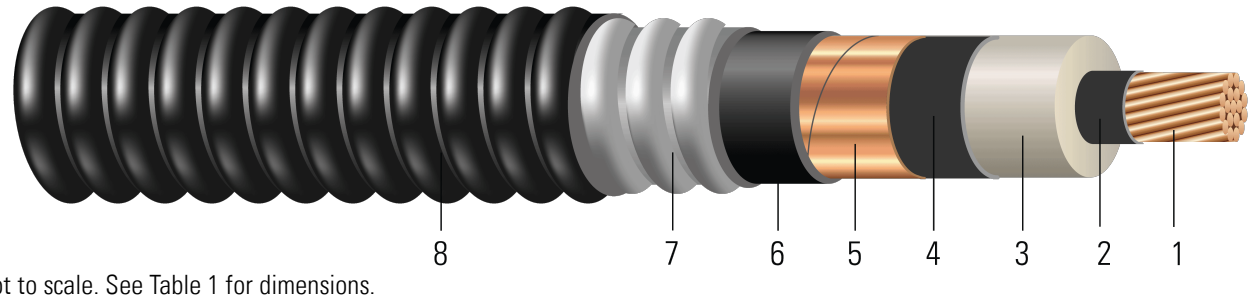


Image not to scale. See Table 1 for dimensions.

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:** 320 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:** Black Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 25kV 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 320 TRXLPE AIA 25kV 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	Conduit Size*
	AWG/ Kcmil	No.	inch	inch	mil	inch	mil	inch	mil	inch	lb/ 1000ft	lb/ 1000ft	inch
TBA	1	19	0.322	1	320	1.06	80	1.45	50	1.55	345	1344	4
TBA	1/0	19	0.362	1.04	320	1.1	80	1.59	60	1.71	417	1635	4.5
TBA	2/0	19	0.405	1.083	320	1.143	80	1.633	60	1.753	505	1773	4.5
TBA	3/0	19	0.456	1.134	320	1.194	80	1.684	60	1.804	616	1944	4.5
TBA	4/0	19	0.512	1.19	320	1.25	80	1.74	60	1.86	756	2150	5
672797	250	37	0.558	1.244	320	1.304	80	1.828	60	1.948	876	2122	5
TBA	350	37	0.661	1.347	320	1.407	80	1.897	60	2.017	1197	2781	5.5
TBA	500	37	0.789	1.475	320	1.535	110	2.085	60	2.205	1670	3521	6
672792	750	61	0.968	1.664	320	1.724	110	2.308	75	2.458	2459	4320	6.5
TBA	1000	61	1.117	1.813	320	1.873	110	2.423	75	2.573	3242	5589	7

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
1	10.9	669	0.128	0.175	0.07	0.058	0.528+j0.378	0.176+j0.063	3315	245	244
1/0	12	844	0.102	0.139	0.065	0.057	0.489+j0.364	0.140+j0.063	3439	278	272
2/0	12.3	1064	0.082	0.112	0.061	0.055	0.460+j0.350	0.113+j0.061	3572	316	303
3/0	12.6	1342	0.064	0.087	0.057	0.053	0.433+j0.334	0.088+j0.059	3730	356	333
4/0	13	1692	0.051	0.07	0.053	0.051	0.412+j0.318	0.071+j0.057	3904	403	367
250	13.6	2000	0.043	0.059	0.049	0.05	0.398+j0.304	0.061+j0.056	4071	455	411
350	14.1	2800	0.031	0.043	0.044	0.047	0.375+j0.279	0.045+j0.053	4390	537	459
500	15.4	4000	0.021	0.03	0.039	0.045	0.352+j0.252	0.032+j0.051	4787	616	499
750	17.2	6000	0.014	0.021	0.033	0.043	0.328+j0.218	0.023+j0.048	5373	716	557
1000	18	8000	0.011	0.018	0.03	0.041	0.314+j0.196	0.020+j0.046	5834	825	608

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

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3-1/C in air copper and aluminum: D17M
3-1/C direct buried copper and aluminum: D17A

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	Conduit Size*
	AWG/ Kcmil	No.	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	kg/km	inch
TBA	1	19	8.18	25.40	8.13	26.92	2.03	36.83	1.27	39.37	513	2000	4
TBA	1/0	19	9.19	26.42	8.13	27.94	2.03	40.39	1.52	43.43	621	2433	4.5
TBA	2/0	19	10.29	27.51	8.13	29.03	2.03	41.48	1.52	44.53	752	2639	4.5
TBA	3/0	19	11.58	28.80	8.13	30.33	2.03	42.77	1.52	45.82	917	2893	4.5
TBA	4/0	19	13.00	30.23	8.13	31.75	2.03	44.20	1.52	47.24	1125	3200	5
672797	250	37	14.17	31.60	8.13	33.12	2.03	46.43	1.52	49.48	1304	3158	5
TBA	350	37	16.79	34.21	8.13	35.74	2.03	48.18	1.52	51.23	1781	4139	5.5
TBA	500	37	20.04	37.47	8.13	38.99	2.79	52.96	1.52	56.01	2485	5240	6
672792	750	61	24.59	42.27	8.13	43.79	2.79	58.62	1.91	62.43	3659	6429	6.5
TBA	1000	61	28.37	46.05	8.13	47.57	2.79	61.54	1.91	65.35	4825	8317	7

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 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
1	276.86	2977	0.4199	0.57	0.0213	0.1903	0.528+j0.378	0.176+j0.063	3315	245	244
1/0	304.80	3756	0.3346	0.46	0.0198	0.1870	0.489+j0.364	0.140+j0.063	3439	278	272
2/0	312.42	4735	0.2690	0.37	0.0186	0.1804	0.460+j0.350	0.113+j0.061	3572	316	303
3/0	320.04	5972	0.2100	0.29	0.0174	0.1739	0.433+j0.334	0.088+j0.059	3730	356	333
4/0	330.20	7529	0.1673	0.23	0.0162	0.1673	0.412+j0.318	0.071+j0.057	3904	403	367
250	345.44	8900	0.1411	0.19	0.0149	0.1640	0.398+j0.304	0.061+j0.056	4071	455	411
350	358.14	12460	0.1017	0.14	0.0134	0.1542	0.375+j0.279	0.045+j0.053	4390	537	459
500	391.16	17800	0.0689	0.10	0.0119	0.1476	0.352+j0.252	0.032+j0.051	4787	616	499
750	436.88	26700	0.0459	0.07	0.0101	0.1411	0.328+j0.218	0.023+j0.048	5373	716	557
1000	457.20	35600	0.0361	0.06	0.0091	0.1345	0.314+j0.196	0.020+j0.046	5834	825	608

* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
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3-1/C in air copper and aluminum: D17M
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