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

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

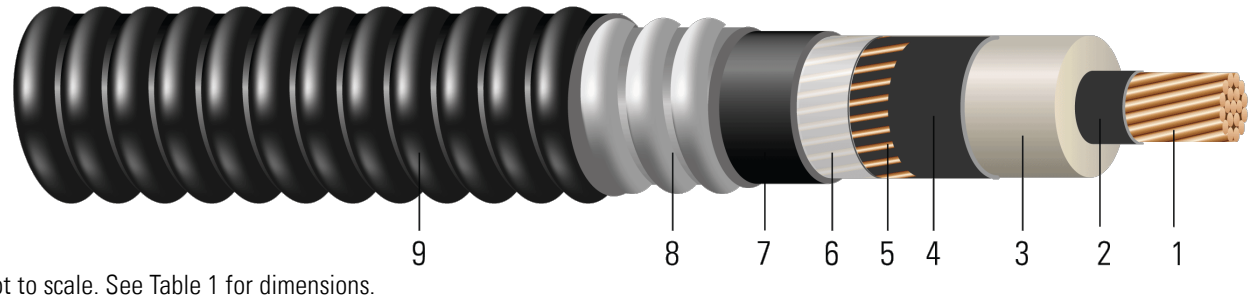

Image not to scale. See Table 1 for dimensions.

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:** 320 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:** 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)
- 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 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
1	19	0.322	1.000	320	1.060	11x14	80	1.704	60	1.824	407	1486
1/0	19	0.361	1.039	320	1.099	11x14	80	1.743	60	1.863	474	1595
2/0	19	0.405	1.083	320	1.143	11x14	80	1.787	60	1.907	559	1727
3/0	19	0.456	1.134	320	1.194	13x14	80	1.838	60	1.958	694	1915
4/0	19	0.512	1.190	320	1.250	13x14	80	1.894	60	2.014	829	2204
250	37	0.558	1.244	320	1.304	17x14	80	1.948	60	2.068	1001	2440
350	37	0.661	1.347	320	1.407	21x14	110	2.145	60	2.265	1365	3061
500	37	0.789	1.475	320	1.535	26x14	110	2.273	75	2.423	1896	3815
750	61	0.968	1.664	320	1.724	21x12	110	2.462	75	2.612	2753	4910
1000	61	1.117	1.813	320	1.873	21x12	110	2.611	75	2.761	3525	5864

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

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	21.9	669	0.128	0.162	0.073	0.062	0.512 + j0.338	0.163 + j0.062	8577	245	244
1/0	22.4	844	0.102	0.128	0.068	0.059	0.475 + j0.324	0.129 + j0.060	8577	278	272
2/0	22.9	1064	0.081	0.102	0.063	0.057	0.446 + j0.310	0.103 + j0.057	8577	316	303
3/0	23.5	1342	0.064	0.081	0.059	0.055	0.421 + j0.295	0.082 + j0.055	10137	356	333
4/0	24.2	1692	0.051	0.065	0.054	0.053	0.400 + j0.279	0.066 + j0.053	10137	403	367
250	24.8	2000	0.043	0.056	0.051	0.052	0.386 + j0.266	0.057 + j0.052	13256	455	411
350	27.2	2800	0.031	0.041	0.046	0.050	0.361 + j0.243	0.042 + j0.050	16376	537	459
500	29.1	4000	0.022	0.030	0.040	0.047	0.339 + j0.217	0.031 + j0.048	20275	616	499
750	31.3	6000	0.014	0.023	0.034	0.045	0.314 + j0.186	0.024 + j0.044	26018	716	557
1000	33.1	8000	0.011	0.019	0.031	0.043	0.297 + j0.166	0.020 + j0.042	26018	825	608

* 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
1	19	8.18	25.40	8.13	26.92	11x14	2.03	43.28	1.52	46.33	606	2211
1/0	19	9.17	26.39	8.13	27.91	11x14	2.03	44.27	1.52	47.32	705	2374
2/0	19	10.29	27.51	8.13	29.03	11x14	2.03	45.39	1.52	48.44	832	2570
3/0	19	11.58	28.80	8.13	30.33	13x14	2.03	46.69	1.52	49.73	1033	2850
4/0	19	13.00	30.23	8.13	31.75	13x14	2.03	48.11	1.52	51.16	1234	3280
250	37	14.17	31.60	8.13	33.12	17x14	2.03	49.48	1.52	52.53	1490	3631
350	37	16.79	34.21	8.13	35.74	21x14	2.79	54.48	1.52	57.53	2031	4555
500	37	20.04	37.47	8.13	38.99	26x14	2.79	57.73	1.91	61.54	2822	5677
750	61	24.59	42.27	8.13	43.79	21x12	2.79	62.53	1.91	66.34	4097	7307
1000	61	28.37	46.05	8.13	47.57	21x12	2.79	66.32	1.91	70.13	5246	8727

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

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	556.26	2977	0.4199	0.53	0.0223	0.2034	0.512 + j0.338	0.163 + j0.062	8577	245	244
1/0	568.96	3756	0.3346	0.42	0.0207	0.1936	0.475 + j0.324	0.129 + j0.060	8577	278	272
2/0	581.66	4735	0.2657	0.33	0.0192	0.1870	0.446 + j0.310	0.103 + j0.057	8577	316	303
3/0	596.90	5972	0.2100	0.27	0.0180	0.1804	0.421 + j0.295	0.082 + j0.055	10137	356	333
4/0	614.68	7529	0.1673	0.21	0.0165	0.1739	0.400 + j0.279	0.066 + j0.053	10137	403	367
250	629.92	8900	0.1411	0.18	0.0155	0.1706	0.386 + j0.266	0.057 + j0.052	13256	455	411
350	690.88	12460	0.1017	0.13	0.0140	0.1640	0.361 + j0.243	0.042 + j0.050	16376	537	459
500	739.14	17800	0.0722	0.10	0.0122	0.1542	0.339 + j0.217	0.031 + j0.048	20275	616	499
750	795.02	26700	0.0459	0.08	0.0104	0.1476	0.314 + j0.186	0.024 + j0.044	26018	716	557
1000	840.74	35600	0.0361	0.06	0.0094	0.1411	0.297 + j0.166	0.020 + j0.042	26018	825	608

* 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