HVTECK CU 1/C 420TRXLPE CB PVC AIA PVC 35kV 133% CSA

Single Conductor, 420 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Concentric Bond, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

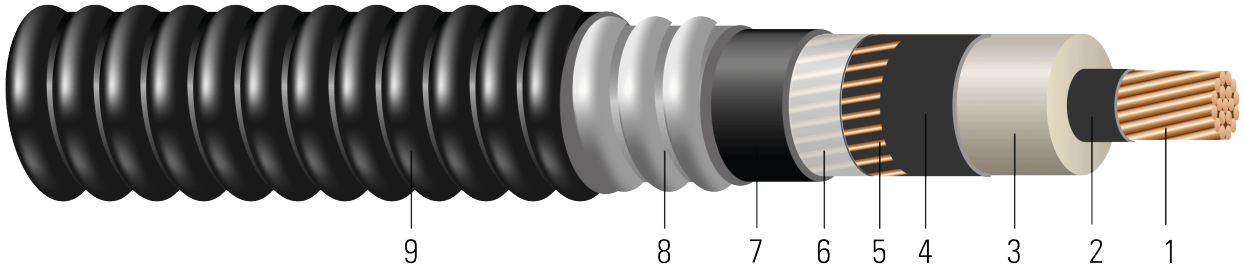


Image not to scale. See Table 1 for dimensions.

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:** 420 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 35kV 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)

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- 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 420 TRXLPE AIA 35kV 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
1/0	19	0.361	1.239	420	1.299	11x14	80	1.943	60	2.063	474	1979
2/0	19	0.405	1.283	420	1.343	11x14	80	1.987	60	2.107	559	2120
3/0	19	0.456	1.334	420	1.394	13x14	110	2.098	60	2.218	694	2442
4/0	19	0.512	1.390	420	1.450	13x14	110	2.154	60	2.274	829	2653
250	37	0.558	1.444	420	1.504	17x14	110	2.208	60	2.328	1001	2900
350	37	0.661	1.547	420	1.607	21x14	110	2.345	75	2.495	1365	3497
500	37	0.789	1.675	420	1.735	26x14	110	2.473	75	2.623	1896	4204
750	61	0.968	1.864	420	1.924	21x12	110	2.662	75	2.812	2753	5330

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

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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
1/0	24.8	844	0.102	0.128	0.080	0.062	0.459 + j0.277	0.129 + j0.062	8577	278	272
2/0	25.3	1064	0.081	0.102	0.075	0.060	0.429 + j0.265	0.103 + j0.060	8577	316	303
3/0	26.6	1342	0.064	0.081	0.070	0.058	0.403 + j0.253	0.082 + j0.058	10137	356	333
4/0	27.3	1692	0.051	0.065	0.065	0.056	0.382 + j0.240	0.066 + j0.056	10137	403	367
250	27.9	2000	0.043	0.056	0.061	0.055	0.368 + j0.229	0.057 + j0.055	13256	455	411
350	29.9	2800	0.031	0.041	0.055	0.052	0.343 + j0.210	0.042 + j0.052	16376	537	459
500	31.5	4000	0.022	0.030	0.049	0.049	0.320 + j0.190	0.031 + j0.049	20275	616	499
750	33.7	6000	0.014	0.023	0.042	0.046	0.297 + j0.164	0.024 + j0.046	26018	716	557

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

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
1/0	19	9.17	31.47	10.67	32.99	11x14	2.03	49.35	1.52	52.40	705	2945
2/0	19	10.29	32.59	10.67	34.11	11x14	2.03	50.47	1.52	53.52	832	3155
3/0	19	11.58	33.88	10.67	35.41	13x14	2.79	53.29	1.52	56.34	1033	3634
4/0	19	13.00	35.31	10.67	36.83	13x14	2.79	54.71	1.52	57.76	1234	3948
250	37	14.17	36.68	10.67	38.20	17x14	2.79	56.08	1.52	59.13	1490	4316
350	37	16.79	39.29	10.67	40.82	21x14	2.79	59.56	1.91	63.37	2031	5204
500	37	20.04	42.55	10.67	44.07	26x14	2.79	62.81	1.91	66.62	2822	6256
750	61	24.59	47.35	10.67	48.87	21x12	2.79	67.61	1.91	71.42	4097	7932

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

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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
1/0	629.92	3756	0.3346	0.42	0.0244	0.2034	0.459 + j0.277	0.129 + j0.062	8577	278	272
2/0	642.62	4735	0.2657	0.33	0.0229	0.1969	0.429 + j0.265	0.103 + j0.060	8577	316	303
3/0	675.64	5972	0.2100	0.27	0.0213	0.1903	0.403 + j0.253	0.082 + j0.058	10137	356	333
4/0	693.42	7529	0.1673	0.21	0.0198	0.1837	0.382 + j0.240	0.066 + j0.056	10137	403	367
250	708.66	8900	0.1411	0.18	0.0186	0.1804	0.368 + j0.229	0.057 + j0.055	13256	455	411
350	759.46	12460	0.1017	0.13	0.0168	0.1706	0.343 + j0.210	0.042 + j0.052	16376	537	459
500	800.10	17800	0.0722	0.10	0.0149	0.1608	0.320 + j0.190	0.031 + j0.049	20275	616	499
750	855.98	26700	0.0459	0.08	0.0128	0.1509	0.297 + j0.164	0.024 + j0.046	26018	716	557

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