HVTECK CU 1/C 175NLEPR CB PVC AIA PVC 15kV 100% CSA

Single Conductor, 175 Mils No Lead Ethylene Propylene Rubber (NL-EPR), 100% Insulation Level, Concentric Bond, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

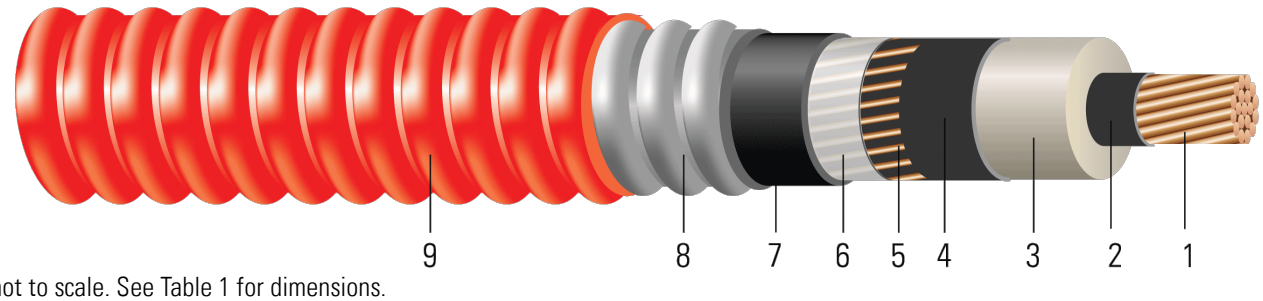

Image not to scale. See Table 1 for dimensions.

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:** 175 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 100% 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:** Red Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 15kV 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 175 NLEPR AIA 15kV 100% 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
2	7	0.282	0.670	175	0.730	7x14	80	1.350	50	1.450	299	938
1	19	0.322	0.710	175	0.770	11x14	80	1.390	50	1.490	407	1077
1/0	19	0.361	0.749	175	0.809	11x14	80	1.429	50	1.529	474	1175
2/0	19	0.405	0.793	175	0.853	11x14	80	1.473	50	1.573	559	1295
3/0	19	0.456	0.844	175	0.904	13x14	80	1.524	60	1.644	694	1502
4/0	19	0.512	0.900	175	0.960	13x14	80	1.580	60	1.700	829	1683
250	37	0.558	0.954	175	1.014	17x14	80	1.658	60	1.778	1001	1935
350	37	0.661	1.057	175	1.117	21x14	80	1.795	60	1.915	1365	2400
500	37	0.789	1.185	175	1.245	26x14	80	1.923	60	2.043	1896	3132
750	61	0.968	1.374	175	1.434	21x12	110	2.172	60	2.292	2753	4290
1000	61	1.117	1.523	175	1.583	21x12	110	2.321	75	2.471	3525	5277

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
2	17.4	530	0.162	0.204	0.041	0.059	0.561 + j0.456	0.205 + j0.060	5458	215	221
1	17.9	669	0.128	0.162	0.038	0.057	0.520 + j0.436	0.163 + j0.057	8577	245	247
1/0	18.3	844	0.102	0.128	0.035	0.055	0.487 + j0.418	0.129 + j0.055	8577	278	275
2/0	18.9	1064	0.081	0.102	0.032	0.053	0.461 + j0.399	0.103 + j0.053	8577	317	306
3/0	19.7	1342	0.064	0.081	0.029	0.051	0.438 + j0.378	0.082 + j0.051	10137	357	335
4/0	20.4	1692	0.051	0.065	0.027	0.049	0.420 + j0.357	0.066 + j0.049	10137	404	369
250	21.3	2000	0.043	0.056	0.025	0.048	0.408 + j0.338	0.057 + j0.048	13256	456	412
350	23.0	2800	0.031	0.041	0.022	0.046	0.386 + j0.306	0.042 + j0.046	16376	537	456
500	24.5	4000	0.022	0.030	0.019	0.044	0.365 + j0.271	0.031 + j0.044	20275	616	497
750	27.5	6000	0.014	0.023	0.016	0.042	0.341 + j0.229	0.024 + j0.041	26018	706	551
1000	29.7	8000	0.011	0.019	0.014	0.040	0.323 + j0.202	0.020 + j0.040	26018	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

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
2	7	7.16	17.02	4.44	18.54	7x14	2.03	34.29	1.27	36.83	445	1396
1	19	8.18	18.03	4.44	19.56	11x14	2.03	35.31	1.27	37.85	606	1603
1/0	19	9.17	19.02	4.44	20.55	11x14	2.03	36.30	1.27	38.84	705	1749
2/0	19	10.29	20.14	4.44	21.67	11x14	2.03	37.41	1.27	39.95	832	1927
3/0	19	11.58	21.44	4.44	22.96	13x14	2.03	38.71	1.52	41.76	1033	2235
4/0	19	13.00	22.86	4.44	24.38	13x14	2.03	40.13	1.52	43.18	1234	2505
250	37	14.17	24.23	4.44	25.76	17x14	2.03	42.11	1.52	45.16	1490	2880
350	37	16.79	26.85	4.44	28.37	21x14	2.03	45.59	1.52	48.64	2031	3572
500	37	20.04	30.10	4.44	31.62	26x14	2.03	48.84	1.52	51.89	2822	4661
750	61	24.59	34.90	4.44	36.42	21x12	2.79	55.17	1.52	58.22	4097	6384
1000	61	28.37	38.68	4.44	40.21	21x12	2.79	58.95	1.91	62.76	5246	7853

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
2	441.96	2359	0.5315	0.67	0.0125	0.1936	0.561 + j0.456	0.205 + j0.060	5458	215	221
1	454.66	2977	0.4199	0.53	0.0116	0.1870	0.520 + j0.436	0.163 + j0.057	8577	245	247
1/0	464.82	3756	0.3346	0.42	0.0107	0.1804	0.487 + j0.418	0.129 + j0.055	8577	278	275
2/0	480.06	4735	0.2657	0.33	0.0098	0.1739	0.461 + j0.399	0.103 + j0.053	8577	317	306
3/0	500.38	5972	0.2100	0.27	0.0088	0.1673	0.438 + j0.378	0.082 + j0.051	10137	357	335
4/0	518.16	7529	0.1673	0.21	0.0082	0.1608	0.420 + j0.357	0.066 + j0.049	10137	404	369
250	541.02	8900	0.1411	0.18	0.0076	0.1575	0.408 + j0.338	0.057 + j0.048	13256	456	412
350	584.20	12460	0.1017	0.13	0.0067	0.1509	0.386 + j0.306	0.042 + j0.046	16376	537	456
500	622.30	17800	0.0722	0.10	0.0058	0.1444	0.365 + j0.271	0.031 + j0.044	20275	616	497
750	698.50	26700	0.0459	0.08	0.0049	0.1378	0.341 + j0.229	0.024 + j0.041	26018	706	551
1000	754.38	35600	0.0361	0.06	0.0043	0.1312	0.323 + j0.202	0.020 + j0.040	26018	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