HVTECK CU 1/C 260NLEPR CB PVC AIA PVC 25kV 100% CSA

Single Conductor, 260 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

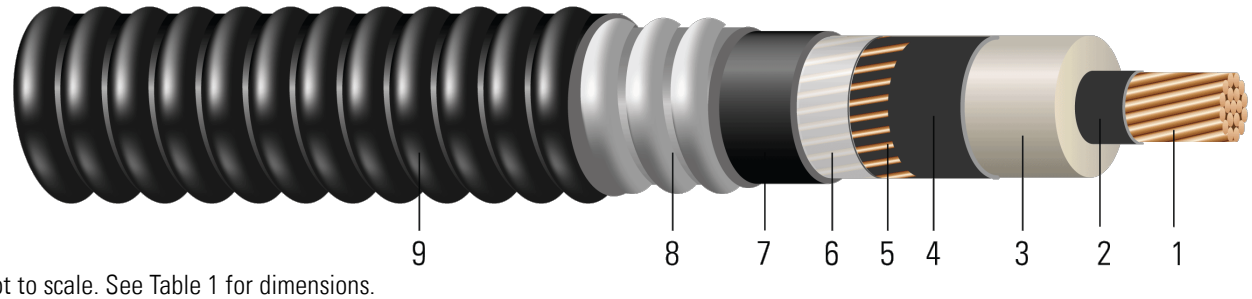


Image not to scale. See Table 1 for dimensions.

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:** 260 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:** 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)

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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 260 NLEPR AIA 25kV 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	Conduit Size*
AWG/ Kcmil	No.	inch	inch	mil	inch	No. x AWG	mil	inch	mil	inch	lb/ 1000ft	lb/ 1000ft	inch
1	19	0.322	0.88	260	0.94	7x12	80	1.7	60	1.82	464	1869	4.5
1/0	19	0.362	0.92	260	0.98	7x12	80	1.74	60	1.86	536	1993	5
2/0	19	0.405	0.963	260	1.023	7x12	80	1.783	60	1.903	624	2137	5
3/0	19	0.456	1.014	260	1.074	9x12	80	1.834	60	1.954	769	2349	5
4/0	19	0.512	1.07	260	1.13	9x12	80	1.89	60	2.01	909	2562	5.5
250	37	0.558	1.124	260	1.184	11x12	80	1.944	60	2.064	1074	2802	5.5
350	37	0.661	1.227	260	1.287	13x12	110	2.107	60	2.227	1445	3426	6
500	37	0.789	1.355	260	1.415	17x12	110	2.235	60	2.355	1986	4142	6
750	61	0.968	1.544	260	1.604	21x12	110	2.424	75	2.574	2859	5350	7
1000	61	1.117	1.693	260	1.753	21x12	110	2.573	75	2.723	3643	6344	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.

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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	12.7	669	0.128	0.175	0.047	0.062	0.417+j0.133	0.179+j0.067	3879	245	244
1/0	13	844	0.102	0.139	0.043	0.059	0.381+j0.131	0.143+j0.064	3879	278	272
2/0	13.3	1064	0.082	0.112	0.041	0.057	0.353+j0.130	0.116+j0.062	3879	316	303
3/0	13.7	1342	0.064	0.087	0.038	0.055	0.287+j0.093	0.092+j0.060	4987	356	333
4/0	14.1	1692	0.051	0.07	0.035	0.053	0.270+j0.092	0.075+j0.058	4987	403	367
250	14.4	2000	0.043	0.059	0.032	0.052	0.229+j0.071	0.064+j0.056	6095	455	411
350	15.6	2800	0.031	0.043	0.029	0.05	0.190+j0.057	0.049+j0.054	7203	537	459
500	16.5	4000	0.021	0.03	0.025	0.047	0.145+j0.041	0.038+j0.050	9420	616	499
750	18	6000	0.014	0.021	0.021	0.044	0.115+j0.032	0.030+j0.047	11636	716	557
1000	19.1	8000	0.011	0.018	0.019	0.042	0.112+j0.031	0.027+j0.045	11636	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	Conduit Size*
AWG/ Kcmil	No.	mm	mm	mm	mm	No. x AWG	mm	mm	mm	mm	kg/km	kg/km	inch
1	19	8.18	22.35	6.60	23.88	7x12	2.03	43.18	1.52	46.23	691	2781	4.5
1/0	19	9.19	23.37	6.60	24.89	7x12	2.03	44.20	1.52	47.24	798	2966	5
2/0	19	10.29	24.46	6.60	25.98	7x12	2.03	45.29	1.52	48.34	929	3180	5
3/0	19	11.58	25.76	6.60	27.28	9x12	2.03	46.58	1.52	49.63	1144	3496	5
4/0	19	13.00	27.18	6.60	28.70	9x12	2.03	48.01	1.52	51.05	1353	3813	5.5
250	37	14.17	28.55	6.60	30.07	11x12	2.03	49.38	1.52	52.43	1598	4170	5.5
350	37	16.79	31.17	6.60	32.69	13x12	2.79	53.52	1.52	56.57	2150	5098	6
500	37	20.04	34.42	6.60	35.94	17x12	2.79	56.77	1.52	59.82	2955	6164	6
750	61	24.59	39.22	6.60	40.74	21x12	2.79	61.57	1.91	65.38	4255	7962	7
1000	61	28.37	43.00	6.60	44.53	21x12	2.79	65.35	1.91	69.16	5421	9441	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.

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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	322.58	2977	0.4199	0.57	0.0143	0.2034	0.417+j0.133	0.179+j0.067	3879	245	244
1/0	330.20	3756	0.3346	0.46	0.0131	0.1936	0.381+j0.131	0.143+j0.064	3879	278	272
2/0	337.82	4735	0.2690	0.37	0.0125	0.1870	0.353+j0.130	0.116+j0.062	3879	316	303
3/0	347.98	5972	0.2100	0.29	0.0116	0.1804	0.287+j0.093	0.092+j0.060	4987	356	333
4/0	358.14	7529	0.1673	0.23	0.0107	0.1739	0.270+j0.092	0.075+j0.058	4987	403	367
250	365.76	8900	0.1411	0.19	0.0098	0.1706	0.229+j0.071	0.064+j0.056	6095	455	411
350	396.24	12460	0.1017	0.14	0.0088	0.1640	0.190+j0.057	0.049+j0.054	7203	537	459
500	419.10	17800	0.0689	0.10	0.0076	0.1542	0.145+j0.041	0.038+j0.050	9420	616	499
750	457.20	26700	0.0459	0.07	0.0064	0.1444	0.115+j0.032	0.030+j0.047	11636	716	557
1000	485.14	35600	0.0361	0.06	0.0058	0.1378	0.112+j0.031	0.027+j0.045	11636	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

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