HVTECK CU 1/C 280NLEPR CB PVC AIA PVC 28kV 100% CSA

Single Conductor, 280 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

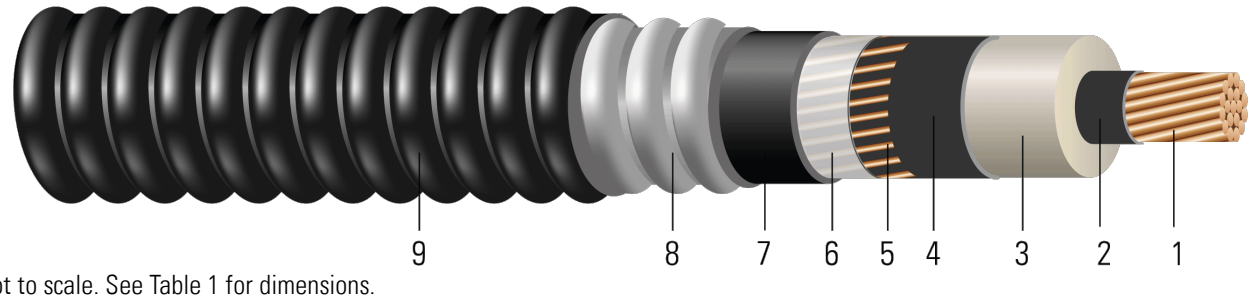


Image not to scale. See Table 1 for dimensions.

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:** 280 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 28kV 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 280 NLEPR AIA 28kV 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 Inner Jacket	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	inch	mil	inch	lb/ 1000ft	lb/ 1000ft	inch
1	19	0.322	0.92	280	0.98	7x12	80	1.43	1.74	60	1.86	468	1937	5
1/0	19	0.362	0.96	280	1.02	7x12	80	1.47	1.78	60	1.9	539	2062	5
2/0	19	0.405	1.003	280	1.063	7x12	80	1.513	1.823	60	1.943	627	2208	5
3/0	19	0.456	1.054	280	1.114	9x12	80	1.564	1.874	60	1.994	773	2422	5
4/0	19	0.512	1.11	280	1.17	9x12	80	1.62	1.93	60	2.05	912	2637	5.5
250	37	0.558	1.164	280	1.224	11x12	110	1.734	2.044	60	2.164	1078	2993	5.5
350	37	0.661	1.267	280	1.327	13x12	110	1.837	2.147	60	2.267	1448	3507	6
500	37	0.789	1.395	280	1.455	17x12	110	1.965	2.275	75	2.425	1990	4293	6.5
750	61	0.968	1.584	280	1.644	21x12	110	2.154	2.464	75	2.614	2862	5445	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	13	669	0.128	0.175	0.049	0.062	0.417+j0.134	0.179+j0.067	3879	245	244
1/0	13.3	844	0.102	0.139	0.046	0.06	0.380+j0.132	0.143+j0.065	3879	278	272
2/0	13.6	1064	0.082	0.112	0.043	0.058	0.353+j0.131	0.116+j0.063	3879	316	303
3/0	14	1342	0.064	0.087	0.04	0.056	0.287+j0.094	0.092+j0.061	4987	356	333
4/0	14.4	1692	0.051	0.07	0.037	0.054	0.270+j0.092	0.075+j0.058	4987	403	367
250	15.1	2000	0.043	0.059	0.034	0.053	0.229+j0.072	0.065+j0.057	6095	455	411
350	15.9	2800	0.031	0.043	0.03	0.05	0.190+j0.057	0.049+j0.054	7203	537	459
500	17	4000	0.021	0.03	0.027	0.048	0.145+j0.042	0.038+j0.051	9420	616	499
750	18.3	6000	0.014	0.021	0.023	0.045	0.115+j0.033	0.030+j0.047	11636	716	557

* 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)

Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Concentric Neutral	Inner Jacket Thickness	Dia. Over Inner Jacket	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	mm	kg/km	kg/km	inch
1	19	8.18	23.37	7.11	24.89	7x12	2.03	36.32	44.20	1.52	47.24	696	2883	5
1/0	19	9.19	24.38	7.11	25.91	7x12	2.03	37.34	45.21	1.52	48.26	802	3069	5
2/0	19	10.29	25.48	7.11	27.00	7x12	2.03	38.43	46.30	1.52	49.35	933	3286	5
3/0	19	11.58	26.77	7.11	28.30	9x12	2.03	39.73	47.60	1.52	50.65	1150	3604	5
4/0	19	13.00	28.19	7.11	29.72	9x12	2.03	41.15	49.02	1.52	52.07	1357	3924	5.5
250	37	14.17	29.57	7.11	31.09	11x12	2.79	44.04	51.92	1.52	54.97	1604	4454	5.5
350	37	16.79	32.18	7.11	33.71	13x12	2.79	46.66	54.53	1.52	57.58	2155	5219	6
500	37	20.04	35.43	7.11	36.96	17x12	2.79	49.91	57.79	1.91	61.59	2961	6389	6.5
750	61	24.59	40.23	7.11	41.76	21x12	2.79	54.71	62.59	1.91	66.40	4259	8103	7

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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	330.20	2977	0.4199	0.57	0.0149	0.2034	0.417+j0.134	0.179+j0.067	3879	245	244
1/0	337.82	3756	0.3346	0.46	0.0140	0.1969	0.380+j0.132	0.143+j0.065	3879	278	272
2/0	345.44	4735	0.2690	0.37	0.0131	0.1903	0.353+j0.131	0.116+j0.063	3879	316	303
3/0	355.60	5972	0.2100	0.29	0.0122	0.1837	0.287+j0.094	0.092+j0.061	4987	356	333
4/0	365.76	7529	0.1673	0.23	0.0113	0.1772	0.270+j0.092	0.075+j0.058	4987	403	367
250	383.54	8900	0.1411	0.19	0.0104	0.1739	0.229+j0.072	0.065+j0.057	6095	455	411
350	403.86	12460	0.1017	0.14	0.0091	0.1640	0.190+j0.057	0.049+j0.054	7203	537	459
500	431.80	17800	0.0689	0.10	0.0082	0.1575	0.145+j0.042	0.038+j0.051	9420	616	499
750	464.82	26700	0.0459	0.07	0.0070	0.1476	0.115+j0.033	0.030+j0.047	11636	716	557

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