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

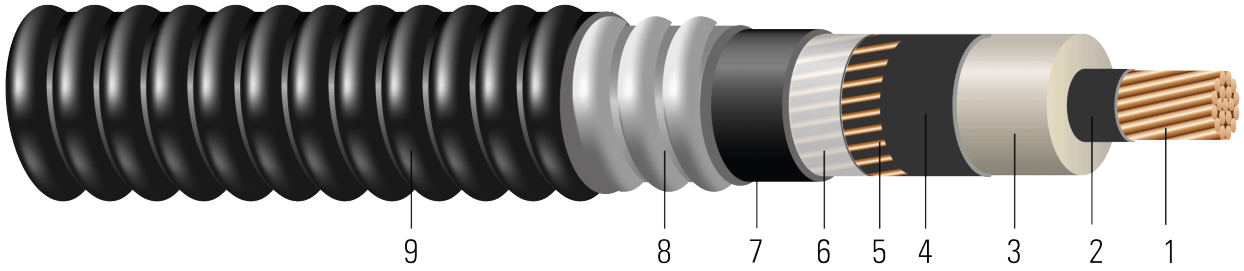

Image not to scale. See Table 1 for dimensions.

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)

- 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 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	0.920	280	0.980	11x14	80	1.600	60	1.720	407	1350
1/0	19	0.361	0.959	280	1.019	11x14	80	1.663	60	1.783	474	1488
2/0	19	0.405	1.003	280	1.063	11x14	80	1.707	60	1.827	559	1617
3/0	19	0.456	1.054	280	1.114	13x14	80	1.758	60	1.878	694	1803
4/0	19	0.512	1.110	280	1.170	13x14	80	1.814	60	1.934	829	1993
250	37	0.558	1.164	280	1.224	17x14	80	1.868	60	1.988	1001	2316
350	37	0.661	1.267	280	1.327	21x14	80	2.005	60	2.125	1365	2807
500	37	0.789	1.395	280	1.455	26x14	110	2.193	60	2.313	1896	3599
750	61	0.968	1.584	280	1.644	21x12	110	2.382	75	2.532	2753	4751

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	20.6	669	0.128	0.162	0.051	0.060	0.516 + j0.362	0.163 + j0.060	8577	245	244
1/0	21.4	844	0.102	0.128	0.048	0.058	0.480 + j0.347	0.129 + j0.059	8577	278	272
2/0	21.9	1064	0.081	0.102	0.044	0.056	0.451 + j0.332	0.103 + j0.056	8577	316	303
3/0	22.5	1342	0.064	0.081	0.041	0.054	0.427 + j0.315	0.082 + j0.054	10137	356	333
4/0	23.2	1692	0.051	0.065	0.038	0.052	0.407 + j0.298	0.066 + j0.052	10137	403	367
250	23.9	2000	0.043	0.056	0.036	0.051	0.393 + j0.283	0.057 + j0.051	13256	455	411
350	25.5	2800	0.031	0.041	0.032	0.049	0.369 + j0.258	0.042 + j0.049	16376	537	459
500	27.8	4000	0.022	0.030	0.028	0.046	0.346 + j0.230	0.031 + j0.046	20275	616	499
750	30.4	6000	0.014	0.023	0.024	0.044	0.322 + j0.196	0.024 + j0.044	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	19	8.18	23.37	7.11	24.89	11x14	2.03	40.64	1.52	43.69	606	2009
1/0	19	9.17	24.36	7.11	25.88	11x14	2.03	42.24	1.52	45.29	705	2214
2/0	19	10.29	25.48	7.11	27.00	11x14	2.03	43.36	1.52	46.41	832	2406
3/0	19	11.58	26.77	7.11	28.30	13x14	2.03	44.65	1.52	47.70	1033	2683
4/0	19	13.00	28.19	7.11	29.72	13x14	2.03	46.08	1.52	49.12	1234	2966
250	37	14.17	29.57	7.11	31.09	17x14	2.03	47.45	1.52	50.50	1490	3447
350	37	16.79	32.18	7.11	33.71	21x14	2.03	50.93	1.52	53.97	2031	4177
500	37	20.04	35.43	7.11	36.96	26x14	2.79	55.70	1.52	58.75	2822	5356
750	61	24.59	40.23	7.11	41.76	21x12	2.79	60.50	1.91	64.31	4097	7070

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	523.24	2977	0.4199	0.53	0.0155	0.1969	0.516 + j0.362	0.163 + j0.060	8577	245	244
1/0	543.56	3756	0.3346	0.42	0.0146	0.1903	0.480 + j0.347	0.129 + j0.059	8577	278	272
2/0	556.26	4735	0.2657	0.33	0.0134	0.1837	0.451 + j0.332	0.103 + j0.056	8577	316	303
3/0	571.50	5972	0.2100	0.27	0.0125	0.1772	0.427 + j0.315	0.082 + j0.054	10137	356	333
4/0	589.28	7529	0.1673	0.21	0.0116	0.1706	0.407 + j0.298	0.066 + j0.052	10137	403	367
250	607.06	8900	0.1411	0.18	0.0110	0.1673	0.393 + j0.283	0.057 + j0.051	13256	455	411
350	647.70	12460	0.1017	0.13	0.0098	0.1608	0.369 + j0.258	0.042 + j0.049	16376	537	459
500	706.12	17800	0.0722	0.10	0.0085	0.1509	0.346 + j0.230	0.031 + j0.046	20275	616	499
750	772.16	26700	0.0459	0.08	0.0073	0.1444	0.322 + j0.196	0.024 + j0.044	26018	716	557

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