HVTECK CU 1/C 345NLEPR TS PVC AIA PVC 28kV 133% CSA

Single Conductor, 345 Mils No Lead Ethylene Propylene Rubber (NL-EPR), 133% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

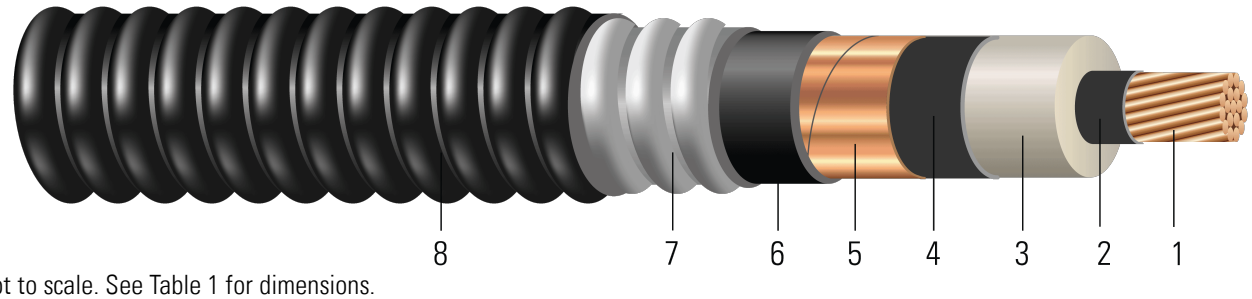

Image not to scale. See Table 1 for dimensions.

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:** 345 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 133% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
6. **Inner Jacket:** PVC inner jacket
7. **Armour:** Aluminum Interlocked Armour (AIA)
8. **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 345 NLEPR AIA 28kV 133% INS LEVEL 25% TS SUN RES 105°C FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/ Kcmil	No.	inch	inch	mil	inch	mil	inch	mil	inch	lb/1000ft	lb/1000ft
TBA	1	19	0.322	1.050	345	1.110	80	1.646	60	1.766	280	1376
TBA	1/0	19	0.361	1.089	345	1.149	80	1.685	60	1.805	348	1487
TBA	2/0	19	0.405	1.133	345	1.193	80	1.729	60	1.849	434	1622
TBA	3/0	19	0.456	1.184	345	1.244	80	1.780	60	1.900	543	1788
TBA	4/0	19	0.512	1.240	345	1.300	80	1.836	60	1.956	679	1985
TBA	250	37	0.558	1.294	345	1.354	80	1.890	60	2.010	798	2261
577263^	350	37	0.661	1.377	345	1.437	80	2.071	60	2.191	1195	2837
TBA	500	37	0.789	1.525	345	1.585	110	2.181	60	2.301	1576	3434
TBA	750	61	0.968	1.714	345	1.774	110	2.370	75	2.520	2352	4524

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
^Yellow outer jacket
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	21.2	669	0.128	0.162	0.058	0.061	0.510 + j0.322	0.163 + j0.061	3470	245	244
1/0	21.7	844	0.102	0.128	0.054	0.059	0.473 + j0.309	0.129 + j0.059	3590	278	272
2/0	22.2	1064	0.081	0.102	0.051	0.057	0.444 + j0.296	0.103 + j0.057	3727	316	303
3/0	22.8	1342	0.064	0.081	0.047	0.055	0.418 + j0.281	0.082 + j0.055	3885	356	333
4/0	23.5	1692	0.051	0.065	0.044	0.053	0.397 + j0.267	0.066 + j0.053	4058	403	367
250	24.1	2000	0.043	0.056	0.041	0.051	0.383 + j0.254	0.057 + j0.051	4226	455	411
350	26.3	2800	0.031	0.041	0.036	0.049	0.358 + j0.231	0.042 + j0.049	4545	537	459
500	27.6	4000	0.022	0.030	0.032	0.046	0.335 + j0.207	0.031 + j0.046	4941	616	499
750	30.2	6000	0.014	0.023	0.028	0.044	0.311 + j0.178	0.024 + j0.044	5527	716	557

* 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)

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/ Kcmil	No.	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	kg/km
TBA	1	19	8.18	26.67	8.76	28.19	2.03	41.81	1.52	44.86	417	2048
TBA	1/0	19	9.17	27.66	8.76	29.18	2.03	42.80	1.52	45.85	518	2213
TBA	2/0	19	10.29	28.78	8.76	30.30	2.03	43.92	1.52	46.96	646	2414
TBA	3/0	19	11.58	30.07	8.76	31.60	2.03	45.21	1.52	48.26	808	2661
TBA	4/0	19	13.00	31.50	8.76	33.02	2.03	46.63	1.52	49.68	1010	2954
TBA	250	37	14.17	32.87	8.76	34.39	2.03	48.01	1.52	51.05	1188	3365
577263^	350	37	16.79	34.98	8.76	36.50	2.03	52.60	1.52	55.65	1778	4222
TBA	500	37	20.04	38.73	8.76	40.26	2.79	55.40	1.52	58.45	2345	5110
TBA	750	61	24.59	43.54	8.76	45.06	2.79	60.20	1.91	64.01	3500	6732

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
^Yellow outer jacket
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 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	538.48	2977	0.4199	0.53	0.0177	0.2001	0.510 + j0.322	0.163 + j0.061	3470	245	244
1/0	551.18	3756	0.3346	0.42	0.0165	0.1936	0.473 + j0.309	0.129 + j0.059	3590	278	272
2/0	563.88	4735	0.2657	0.33	0.0155	0.1870	0.444 + j0.296	0.103 + j0.057	3727	316	303
3/0	579.12	5972	0.2100	0.27	0.0143	0.1804	0.418 + j0.281	0.082 + j0.055	3885	356	333
4/0	596.90	7529	0.1673	0.21	0.0134	0.1739	0.397 + j0.267	0.066 + j0.053	4058	403	367
250	612.14	8900	0.1411	0.18	0.0125	0.1673	0.383 + j0.254	0.057 + j0.051	4226	455	411
350	668.02	12460	0.1017	0.13	0.0110	0.1608	0.358 + j0.231	0.042 + j0.049	4545	537	459
500	701.04	17800	0.0722	0.10	0.0098	0.1509	0.335 + j0.207	0.031 + j0.046	4941	616	499
750	767.08	26700	0.0459	0.08	0.0085	0.1444	0.311 + j0.178	0.024 + j0.044	5527	716	557

* 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