HVTECK CU 3/C 140NLEPR TS PVC AIA PVC 8kV 133% CSA

3 Conductor, 140 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

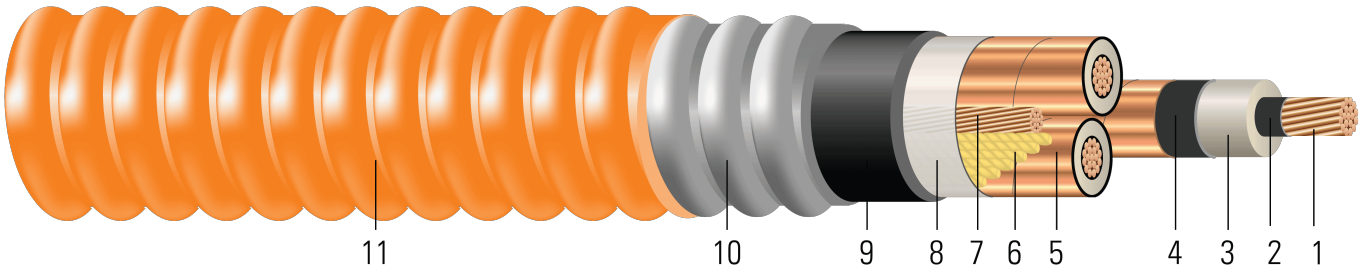

Image not to scale. See Table 1 for dimensions.

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:** 140 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. **Filler:** Interstices filled with non-hydroscoping/non-wicking fillers
7. **Grounding Conductor:** Class B compressed stranded bare copper ground per ASTM B3 and ASTM B8
8. **Binder:** Polypropylene tape
9. **Inner Jacket:** PVC inner jacket
10. **Armour:** Aluminum Interlocked Armour (AIA)
11. **Overall Jacket:** Orange Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 8kV 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)

Copyright © 2026 Southwire Company, LLC. All Rights Reserved

- IEEE 383 Flame Test (70,000 btu)
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- 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:

{SQMTR} {CSA} SOUTHWIRE® POWER CABLE {NESC} 3/C XXX AWG CU X.XXmm (140 mils) NL-EPR AIA GW 1 X X AWG CU 8KV 133% INS LEVEL 25%TS SUN. RES. 105°C FT4 HL (-40°C) LTGG RoHS

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Ground Size	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/ Kcmil	No.	inch	inch	mil	inch	AWG	mil	inch	mil	inch	lb/ 1000ft	lb/ 1000ft
TBA	2	7	0.282	0.600	140	0.660	6	80	1.985	60	2.105	741	2181
TBA	1	19	0.322	0.640	140	0.700	6	110	2.131	60	2.251	905	2563
TBA	1/0	19	0.361	0.679	140	0.739	6	110	2.215	60	2.335	1111	2868
649842	2/0	19	0.405	0.724	140	0.784	6	110	2.285	75	2.435	1527	3336
679104^	2/0	19	0.405	0.724	140	0.784	6	110	2.285	75	2.435	1527	3330
TBA	3/0	19	0.456	0.774	140	0.834	4	110	2.421	75	2.571	1747	3825
TBA	4/0	19	0.512	0.830	140	0.890	4	110	2.542	75	2.692	2159	4387
TBA	250	37	0.558	0.884	140	0.944	4	110	2.658	75	2.808	2522	4903
TBA	350	37	0.661	0.987	140	1.047	3	110	2.881	75	3.031	3498	6165
679103^	500	37	0.789	1.092	140	1.152	3	125	3.129	85	3.299	5122	8113
649834	500	37	0.789	1.092	140	1.152	3	125	3.129	85	3.299	5122	8123
TBA	750	61	0.968	1.304	140	1.364	2	125	3.595	85	3.765	7297	11070
TBA	1000	61	1.117	1.453	140	1.513	1	125	3.917	85	4.087	9696	13932

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
^Black 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.

Copyright © 2026 Southwire Company, LLC. All Rights Reserved

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	14.7	1592	0.162	0.204	0.035	0.042	0.577 + j0.491	0.204 + j0.043	2075	172	201
1	15.8	2008	0.128	0.162	0.030	0.040	0.537 + j0.469	0.162 + j0.040	2199	197	228
1/0	16.3	2534	0.102	0.128	0.030	0.039	0.504 + j0.449	0.128 + j0.039	2320	225	257
2/0	17.0	3194	0.081	0.102	0.027	0.037	0.477 + j0.427	0.102 + j0.038	2456	260	292
2/0	17.0	3194	0.081	0.102	0.027	0.037	0.477 + j0.427	0.102 + j0.038	2456	260	292
3/0	18.0	4027	0.064	0.081	0.030	0.036	0.455 + j0.404	0.081 + j0.036	2614	297	330
4/0	18.8	5078	0.051	0.065	0.020	0.030	0.437 + j0.380	0.065 + j0.035	2788	342	372
250	19.7	6000	0.043	0.056	0.020	0.030	0.425 + j0.359	0.056 + j0.034	2955	376	410
350	21.2	8400	0.030	0.041	0.020	0.030	0.403 + j0.323	0.410 + j0.033	3274	460	487
500	23.1	12000	0.022	0.030	0.015	0.031	0.380 + j0.284	0.030 + j0.031	3671	556	573
500	23.1	12000	0.022	0.030	0.015	0.031	0.380 + j0.284	0.030 + j0.031	3671	556	573
750	26.4	18000	0.014	0.020	0.014	0.030	0.355 + j0.238	0.023 + j0.030	4257	678	668
1000	28.6	24000	0.011	0.020	0.012	0.030	0.336 + j0.208	0.020 + j0.029	4718	798	772

* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
***** CEC ampacities are based on:
3/C in air copper and aluminum: D17N
3/C direct buried copper and aluminum: D17E

Copyright © 2026 Southwire Company, LLC. All Rights Reserved

Table 3 – Weights and Measurements (Metric)

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Ground Size	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/ Kcmil	No.	mm	mm	mm	mm	AWG	mm	mm	mm	mm	kg/km	kg/km
TBA	2	7	7.16	15.24	3.56	16.76	6	2.03	50.42	1.52	53.47	1103	3246
TBA	1	19	8.18	16.26	3.56	17.78	6	2.79	54.13	1.52	57.18	1347	3814
TBA	1/0	19	9.17	17.25	3.56	18.77	6	2.79	56.26	1.52	59.31	1653	4268
649842	2/0	19	10.29	18.39	3.56	19.91	6	2.79	58.04	1.91	61.85	2272	4965
679104^	2/0	19	10.29	18.39	3.56	19.91	6	2.79	58.04	1.91	61.85	2272	4956
TBA	3/0	19	11.58	19.66	3.56	21.18	4	2.79	61.49	1.91	65.30	2600	5692
TBA	4/0	19	13.00	21.08	3.56	22.61	4	2.79	64.57	1.91	68.38	3213	6529
TBA	250	37	14.17	22.45	3.56	23.98	4	2.79	67.51	1.91	71.32	3753	7296
TBA	350	37	16.79	25.07	3.56	26.59	3	2.79	73.18	1.91	76.99	5206	9175
679103^	500	37	20.04	27.74	3.56	29.26	3	3.18	79.48	2.16	83.79	7622	12073
649834	500	37	20.04	27.74	3.56	29.26	3	3.18	79.48	2.16	83.79	7622	12088
TBA	750	61	24.59	33.12	3.56	34.65	2	3.18	91.31	2.16	95.63	10859	16474
TBA	1000	61	28.37	36.91	3.56	38.43	1	3.18	99.49	2.16	103.81	14429	20733

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
^Black 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.

Copyright © 2026 Southwire Company, LLC. All Rights Reserved

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	373.38	7084	0.5315	0.67	0.0107	0.1378	0.577 + j0.491	0.204 + j0.043	2075	172	201
1	401.32	8936	0.4199	0.53	0.0091	0.1312	0.537 + j0.469	0.162 + j0.040	2199	197	228
1/0	414.02	11276	0.3346	0.42	0.0091	0.1280	0.504 + j0.449	0.128 + j0.039	2320	225	257
2/0	431.80	14213	0.2657	0.33	0.0082	0.1214	0.477 + j0.427	0.102 + j0.038	2456	260	292
2/0	431.80	14213	0.2657	0.33	0.0082	0.1214	0.477 + j0.427	0.102 + j0.038	2456	260	292
3/0	457.20	17920	0.2100	0.27	0.0091	0.1181	0.455 + j0.404	0.081 + j0.036	2614	297	330
4/0	477.52	22597	0.1673	0.21	0.0061	0.0984	0.437 + j0.380	0.065 + j0.035	2788	342	372
250	500.38	26700	0.1411	0.18	0.0061	0.0984	0.425 + j0.359	0.056 + j0.034	2955	376	410
350	538.48	37380	0.0984	0.13	0.0061	0.0984	0.403 + j0.323	0.410 + j0.033	3274	460	487
500	586.74	53400	0.0722	0.10	0.0046	0.1017	0.380 + j0.284	0.030 + j0.031	3671	556	573
500	586.74	53400	0.0722	0.10	0.0046	0.1017	0.380 + j0.284	0.030 + j0.031	3671	556	573
750	670.56	80100	0.0459	0.07	0.0043	0.0984	0.355 + j0.238	0.023 + j0.030	4257	678	668
1000	726.44	106800	0.0361	0.07	0.0037	0.0984	0.336 + j0.208	0.020 + j0.029	4718	798	772

* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
***** CEC ampacities are based on:
3/C in air copper and aluminum: D17N
3/C direct buried copper and aluminum: D17E

Copyright © 2026 Southwire Company, LLC. All Rights Reserved