HVTECK CU 3/C 220NLEPR TS PVC AIA PVC 15kV 133% CSA

3 Conductor, 220 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

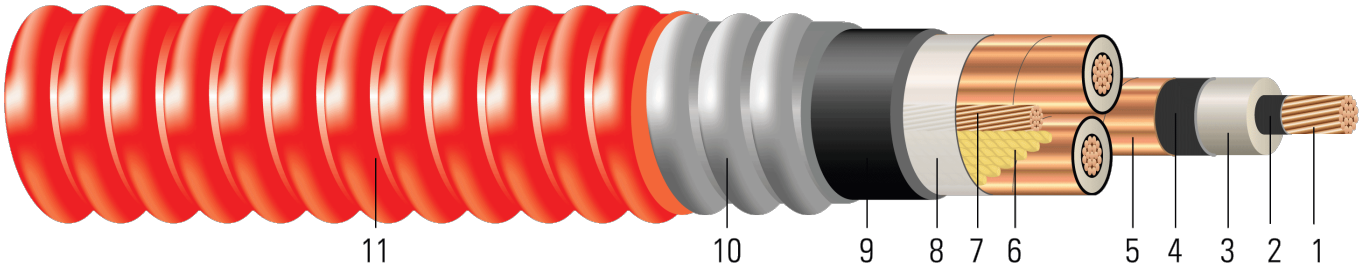


Image not to scale. See Table 1 for dimensions.

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:** 220 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). (Optional galvanized steel armour GSIA available upon request)
11. **Overall Jacket:** Red Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 15kV 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)

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- IEEE 383 Flame Test (70,000 btu)
- 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:

(CSA) SOUTHWIRE (NESC) #P# 3/C [#AWG or #kcmil] CU 220 NLEPR AIA 15kV 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	Ground	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
576232	2	7	0.283	0.761	220	0.821	1x6	110	2.387	75	2.537	919	3048	3
648836^	1	19	0.322	0.8	220	0.86	1x6	110	2.471	75	2.621	1101	3346	3.5
581918	1/0	19	0.362	0.84	220	0.9	1x4	110	2.464	75	2.614	1352	4465	3.5
TBA	1/0	19	0.362	0.84	220	0.9	1x6	110	2.5	75	2.65	1294	3035	3.5
576227	2/0	19	0.405	0.884	220	0.944	1x4	110	2.653	75	2.803	1620	4104	3.5
583354^	2/0	19	0.405	0.884	220	0.944	1x4	110	2.653	75	2.803	1620	4092	3.5
TBA	3/0	19	0.456	0.934	220	0.994	1x4	110	2.703	75	2.853	1947	3899	3.5
576167	4/0	19	0.512	0.99	220	1.05	1x3	110	2.882	75	3.032	2417	5236	4
576228	250	37	0.558	1.044	220	1.124	1x2	110	3.042	85	3.212	2837	5978	4
576229	350	37	0.661	1.127	220	1.187	1x2	125	3.228	85	3.398	3787	7260	4.5
583355^	500	37	0.789	1.252	220	1.312	1x1	125	3.498	85	3.668	5274	9155	5
584149	500	37	0.789	1.252	220	1.312	1x1	125	3.498	85	3.668	5274	10580	5
672302†	500	37	0.789	1.252	220	1.312	1x1	125	3.498	85	3.668	5796	9677	5
576230	500	37	0.789	1.252	220	1.312	1x1	125	3.498	85	3.668	5274	9172	5
665338^	750	61	0.968	1.464	220	1.524	1x2	125	3.956	85	4.126	7609	12195	5.5
581926	750	61	0.968	1.464	220	1.524	1x2/0	125	3.956	85	4.126	7817	12407	5.5
459198	750	61	0.968	1.464	220	1.524	1x2	125	3.956	85	4.126	7586	12192	5.5

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
† 3-#1awg grounds equal to 50% of the phase conductor
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
2	17.8	1592	0.162	0.221	0.045	0.031	0.591+j0.465	0.221+j0.048	2575	172	201
1	18.3	2008	0.128	0.175	0.042	0.029	0.546+j0.447	0.175+j0.045	2696	197	228
1/0	18.3	2534	0.102	0.139	0.039	0.027	0.510+j0.429	0.139+j0.043	2820	225	257
1/0	18.6	2534	0.102	0.139	0.039	0.027	0.510+j0.429	0.139+j0.043	2820	225	257
2/0	19.6	3194	0.082	0.112	0.036	0.025	0.482+j0.411	0.112+j0.042	2956	260	292
2/0	19.6	3194	0.082	0.112	0.036	0.025	0.482+j0.411	0.112+j0.042	2956	260	292
3/0	20	4027	0.064	0.087	0.033	0.024	0.456+j0.392	0.087+j0.040	3111	297	330
4/0	21.2	5078	0.051	0.07	0.031	0.022	0.436+j0.372	0.070+j0.039	3284	342	372
250	22.5	6000	0.043	0.059	0.029	0.022	0.421+j0.348	0.059+j0.038	3514	376	410
350	23.8	8400	0.031	0.043	0.024	0.019	0.402+j0.328	0.043+j0.036	3709	460	487
500	25.7	12000	0.021	0.03	0.021	0.018	0.379+j0.294	0.030+j0.034	4096	556	573
500	25.7	12000	0.021	0.03	0.021	0.018	0.379+j0.294	0.030+j0.034	4096	556	573
500	25.7	12000	0.021	0.03	0.021	0.018	0.379+j0.294	0.030+j0.034	4096	556	573
500	25.7	12000	0.021	0.03	0.021	0.018	0.379+j0.294	0.030+j0.034	4096	556	573
750	28.9	18000	0.014	0.021	0.019	0.016	0.353+j0.247	0.021+j0.032	4753	678	668
750	28.9	18000	0.014	0.021	0.019	0.016	0.353+j0.247	0.021+j0.032	4753	678	668
750	28.9	18000	0.014	0.021	0.019	0.016	0.353+j0.247	0.021+j0.032	4753	678	668

* 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

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Table 3 – Weights and Measurements (Metric)

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Ground	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
576232	2	7	7.19	19.33	5.59	20.85	1x6	2.79	60.63	1.91	64.44	1368	4536	3
648836^	1	19	8.18	20.32	5.59	21.84	1x6	2.79	62.76	1.91	66.57	1638	4979	3.5
581918	1/0	19	9.19	21.34	5.59	22.86	1x4	2.79	62.59	1.91	66.40	2012	6645	3.5
TBA	1/0	19	9.19	21.34	5.59	22.86	1x6	2.79	63.50	1.91	67.31	1926	4517	3.5
576227	2/0	19	10.29	22.45	5.59	23.98	1x4	2.79	67.39	1.91	71.20	2411	6107	3.5
583354^	2/0	19	10.29	22.45	5.59	23.98	1x4	2.79	67.39	1.91	71.20	2411	6090	3.5
TBA	3/0	19	11.58	23.72	5.59	25.25	1x4	2.79	68.66	1.91	72.47	2897	5802	3.5
576167	4/0	19	13.00	25.15	5.59	26.67	1x3	2.79	73.20	1.91	77.01	3597	7792	4
576228	250	37	14.17	26.52	5.59	28.55	1x2	2.79	77.27	2.16	81.58	4222	8896	4
576229	350	37	16.79	28.63	5.59	30.15	1x2	3.18	81.99	2.16	86.31	5636	10804	4.5
583355^	500	37	20.04	31.80	5.59	33.32	1x1	3.18	88.85	2.16	93.17	7849	13624	5
584149	500	37	20.04	31.80	5.59	33.32	1x1	3.18	88.85	2.16	93.17	7849	15745	5
672302†	500	37	20.04	31.80	5.59	33.32	1x1	3.18	88.85	2.16	93.17	8625	14401	5
576230	500	37	20.04	31.80	5.59	33.32	1x1	3.18	88.85	2.16	93.17	7849	13649	5
665338^	750	61	24.59	37.19	5.59	38.71	1x2	3.18	100.48	2.16	104.80	11323	18148	5.5
581926	750	61	24.59	37.19	5.59	38.71	1x2/0	3.18	100.48	2.16	104.80	11633	18464	5.5
459198	750	61	24.59	37.19	5.59	38.71	1x2	3.18	100.48	2.16	104.80	11289	18144	5.5

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
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^ Black outer jacket
† 3-#1awg grounds equal to 50% of the phase conductor
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
2	452.12	7084	0.5315	0.73	0.0137	0.1017	0.591+j0.465	0.221+j0.048	2575	172	201
1	464.82	8936	0.4199	0.57	0.0128	0.0951	0.546+j0.447	0.175+j0.045	2696	197	228
1/0	464.82	11276	0.3346	0.46	0.0119	0.0886	0.510+j0.429	0.139+j0.043	2820	225	257
1/0	472.44	11276	0.3346	0.46	0.0119	0.0886	0.510+j0.429	0.139+j0.043	2820	225	257
2/0	497.84	14213	0.2690	0.37	0.0110	0.0820	0.482+j0.411	0.112+j0.042	2956	260	292
2/0	497.84	14213	0.2690	0.37	0.0110	0.0820	0.482+j0.411	0.112+j0.042	2956	260	292
3/0	508.00	17920	0.2100	0.29	0.0101	0.0787	0.456+j0.392	0.087+j0.040	3111	297	330
4/0	538.48	22597	0.1673	0.23	0.0094	0.0722	0.436+j0.372	0.070+j0.039	3284	342	372
250	571.50	26700	0.1411	0.19	0.0088	0.0722	0.421+j0.348	0.059+j0.038	3514	376	410
350	604.52	37380	0.1017	0.14	0.0073	0.0623	0.402+j0.328	0.043+j0.036	3709	460	487
500	652.78	53400	0.0689	0.10	0.0064	0.0591	0.379+j0.294	0.030+j0.034	4096	556	573
500	652.78	53400	0.0689	0.10	0.0064	0.0591	0.379+j0.294	0.030+j0.034	4096	556	573
500	652.78	53400	0.0689	0.10	0.0064	0.0591	0.379+j0.294	0.030+j0.034	4096	556	573
500	652.78	53400	0.0689	0.10	0.0064	0.0591	0.379+j0.294	0.030+j0.034	4096	556	573
750	734.06	80100	0.0459	0.07	0.0058	0.0525	0.353+j0.247	0.021+j0.032	4753	678	668
750	734.06	80100	0.0459	0.07	0.0058	0.0525	0.353+j0.247	0.021+j0.032	4753	678	668
750	734.06	80100	0.0459	0.07	0.0058	0.0525	0.353+j0.247	0.021+j0.032	4753	678	668

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