HVTECK CU 3/C 175TRXLPE TS PVC AIA PVC 15kV 100% CSA

3 Conductor, 175 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

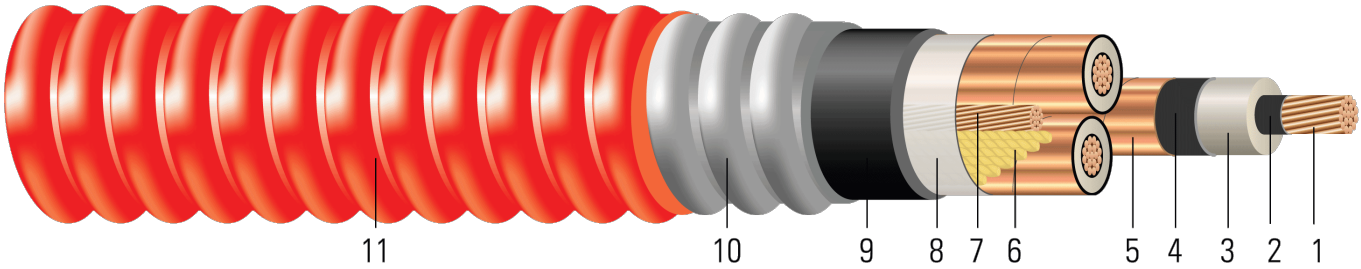

Image not to scale. See Table 1 for dimensions.

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:** 175 Mils Tree Retardant Cross Linked Polyethylene 100% 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:** 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 175 TRXLPE AIA 15kV 100% 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 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	0.670	175	0.730	6	110	2.196	60	2.316	745	2533
TBA	1	19	0.322	0.710	175	0.770	6	110	2.282	75	2.432	909	2879
673239	1/0	19	0.361	0.750	175	0.810	6	110	2.363	75	2.513	1271	3255
TBA	2/0	19	0.405	0.793	175	0.853	6	110	2.462	75	2.612	1375	3580
TBA	3/0	19	0.456	0.844	175	0.904	4	110	2.572	75	2.722	1751	4102
TBA	4/0	19	0.512	0.900	175	0.960	4	110	2.693	75	2.843	2163	4675
TBA	250	37	0.558	0.954	175	1.014	4	110	2.809	75	2.959	2526	5203
TBA	350	37	0.661	1.057	175	1.117	3	110	3.032	85	3.202	3502	6548
669896	350	37	0.661	1.057	175	1.117	3	110	3.026	85	3.202	3727	6637
TBA	500	37	0.789	1.185	175	1.245	3	125	3.338	85	3.508	4911	8445
668851	500	37	0.789	1.185	175	1.245	3	125	3.352	85	3.508	5161	8392
TBA	750	61	0.968	1.374	175	1.434	2	125	3.747	85	3.917	7301	11465

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.

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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	16.2	1592	0.162	0.204	0.054	0.044	0.579 + j0.459	0.204 + j0.045	2292	172	201
1	17.0	2008	0.128	0.162	0.049	0.042	0.538 + j0.438	0.162 + j0.043	2416	197	228
1/0	17.6	2534	0.102	0.128	0.046	0.041	0.503 + j0.419	0.128 + j0.041	2537	225	257
2/0	18.3	3194	0.081	0.102	0.042	0.039	0.476 + j0.399	0.102 + j0.040	2673	260	292
3/0	19.1	4027	0.064	0.081	0.039	0.038	0.452 + j0.378	0.081 + j0.038	2831	297	330
4/0	19.9	5078	0.051	0.065	0.035	0.037	0.433 + j0.356	0.065 + j0.037	3005	342	372
250	20.7	6000	0.043	0.056	0.030	0.036	0.420 + j0.336	0.056 + j0.036	3172	376	410
350	22.4	8400	0.030	0.041	0.030	0.030	0.397 + j0.303	0.410 + j0.034	3491	460	487
350	22.4	8400	0.031	0.045	0.036	0.018	0.404 + j0.346	0.041 + j0.035	3491	435	487
500	24.6	12000	0.020	0.030	0.030	0.030	0.374 + j0.267	0.030 + j0.033	3888	556	573
500	24.6	12000	0.021	0.032	0.031	0.016	0.384 + j0.309	0.030 + j0.033	3888	535	573
750	27.4	18000	0.014	0.020	0.020	0.030	0.348 + j0.225	0.024 + j0.031	4473	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 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	17.02	4.44	18.54	6	2.79	55.78	1.52	58.83	1109	3770
TBA	1	19	8.18	18.03	4.44	19.56	6	2.79	57.96	1.91	61.77	1353	4284
673239	1/0	19	9.17	19.05	4.44	20.57	6	2.79	60.02	1.91	63.83	1891	4844
TBA	2/0	19	10.29	20.14	4.44	21.67	6	2.79	62.53	1.91	66.34	2046	5328
TBA	3/0	19	11.58	21.44	4.44	22.96	4	2.79	65.33	1.91	69.14	2606	6104
TBA	4/0	19	13.00	22.86	4.44	24.38	4	2.79	68.40	1.91	72.21	3219	6957
TBA	250	37	14.17	24.23	4.44	25.76	4	2.79	71.35	1.91	75.16	3759	7743
TBA	350	37	16.79	26.85	4.44	28.37	3	2.79	77.01	2.16	81.33	5212	9744
669896	350	37	16.79	26.85	4.44	28.37	3	2.79	76.86	2.16	81.33	5546	9877
TBA	500	37	20.04	30.10	4.44	31.62	3	3.18	84.79	2.16	89.10	7308	12568
668851	500	37	20.04	30.10	4.44	31.62	3	3.18	85.14	2.16	89.10	7680	12489
TBA	750	61	24.59	34.90	4.44	36.42	2	3.18	95.17	2.16	99.49	10865	17062

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.

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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	411.48	7084	0.5315	0.67	0.0165	0.1444	0.579 + j0.459	0.204 + j0.045	2292	172	201
1	431.80	8936	0.4199	0.53	0.0149	0.1378	0.538 + j0.438	0.162 + j0.043	2416	197	228
1/0	447.04	11276	0.3346	0.42	0.0140	0.1345	0.503 + j0.419	0.128 + j0.041	2537	225	257
2/0	464.82	14213	0.2657	0.33	0.0128	0.1280	0.476 + j0.399	0.102 + j0.040	2673	260	292
3/0	485.14	17920	0.2100	0.27	0.0119	0.1247	0.452 + j0.378	0.081 + j0.038	2831	297	330
4/0	505.46	22597	0.1673	0.21	0.0107	0.1214	0.433 + j0.356	0.065 + j0.037	3005	342	372
250	525.78	26700	0.1411	0.18	0.0091	0.1181	0.420 + j0.336	0.056 + j0.036	3172	376	410
350	568.96	37380	0.0984	0.13	0.0091	0.0984	0.397 + j0.303	0.410 + j0.034	3491	460	487
350	568.96	37380	0.1017	0.15	0.0110	0.0591	0.404 + j0.346	0.041 + j0.035	3491	435	487
500	624.84	53400	0.0656	0.10	0.0091	0.0984	0.374 + j0.267	0.030 + j0.033	3888	556	573
500	624.84	53400	0.0689	0.10	0.0094	0.0525	0.384 + j0.309	0.030 + j0.033	3888	535	573
750	695.96	80100	0.0459	0.07	0.0061	0.0984	0.348 + j0.225	0.024 + j0.031	4473	678	668

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