

## 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

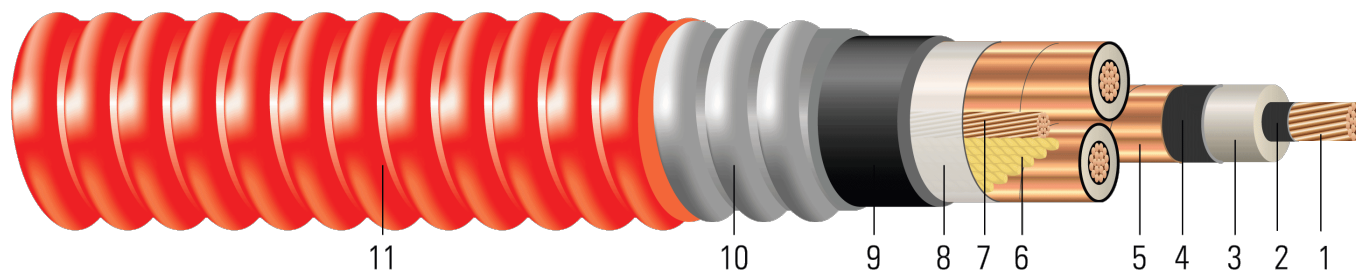


Image not to scale. See Table 1 for dimensions.

### 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

### 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	Approx. Weight
	AWG/ Kcmil	No.	inch	inch	mil	inch	AWG	mil	inch	mil	inch	lb/1000ft
TBA	2	7	0.282	0.670	175	0.730	6	110	2.196	60	2.316	2589
TBA	1	19	0.322	0.710	175	0.770	6	110	2.282	75	2.432	2941
673239	1/0	19	0.361	0.750	175	0.810	6	110	2.363	75	2.513	3255
TBA	2/0	19	0.405	0.793	175	0.853	6	110	2.461	75	2.611	3657
TBA	3/0	19	0.456	0.844	175	0.904	4	110	2.571	75	2.721	4138
TBA	4/0	19	0.512	0.900	175	0.960	4	110	2.692	75	2.842	4721
TBA	250	37	0.558	0.954	175	1.014	4	110	2.809	75	2.959	5262
TBA	350	37	0.661	1.057	175	1.117	3	110	3.031	85	3.201	6590
TBA	500	37	0.789	1.185	175	1.245	3	125	3.338	85	3.508	8514
TBA	750	61	0.968	1.374	175	1.434	2	125	3.746	85	3.916	11525

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 @ 60Hz	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	0.058	0.044	0.579 + j0.464	0.204 + j0.045	2261	172	201
1	17.0	2008	0.128	0.162	0.053	0.042	0.537 + j0.442	0.162 + j0.043	2385	197	228
1/0	17.5	2534	0.102	0.128	0.049	0.041	0.503 + j0.423	0.128 + j0.041	2506	225	257
2/0	18.2	3194	0.081	0.102	0.045	0.039	0.476 + j0.403	0.102 + j0.04	2642	260	292
3/0	19.0	4027	0.064	0.081	0.041	0.038	0.452 + j0.381	0.081 + j0.038	2800	297	330
4/0	19.8	5078	0.051	0.065	0.038	0.037	0.433 + j0.359	0.065 + j0.037	2974	342	372
250	20.7	6000	0.043	0.056	0.036	0.036	0.421 + j0.34	0.056 + j0.036	3141	376	410
350	22.4	8400	0.031	0.041	0.031	0.034	0.397 + j0.306	0.041 + j0.034	3460	460	487
500	24.5	12000	0.022	0.030	0.027	0.033	0.374 + j0.27	0.03 + j0.033	3857	556	573
750	27.4	18000	0.014	0.023	0.023	0.031	0.349 + j0.227	0.024 + j0.031	4443	678	668

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

**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	Approx. Weight
	AWG/Kcmil	No.	mm	mm	mm	mm	AWG	mm	mm	mm	mm	kg/km
TBA	2	7	7.16	17.02	4.44	18.54	6	2.79	55.78	1.52	58.83	3853
TBA	1	19	8.18	18.03	4.44	19.56	6	2.79	57.96	1.91	61.77	4377
673239	1/0	19	9.17	19.05	4.44	20.57	6	2.79	60.02	1.91	63.83	4844
TBA	2/0	19	10.29	20.14	4.44	21.67	6	2.79	62.51	1.91	66.32	5442
TBA	3/0	19	11.58	21.44	4.44	22.96	4	2.79	65.30	1.91	69.11	6158
TBA	4/0	19	13.00	22.86	4.44	24.38	4	2.79	68.38	1.91	72.19	7026
TBA	250	37	14.17	24.23	4.44	25.76	4	2.79	71.35	1.91	75.16	7831
TBA	350	37	16.79	26.85	4.44	28.37	3	2.79	76.99	2.16	81.31	9807
TBA	500	37	20.04	30.10	4.44	31.62	3	3.18	84.79	2.16	89.10	12670
TBA	750	61	24.59	34.90	4.44	36.42	2	3.18	95.15	2.16	99.47	17151

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 @ 60Hz	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	0.0177	0.1444	0.579 + j0.464	0.204 + j0.045	2261	172	201
1	431.80	8936	0.4199	0.53	0.0162	0.1378	0.537 + j0.442	0.162 + j0.043	2385	197	228
1/0	444.50	11276	0.3346	0.42	0.0149	0.1345	0.503 + j0.423	0.128 + j0.041	2506	225	257
2/0	462.28	14213	0.2657	0.33	0.0137	0.1280	0.476 + j0.403	0.102 + j0.04	2642	260	292
3/0	482.60	17920	0.2100	0.27	0.0125	0.1247	0.452 + j0.381	0.081 + j0.038	2800	297	330
4/0	502.92	22597	0.1673	0.21	0.0116	0.1214	0.433 + j0.359	0.065 + j0.037	2974	342	372
250	525.78	26700	0.1411	0.18	0.0110	0.1181	0.421 + j0.34	0.056 + j0.036	3141	376	410
350	568.96	37380	0.1017	0.13	0.0094	0.1115	0.397 + j0.306	0.041 + j0.034	3460	460	487
500	622.30	53400	0.0722	0.10	0.0082	0.1083	0.374 + j0.27	0.03 + j0.033	3857	556	573
750	695.96	80100	0.0459	0.08	0.0070	0.1017	0.349 + j0.227	0.024 + j0.031	4443	678	668

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

