

## HVTECK CU 1/C 280TRXLPE TS PVC AIA PVC 28kV 100% CSA

Single Conductor, 280 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

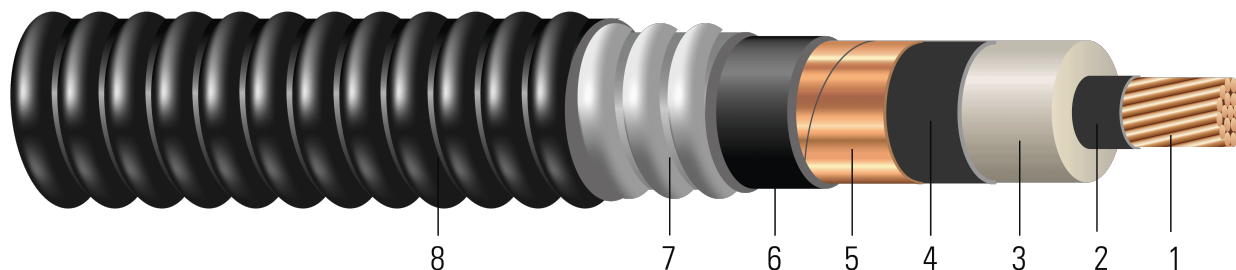


Image not to scale. See Table 1 for dimensions.

### 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:** 280 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. **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

## SAMPLE PRINT LEGEND:

(CSA) SOUTHWIRE (NESC) #P# 1/C [#AWG or #kcmil] CU 280 TRXLPE AIA 28kV 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	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
	AWG/Kcmil	No.	inch	inch	mil	inch	mil	inch	mil	inch	lb/1000ft
TBA	1	19	0.322	0.920	280	0.980	80	1.492	50	1.592	1199
TBA	1/0	19	0.361	0.959	280	1.019	80	1.531	60	1.651	1339
TBA	2/0	19	0.405	1.003	280	1.063	80	1.575	60	1.695	1471
TBA	3/0	19	0.456	1.054	280	1.114	80	1.650	60	1.770	1665
TBA	4/0	19	0.512	1.110	280	1.170	80	1.706	60	1.826	1861
TBA	250	37	0.558	1.164	280	1.224	80	1.760	60	1.880	2040
672631	350	37	0.661	1.267	280	1.341	80	1.865	60	1.985	2447
TBA	500	37	0.789	1.395	280	1.455	80	1.991	60	2.111	3163
TBA	750	61	0.968	1.584	280	1.644	110	2.240	60	2.360	4287

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
1	11.1	669	0.128	0.162	0.071	0.058	0.519 + j0.363	0.163 + j0.059	3036	245	244
1/0	11.5	844	0.102	0.128	0.066	0.057	0.483 + j0.348	0.129 + j0.057	3157	278	272
2/0	11.8	1064	0.081	0.102	0.061	0.055	0.454 + j0.332	0.103 + j0.055	3293	316	303
3/0	12.3	1342	0.064	0.081	0.057	0.053	0.429 + j0.316	0.082 + j0.053	3451	356	333
4/0	12.7	1692	0.051	0.065	0.052	0.051	0.409 + j0.299	0.066 + j0.051	3625	403	367
250	13.1	2000	0.043	0.056	0.050	0.050	0.396 + j0.284	0.057 + j0.05	3792	455	411
350	13.8	2800	0.031	0.041	0.044	0.047	0.372 + j0.257	0.042 + j0.047	4111	537	459
500	14.7	4000	0.022	0.030	0.038	0.044	0.349 + j0.229	0.031 + j0.044	4508	616	499
750	16.5	6000	0.014	0.023	0.033	0.042	0.324 + j0.196	0.024 + j0.042	5093	716	557



\* 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	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Approx. Weight
	AWG/Kcmil	No.	mm	mm	mm	mm	mm	mm	mm	mm	kg/km
TBA	1	19	8.18	23.37	7.11	24.89	2.03	37.90	1.27	40.44	1784
TBA	1/0	19	9.17	24.36	7.11	25.88	2.03	38.89	1.52	41.94	1993
TBA	2/0	19	10.29	25.48	7.11	27.00	2.03	40.00	1.52	43.05	2189
TBA	3/0	19	11.58	26.77	7.11	28.30	2.03	41.91	1.52	44.96	2478
TBA	4/0	19	13.00	28.19	7.11	29.72	2.03	43.33	1.52	46.38	2769
TBA	250	37	14.17	29.57	7.11	31.09	2.03	44.70	1.52	47.75	3036
672631	350	37	16.79	32.18	7.11	34.06	2.03	47.37	1.52	50.42	3642
TBA	500	37	20.04	35.43	7.11	36.96	2.03	50.57	1.52	53.62	4707
TBA	750	61	24.59	40.23	7.11	41.76	2.79	56.90	1.52	59.94	6380

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
1	281.94	2977	0.4199	0.53	0.0216	0.1903	0.519 + j0.363	0.163 + j0.059	3036	245	244
1/0	292.10	3756	0.3346	0.42	0.0201	0.1870	0.483 + j0.348	0.129 + j0.057	3157	278	272
2/0	299.72	4735	0.2657	0.33	0.0186	0.1804	0.454 + j0.332	0.103 + j0.055	3293	316	303
3/0	312.42	5972	0.2100	0.27	0.0174	0.1739	0.429 + j0.316	0.082 + j0.053	3451	356	333
4/0	322.58	7529	0.1673	0.21	0.0158	0.1673	0.409 + j0.299	0.066 + j0.051	3625	403	367
250	332.74	8900	0.1411	0.18	0.0152	0.1640	0.396 + j0.284	0.057 + j0.05	3792	455	411
350	350.52	12460	0.1017	0.13	0.0134	0.1542	0.372 + j0.257	0.042 + j0.047	4111	537	459
500	373.38	17800	0.0722	0.10	0.0116	0.1444	0.349 + j0.229	0.031 + j0.044	4508	616	499
750	419.10	26700	0.0459	0.08	0.0101	0.1378	0.324 + j0.196	0.024 + j0.042	5093	716	557

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

