



## HVTECK CU 1/C 260NLEPR TS PVC AIA PVC 25kV 100% CSA

Single Conductor, 260 Mils No Lead Ethylene Propylene Rubber (NL-EPR), 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:** 260 Mils No Lead Ethylene Propylene Rubber (NL-EPR) 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 25kV 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 (Qualification Test Requirements)

**SAMPLE PRINT LEGEND:**

(CSA) SOUTHWIRE (NESC) #P# 1/C [#AWG or #kcmil] CU 260 NLEPR AIA 25kV 100% INS LEVEL 25% TS SUN RES 105°C FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

**Table 1 – Weights and Measurements**

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	Copper Weight	Approx. Weight
AWG/ Kcmil	No.	inch	inch	mil	inch	mil	inch	mil	inch	lb/1000ft	lb/1000ft
1	19	0.322	0.880	260	0.940	80	1.452	50	1.552	277	1093
1/0	19	0.361	0.919	260	0.979	80	1.491	50	1.591	345	1196
2/0	19	0.405	0.963	260	1.023	80	1.535	60	1.655	431	1355
3/0	19	0.456	1.014	260	1.074	80	1.586	60	1.706	540	1512
4/0	19	0.512	1.070	260	1.130	80	1.666	60	1.786	676	1735
250	37	0.558	1.124	260	1.184	80	1.720	60	1.840	795	1910
350	37	0.661	1.227	260	1.287	80	1.823	60	1.943	1107	2322
500	37	0.789	1.355	260	1.415	80	1.951	60	2.071	1572	3009
750	61	0.968	1.544	260	1.604	110	2.200	60	2.320	2348	4112
1000	61	1.117	1.693	260	1.753	110	2.349	75	2.499	3123	5126

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 @ 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
1	18.6	669	0.128	0.162	0.049	0.058	0.521 + j0.372	0.163 + j0.058	2943	245	244
1/0	19.1	844	0.102	0.128	0.045	0.056	0.485 + j0.357	0.129 + j0.056	3064	278	272
2/0	19.9	1064	0.081	0.102	0.042	0.054	0.456 + j0.341	0.103 + j0.054	3200	316	303
3/0	20.5	1342	0.064	0.081	0.039	0.052	0.432 + j0.324	0.082 + j0.052	3358	356	333
4/0	21.4	1692	0.051	0.065	0.036	0.050	0.412 + j0.306	0.066 + j0.051	3532	403	367
250	22.1	2000	0.043	0.056	0.034	0.049	0.398 + j0.290	0.057 + j0.049	3699	455	411
350	23.3	2800	0.031	0.041	0.030	0.046	0.374 + j0.263	0.042 + j0.047	4018	537	459
500	24.9	4000	0.022	0.030	0.026	0.044	0.352 + j0.234	0.031 + j0.044	4415	616	499
750	27.8	6000	0.014	0.023	0.022	0.042	0.327 + j0.200	0.024 + j0.042	5000	716	557
1000	30.0	8000	0.011	0.019	0.020	0.040	0.309 + j0.177	0.020 + j0.040	5462	825	608

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

\* CEC ampacities are based on:

3-1/C in air copper and aluminum: D17M

3-1/C direct buried copper and aluminum: D17A

**Table 3 – Weights and Measurements (Metric)**

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	Copper Weight	Approx. Weight
AWG/Kcmil	No.	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	kg/km
1	19	8.18	22.35	6.60	23.88	2.03	36.88	1.27	39.42	412	1627
1/0	19	9.17	23.34	6.60	24.87	2.03	37.87	1.27	40.41	513	1780
2/0	19	10.29	24.46	6.60	25.98	2.03	38.99	1.52	42.04	641	2016
3/0	19	11.58	25.76	6.60	27.28	2.03	40.28	1.52	43.33	804	2250
4/0	19	13.00	27.18	6.60	28.70	2.03	42.32	1.52	45.36	1006	2582
250	37	14.17	28.55	6.60	30.07	2.03	43.69	1.52	46.74	1183	2842
350	37	16.79	31.17	6.60	32.69	2.03	46.30	1.52	49.35	1647	3456
500	37	20.04	34.42	6.60	35.94	2.03	49.56	1.52	52.60	2339	4478
750	61	24.59	39.22	6.60	40.74	2.79	55.88	1.52	58.93	3494	6119
1000	61	28.37	43.00	6.60	44.53	2.79	59.66	1.91	63.47	4648	7628

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 @ 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
1	472.44	2977	0.4199	0.53	0.0149	0.1903	0.521 + j0.372	0.163 + j0.058	2943	245	244
1/0	485.14	3756	0.3346	0.42	0.0137	0.1837	0.485 + j0.357	0.129 + j0.056	3064	278	272
2/0	505.46	4735	0.2657	0.33	0.0128	0.1772	0.456 + j0.341	0.103 + j0.054	3200	316	303
3/0	520.70	5972	0.2100	0.27	0.0119	0.1706	0.432 + j0.324	0.082 + j0.052	3358	356	333
4/0	543.56	7529	0.1673	0.21	0.0110	0.1640	0.412 + j0.306	0.066 + j0.051	3532	403	367
250	561.34	8900	0.1411	0.18	0.0104	0.1608	0.398 + j0.290	0.057 + j0.049	3699	455	411
350	591.82	12460	0.1017	0.13	0.0091	0.1509	0.374 + j0.263	0.042 + j0.047	4018	537	459
500	632.46	17800	0.0722	0.10	0.0079	0.1444	0.352 + j0.234	0.031 + j0.044	4415	616	499
750	706.12	26700	0.0459	0.08	0.0067	0.1378	0.327 + j0.200	0.024 + j0.042	5000	716	557
1000	762.00	35600	0.0361	0.06	0.0061	0.1312	0.309 + j0.177	0.020 + j0.040	5462	825	608

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

\* CEC ampacities are based on:

3-1/C in air copper and aluminum: D17M

3-1/C direct buried copper and aluminum: D17A

