HVTECK CU 3/C 345NLEPR TS PVC AIA PVC 35kV 100% CSA

3 Conductor, 345 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

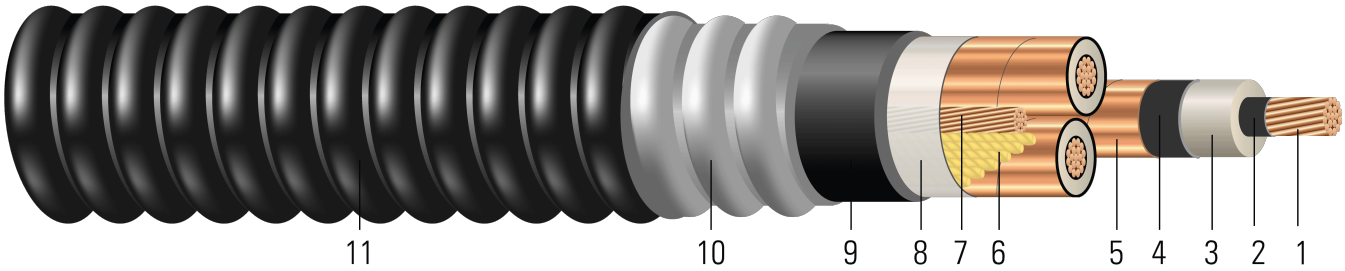

Image not to scale. See Table 1 for dimensions.

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:** 345 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. **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:** Black Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 35kV 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 345 NLEPR AIA 35kV 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	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
1/0	19	0.361	1.089	345	1.149	6	125	3.131	85	3.301	1136	4802
2/0	19	0.405	1.133	345	1.193	6	125	3.226	85	3.396	1396	5236
3/0	19	0.456	1.184	345	1.244	4	125	3.336	85	3.506	1772	5813
4/0	19	0.512	1.240	345	1.300	4	125	3.457	85	3.627	2183	6447
250	37	0.558	1.294	345	1.354	4	125	3.574	85	3.744	2546	7039
350	37	0.661	1.397	345	1.457	3	125	3.796	85	3.966	3523	8432

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.

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
1/0	23.1	2534	0.102	0.128	0.054	0.049	0.481 + j0.309	0.128 + j0.049	3590	231	256
2/0	23.8	3194	0.081	0.102	0.051	0.047	0.451 + j0.295	0.102 + j0.047	3727	265	290
3/0	24.5	4027	0.064	0.081	0.047	0.045	0.425 + j0.280	0.081 + j0.045	3885	303	327
4/0	25.4	5078	0.051	0.065	0.044	0.043	0.403 + j0.266	0.065 + j0.044	4058	348	369
250	26.2	6000	0.043	0.056	0.041	0.042	0.389 + j0.253	0.056 + j0.042	4226	384	408
350	27.8	8400	0.030	0.041	0.037	0.040	0.363 + j0.230	0.042 + j0.040	4545	468	485

* 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)

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
1/0	19	9.17	27.66	8.76	29.18	6	3.18	79.53	2.16	83.85	1691	7146
2/0	19	10.29	28.78	8.76	30.30	6	3.18	81.94	2.16	86.26	2077	7792
3/0	19	11.58	30.07	8.76	31.60	4	3.18	84.73	2.16	89.05	2637	8651
4/0	19	13.00	31.50	8.76	33.02	4	3.18	87.81	2.16	92.13	3249	9594
250	37	14.17	32.87	8.76	34.39	4	3.18	90.78	2.16	95.10	3789	10475
350	37	16.79	35.48	8.76	37.01	3	3.18	96.42	2.16	100.74	5243	12548

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.

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
1/0	586.74	11276	0.3346	0.42	0.0165	0.1608	0.481 + j0.309	0.128 + j0.049	3590	231	256
2/0	604.52	14213	0.2657	0.33	0.0155	0.1542	0.451 + j0.295	0.102 + j0.047	3727	265	290
3/0	622.30	17920	0.2100	0.27	0.0143	0.1476	0.425 + j0.280	0.081 + j0.045	3885	303	327
4/0	645.16	22597	0.1673	0.21	0.0134	0.1411	0.403 + j0.266	0.065 + j0.044	4058	348	369
250	665.48	26700	0.1411	0.18	0.0125	0.1378	0.389 + j0.253	0.056 + j0.042	4226	384	408
350	706.12	37380	0.0984	0.13	0.0113	0.1312	0.363 + j0.230	0.042 + j0.040	4545	468	485

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