



## HVTECK AL 3/C 260TRXLPE TS PVC AIA PVC 25kV 100% CSA

3 Conductor, 260 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 compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
2. **Conductor Shield:** Semi-conducting cross-linked copolymer; A conductor separator is used for cable size larger than or equal to 500 Kcmil
3. **Insulation:** 260 Mils Tree Retardant Cross Linked Polyethylene 100% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Copper Tape Shield:** Helicly 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 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 B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum 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
- 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] CPT AL 260 TRXLPE 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	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
1	19	0.298	0.856	260	0.916	6	110	2.598	75	2.748	2862
1/0	19	0.336	0.894	260	0.954	6	110	2.680	75	2.830	3053
2/0	19	0.376	0.934	260	0.994	6	110	2.766	75	2.916	3264
3/0	19	0.422	0.980	260	1.040	6	110	2.866	75	3.016	3521
4/0	19	0.474	1.032	260	1.092	6	110	2.978	75	3.128	3823
250	37	0.520	1.086	260	1.146	4	125	3.125	85	3.295	4301
350	37	0.615	1.181	260	1.241	4	125	3.330	85	3.500	4924
500	37	0.735	1.301	260	1.361	3	125	3.589	85	3.759	5803

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

\* Strand count meets minimum number per ASTM





**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	19.2	1506	0.211	0.266	0.067	0.048	0.637 + j0.381	0.266 + j0.046	2869	158	177
1/0	19.8	1900	0.168	0.211	0.062	0.046	0.579 + j0.366	0.211 + j0.045	2986	181	200
2/0	20.4	2395	0.133	0.167	0.058	0.045	0.533 + j0.35	0.167 + j0.043	3110	208	228
3/0	21.1	3020	0.105	0.133	0.054	0.043	0.495 + j0.333	0.133 + j0.041	3253	239	258
4/0	21.9	3808	0.084	0.105	0.050	0.041	0.463 + j0.316	0.105 + j0.040	3414	273	292
250	23.1	4500	0.071	0.090	0.047	0.040	0.443 + j0.299	0.090 + j0.039	3581	302	321
350	24.5	6300	0.050	0.065	0.041	0.038	0.409 + j0.272	0.065 + j0.037	3875	368	385
500	26.3	9000	0.035	0.046	0.036	0.036	0.378 + j0.243	0.046 + j0.035	4247	454	462

\* 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

**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	Approx. Weight
AWG/Kcmil	No.	mm	mm	mm	mm	AWG	mm	mm	mm	mm	kg/km
1	19	7.57	21.74	6.60	23.27	6	2.79	65.99	1.91	69.80	4259
1/0	19	8.53	22.71	6.60	24.23	6	2.79	68.07	1.91	71.88	4543
2/0	19	9.55	23.72	6.60	25.25	6	2.79	70.26	1.91	74.07	4857
3/0	19	10.72	24.89	6.60	26.42	6	2.79	72.80	1.91	76.61	5240
4/0	19	12.04	26.21	6.60	27.74	6	2.79	75.64	1.91	79.45	5689
250	37	13.21	27.58	6.60	29.11	4	3.18	79.38	2.16	83.69	6401
350	37	15.62	30.00	6.60	31.52	4	3.18	84.58	2.16	88.90	7328
500	37	18.67	33.05	6.60	34.57	3	3.18	91.16	2.16	95.48	8636

All dimensions are nominal and subject to normal manufacturing tolerances

◇ Cable marked with this symbol is a standard stock item

\* Strand count meets minimum number per ASTM





**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	487.68	6702	0.6923	0.87	0.0204	0.1575	0.637 + j0.381	0.266 + j0.046	2869	158	177
1/0	502.92	8455	0.5512	0.69	0.0189	0.1509	0.579 + j0.366	0.211 + j0.045	2986	181	200
2/0	518.16	10658	0.4364	0.55	0.0177	0.1476	0.533 + j0.35	0.167 + j0.043	3110	208	228
3/0	535.94	13439	0.3445	0.44	0.0165	0.1411	0.495 + j0.333	0.133 + j0.041	3253	239	258
4/0	556.26	16946	0.2756	0.34	0.0152	0.1345	0.463 + j0.316	0.105 + j0.040	3414	273	292
250	586.74	20025	0.2329	0.30	0.0143	0.1312	0.443 + j0.299	0.090 + j0.039	3581	302	321
350	622.30	28035	0.1640	0.21	0.0125	0.1247	0.409 + j0.272	0.065 + j0.037	3875	368	385
500	668.02	40050	0.1148	0.15	0.0110	0.1181	0.378 + j0.243	0.046 + j0.035	4247	454	462

\* 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

