HVTECK AL 1/C 320TRXLPE TS PVC AIA PVC 25kV 133% CSA

Single Conductor, 320 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

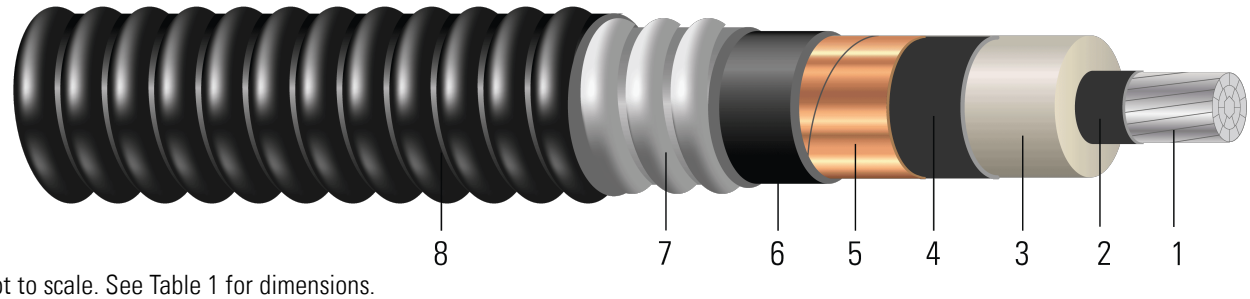

Image not to scale. See Table 1 for dimensions.

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:** 320 Mils Tree Retardant Cross Linked Polyethylene 133% 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 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 (1/0 and Larger)

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- 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] CPT AL 320 TRXLPE AIA 25kV 133% 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	Approx. Weight
AWG/ Kcmil	No.	inch	inch	mil	inch	mil	inch	mil	inch	lb/1000ft
1/0	19	0.336	1.014	320	1.074	80	1.586	60	1.706	1133
2/0	19	0.376	1.054	320	1.114	80	1.650	60	1.770	1233
3/0	19	0.422	1.100	320	1.160	80	1.696	60	1.816	1317
4/0	19	0.474	1.152	320	1.212	80	1.748	60	1.868	1415
250	37	0.520	1.206	320	1.266	80	1.802	60	1.922	1513
350	37	0.615	1.301	320	1.361	80	1.897	60	2.017	1802
500	37	0.735	1.421	320	1.481	110	2.077	60	2.197	2202
750	61	0.908	1.604	320	1.664	110	2.260	75	2.410	2737
1000	61	1.060	1.756	320	1.816	110	2.412	75	2.562	3160

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
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	20.5	633	0.168	0.211	0.071	0.059	0.562 + j0.329	0.212 + j0.058	3358	221	219
2/0	21.2	798	0.133	0.167	0.066	0.057	0.515 + j0.316	0.168 + j0.056	3482	253	246
3/0	21.8	1006	0.105	0.133	0.062	0.055	0.477 + j0.301	0.134 + j0.054	3625	288	275
4/0	22.4	1269	0.084	0.105	0.057	0.053	0.445 + j0.286	0.106 + j0.052	3786	327	305
250	23.1	1500	0.071	0.090	0.054	0.052	0.425 + j0.272	0.091 + j0.050	3953	367	343
350	24.2	2100	0.050	0.065	0.048	0.049	0.392 + j0.248	0.066 + j0.047	4247	443	399
500	26.4	3000	0.035	0.046	0.042	0.047	0.361 + j0.223	0.047 + j0.045	4619	529	451
750	28.9	4500	0.024	0.033	0.036	0.044	0.331 + j0.192	0.034 + j0.043	5186	633	505
1000	30.7	6000	0.018	0.026	0.032	0.042	0.310 + j0.170	0.027 + j0.041	5657	711	544

* 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	Approx. Weight
AWG/ Kcmil	No.	mm	mm	mm	mm	mm	mm	mm	mm	kg/km
1/0	19	8.53	25.76	8.13	27.28	2.03	40.28	1.52	43.33	1686
2/0	19	9.55	26.77	8.13	28.30	2.03	41.91	1.52	44.96	1835
3/0	19	10.72	27.94	8.13	29.46	2.03	43.08	1.52	46.13	1960
4/0	19	12.04	29.26	8.13	30.78	2.03	44.40	1.52	47.45	2106
250	37	13.21	30.63	8.13	32.16	2.03	45.77	1.52	48.82	2252
350	37	15.62	33.05	8.13	34.57	2.03	48.18	1.52	51.23	2682
500	37	18.67	36.09	8.13	37.62	2.79	52.76	1.52	55.80	3277
750	61	23.06	40.74	8.13	42.27	2.79	57.40	1.91	61.21	4073
1000	61	26.92	44.60	8.13	46.13	2.79	61.26	1.91	65.07	4703

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
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	520.70	2817	0.5512	0.69	0.0216	0.1936	0.562 + j0.329	0.212 + j0.058	3358	221	219
2/0	538.48	3551	0.4364	0.55	0.0201	0.1870	0.515 + j0.316	0.168 + j0.056	3482	253	246
3/0	553.72	4477	0.3445	0.44	0.0189	0.1804	0.477 + j0.301	0.134 + j0.054	3625	288	275
4/0	568.96	5647	0.2756	0.34	0.0174	0.1739	0.445 + j0.286	0.106 + j0.052	3786	327	305
250	586.74	6675	0.2329	0.30	0.0165	0.1706	0.425 + j0.272	0.091 + j0.050	3953	367	343
350	614.68	9345	0.1640	0.21	0.0146	0.1608	0.392 + j0.248	0.066 + j0.047	4247	443	399
500	670.56	13350	0.1148	0.15	0.0128	0.1542	0.361 + j0.223	0.047 + j0.045	4619	529	451
750	734.06	20025	0.0787	0.11	0.0110	0.1444	0.331 + j0.192	0.034 + j0.043	5186	633	505
1000	779.78	26700	0.0591	0.09	0.0098	0.1378	0.310 + j0.170	0.027 + j0.041	5657	711	544

* 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