Southwire® CANADA

HVTECK SPECIFICATIONS

HVTECK AL 1/C 260TRXLPE TS PVC AIA PVC 25KV 100% CSA

PRODUCT HIGHLIGHTS

Southwire's 25KV HVTECK is a CSA armoured cable for industrial and commercial medium voltage applications. Rated FT4, -40°C, Hazardous Locations (HL) and 105°C for use in harsh Canadian environments. For installation in cable trays, duct banks, direct burial, troughs, continuous rigid cable supports and concrete encaseable.

CONSTRUCTION

Conductor
- Class B - compact stranded -8000 Series Aluminum -ACM

Options
- Class B compact stranded copper
- Class B compressed stranded copper
- Strand blocking technology
- Tinning on copper conductors

Conductor Shield
- Extruded semi-conducting thermosetting polymeric layer

Insulation
- TR-XLPE - (Tree Retardent Cross Linked Polyethylene)
- Thickness: 0.26 inches (6.60mm) - nominal
- Insulation level: 100% - grounded system
- 105°C rated

Insulation Shield
- Extruded Semi-conducting thermosetting polymeric layer
- CSA 68.10 - Shield Removal/termination requirements are printed on the surface
- Meets requirement of ICEA but built to CSA standards

Copper Tape Shield
- Helically wrapped 5 mil copper tape with 25% overlap
- Not designed to carry ground fault current
- A separate bonding/grounding conductor may be required

Inner Jacket
- Black PVC
- Thickness:
  No.1 AWG to 500 kcmil = 0.08 inches (2.03mm)
  750 kcmil to 1000 kcmil = 0.11 inches (2.79mm)

Armour
- Aluminum Interlocked Armour (AIA)
- Optional Galvanized Steel Interlocked Armour (GSIA)

Overall Jacket
- Black PVC (optional colours available)
- Nominal Thickness:
  No.1 AWG to No.1/0 AWG = 0.05 inches (1.27mm)
  No.2/0 AWG to 750 kcmil = 0.06 inches (1.52mm)
  1000 kcmil = 0.075 inches (1.91mm)

Typical Print Legend
- (CSA) SOUTHWIRE (NESC) #P# [#AWG or #kcmil] CPT AL 260 TRXLPE AIA 25KV 100% INS LEVEL 25% TS SUN RES 105° FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

TABLE 1 - WEIGHTS & MEASUREMENTS

HVTECK Product Code	Conductor Size *	Conductor Diameter		Diameter Over Insulation		Diameter Over Insulation Shield		Diameter Over Inner Jacket		Diameter Over Armour		Approx. Overall Diameter		Minimum Bend Radius		Approx. Weight of Cable		Max. Reel Weight (reel and cable) **		Max. Reel Diameter / Width **		Max. Length of Cable on Reel **	
	AWG or Kcmil	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	lb / 1000ft	kg/km	lbs	kg	inches	m	feet	m
AL260V66-001	1(19)	0.299	7.6	0.849	21.6	0.929	23.6	1.109	28.2	1.429	36.3	1.529	38.8	18.3	466	971	1445	6986	3169	96/54.5	2.44/1.38	6000	1829
AL260V66-010	1/0(19)	0.336	8.5	0.886	22.5	0.966	24.5	1.146	29.1	1.466	37.2	1.566	39.8	18.8	477	1027	1529	7322	3321	96/54.5	2.44/1.38	6000	1829
AL260V66-020	2/0(19)	0.376	9.6	0.926	23.5	1.006	25.6	1.186	30.1	1.506	38.3	1.626	41.3	19.5	496	1122	1669	8072	3661	104/56.5	2.64/1.44	6000	1829
AL260V66-030	3/0(19)	0.423	10.7	0.973	24.7	1.053	26.7	1.233	31.3	1.553	39.4	1.673	42.5	20.1	510	1200	1786	8543	3875	104/56.5	2.64/1.44	6000	1829
AL260V66-040	4/0(19)	0.475	12.1	1.025	26.0	1.105	28.1	1.285	32.6	1.605	40.8	1.725	43.8	20.7	526	1292	1923	9096	4126	104/56.5	2.64/1.44	6000	1829
AL260V66-250	250(37)	0.520	13.2	1.080	27.4	1.160	29.5	1.340	34.0	1.660	42.2	1.780	45.2	21.4	543	1386	2063	9872	4478	108/70.5	2.74/1.79	6000	1829
AL260V66-350	350(37)	0.616	15.6	1.176	29.9	1.256	31.9	1.436	36.5	1.756	44.6	1.876	47.7	22.5	572	1575	2343	11002	4991	108/70.5	2.74/1.79	6000	1829
AL260V66-500	500(37)	0.736	18.7	1.296	32.9	1.376	35.0	1.556	39.5	1.886	47.9	2.006	51.0	24.1	611	1904	2834	12123	5499	108/70.5	2.74/1.79	5550	1692
AL260V66-750	750(61)	0.908	23.1	1.478	37.5	1.558	39.6	1.798	45.7	2.128	54.1	2.248	57.1	27.0	685	2455	3654	12604	5717	108/70.5	2.74/1.79	4500	1372
AL260V66-1000	1000(61)	1.060	26.9	1.630	41.4	1.710	43.4	1.950	49.5	2.280	57.9	2.430	61.7	29.2	741	2923	4349	12369	5610	108/70.5	2.74/1.79	3700	1128

NOTE: These are minimum average dimensions as per CSA Standards.

* Other conductor sizes and outer jacket colours are available upon request. (#s in brackets represent # of strands / conductor)

** Longer maximum lengths may be possible. Standard sizes and lengths may be supplied. Reel sizes are not guaranteed. The factory reserves the right to make changes as necessary to optimize manufacturing requirements.

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HVTECK SPECIFICATIONS

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DESIGN

Qualification Standards

- 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 C22.2 No. 174 - Cables in Hazardous Locations
- ICEA S-93-639 (NEMA WC 74) 5 to 46 kV - Shielded Power Cable
- AEIC CS-8 - Qualification Testing Requirements

Flame Test Ratings

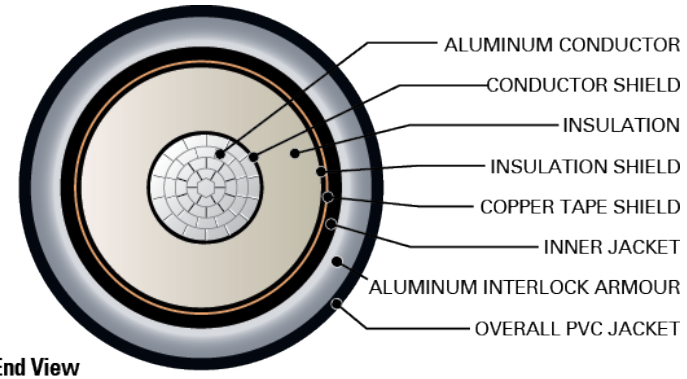
- FT1 - Flame Test - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000 BTU/Hr)

Product Ratings

- CSA C22.2 No. 2556 & No. 0.3. - Wire and Cable Test Methods
- CSA LTGG [-40°C] - as per C68.10 - for Cold Bend and Impact rating
- CSA HL - for Hazardous Locations rating
- CSA FT4 - for Flame Retardancy rating
- CSA SUN RES - for Sunlight Resistant rating

Operating Temperatures

- -40°C - CSA Cold Bend and Impact Temperature
- -25°C - Min. Installation Temperature
- 105°C - Max Continuous Operating Temperature
- 140°C for Emergency Overload Temperature
- 250°C for Short Circuit Temperature



End View

TABLE 2 - ENGINEERING SPECIFICATIONS

HVTECK Product Code	Maximum Pulling Tension		DC Resistance @ 25°C R_{DC}		AC Resistance @ 90°C 60 Hz (triplex formation) R_{AC}		Inductance L		Capacitance C		Inductive Reactance @ 60Hz (triplexed) X_L		Capacitive Reactance @ 60Hz (triplexed) X_C		Positive - Sequence Impedance*	Zero - Sequence Impedance*	Short Circuit Current (each phase conductor) @ 60Hz	Allowable Ampacities in Ventilated Cable Tray †	Allowable Ampacities Directly Buries in Earth ‡
	lb	Newtons	Ω / 1000 ft.	Ω / km	Ω / 1000 ft.	Ω / km	mH / 1000 ft	mH / km	µF / 1000 ft	µF / km	Ω / 1000 ft.	Ω / km	MΩ • 1000ft	MΩ • km	Ω / 1000ft	Ω / 1000ft	kAmps	Amps	Amps
AL260V66-001	502	2234	0.211	0.692	0.265	0.870	0.1212	0.3977	0.0373	0.1225	0.0457	0.1499	0.0710	0.0216	0.266 + j0.059	0.625 + j0.376	3.9	193	194
AL260V66-010	634	2818	0.168	0.551	0.211	0.693	0.1167	0.3828	0.0402	0.1319	0.0440	0.1443	0.0660	0.0201	0.212 + j0.057	0.569 + j0.361	5.0	221	219
AL260V66-020	799	3552	0.133	0.436	0.167	0.549	0.1125	0.3692	0.0432	0.1419	0.0424	0.1392	0.0613	0.0187	0.168 + j0.055	0.523 + j0.346	6.3	253	246
AL260V66-030	1007	4478	0.105	0.345	0.132	0.433	0.1084	0.3555	0.0468	0.1535	0.0408	0.1340	0.0567	0.0173	0.133 + j0.053	0.485 + j0.330	7.9	288	275
AL260V66-040	1270	5647	0.084	0.274	0.105	0.345	0.1045	0.3427	0.0507	0.1663	0.0394	0.1292	0.0523	0.0160	0.106 + j0.051	0.454 + j0.313	9.9	327	305
AL260V66-250	1500	6672	0.071	0.232	0.089	0.292	0.1021	0.3351	0.0533	0.1750	0.0385	0.1263	0.0497	0.0152	0.090 + j0.050	0.433 + j0.297	11.8	367	343
AL260V66-350	2100	9341	0.051	0.166	0.064	0.209	0.0970	0.3182	0.0603	0.1978	0.0366	0.1200	0.0440	0.0134	0.065 + j0.047	0.400 + j0.270	16.5	443	399
AL260V66-500	3000	13345	0.035	0.116	0.045	0.147	0.0921	0.3021	0.0689	0.2260	0.0347	0.1139	0.0385	0.0117	0.046 + j0.045	0.370 + j0.242	23.5	529	451
AL260V66-750	4500	20017	0.024	0.077	0.030	0.099	0.0873	0.2863	0.0800	0.2625	0.0329	0.1079	0.0332	0.0101	0.032 + j0.042	0.338 + j0.207	35.3	633	505
AL260V66-1000	6000	26689	0.018	0.058	0.023	0.075	0.0838	0.2750	0.0906	0.2972	0.0316	0.1037	0.0293	0.0089	0.024 + j0.041	0.316 + j0.183	47.0	711	544

* Calculations are based on three cables triplexed / 5 mil 25 % over lapping copper tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† Ampacities are based on Table D17M of the 2015 Canadian Electrical Code Part I (40°C Ambient Air Temperature, indoor installation)

‡ Ampacities are based on Table D17A of the 2015 Canadian Electrical Code Part I

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