Southwire® CANADA

HVTECK SPECIFICATIONS

HVTECK AL 3/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
- Phase identification as per ICEA Method 3, using printed circuit numbers
- Meets requirement of ICEA but built to CSA standards

Copper Tape Shield
- Helically wrapped 5 mil copper tape with 25% overlap

Bonding Conductor
- Class B compressed stranded bare copper - in accordance with ASTM B3 and B8

Fillers
- Non-wicking, non-hygroscopic

Inner Jacket
- Black PVC
- Thickness:
  No.1 AWG to No.4/0 AWG = 0.11 inches (2.79mm)
  250 kcmil to 500 kcmil = 0.14 inches (3.56mm)

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.4/0 AWG = 0.075 inches (1.91mm)
  250 kcmil to 500 kcmil = 0.085 inches (2.16mm)

Typical 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° FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

TABLE 1 - WEIGHTS & MEASUREMENTS

	Conductor Size *	Conductor Diameter		Diameter Over Insulation		Diameter Over Insulation Shield		Bonding Cond. Size	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 **	
HVTECK Product Code	AWG or Kcmil	inches	mm	inches	mm	inches	mm	AWG	inches	mm	inches	mm	inches	mm	inches	mm	lb / 1000ft	kg/km	lbs	kg	inches	m	feet	m
AL260Z18-001	1(19)	0.299	7.6	0.849	21.6	0.929	23.6	6	2.270	57.7	2.600	66.0	2.750	69.8	19.2	489	2846	4235	9524	4320	108/70.5	2.74/1.79	2800	853
AL260Z18-010	1/0(19)	0.336	8.5	0.886	22.5	0.966	24.5	6	2.350	59.7	2.680	68.1	2.830	71.9	19.8	503	3014	4486	8487	3850	108/70.5	2.74/1.79	2300	701
AL260Z18-020	2/0(19)	0.376	9.6	0.926	23.5	1.006	25.6	6	2.436	61.9	2.766	70.3	2.916	74.1	20.4	518	3207	4773	8611	3906	108/70.5	2.74/1.79	2200	671
AL260Z18-030	3/0(19)	0.423	10.7	0.973	24.7	1.053	26.7	6	2.538	64.5	2.868	72.8	3.018	76.6	21.1	537	3440	5119	8951	4060	108/70.5	2.74/1.79	2150	655
AL260Z18-040	4/0(19)	0.475	12.1	1.025	26.0	1.105	28.1	6	2.650	67.3	2.980	75.7	3.130	79.5	21.9	557	3713	5526	7868	3569	108/70.5	2.74/1.79	1700	518
AL260Z18-250	250(37)	0.520	13.2	1.080	27.4	1.160	29.5	4	2.829	71.9	3.159	80.2	3.329	84.6	23.3	592	4285	6377	8412	3815	108/70.5	2.74/1.79	1600	488
AL260Z18-350	350(37)	0.616	15.6	1.176	29.9	1.256	31.9	4	3.036	77.1	3.366	85.5	3.536	89.8	24.8	629	4861	7234	8846	4013	108/70.5	2.74/1.79	1500	457
AL260Z18-500	500(37)	0.736	18.7	1.296	32.9	1.376	35.0	3	3.295	83.7	3.625	92.1	3.795	96.4	26.6	675	5684	8458	7807	3541	108/70.5	2.74/1.79	1100	335

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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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

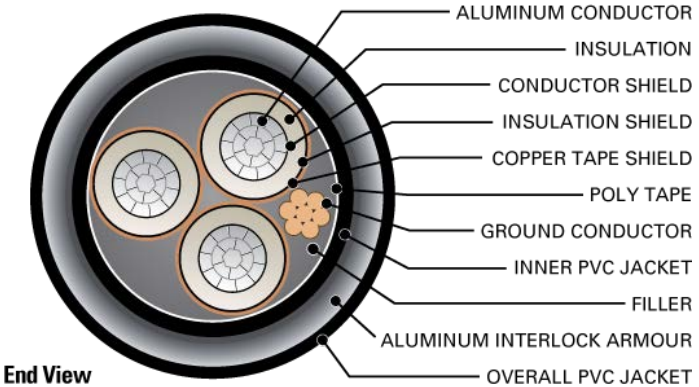
- FT1 - Flame Test - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000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

	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 ‡
HVTECK Product Code	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
AL260Z18-001	1506	6701	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 + j0.048	0.635 + j0.377	3.9	158	177
AL260Z18-010	1901	8455	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 + j0.046	0.579 + j0.362	5.0	181	200
AL260Z18-020	2396	10657	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 + j0.045	0.532 + j0.347	6.3	208	228
AL260Z18-030	3020	13435	0.105	0.345	0.132	0.433	0.1084	0.3555	0.0468	0.1535	0.0408	0.1340	0.0567	0.0173	0.132 + j0.043	0.493 + j0.330	7.9	239	258
AL260Z18-040	3809	16942	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 + j0.041	0.462 + j0.313	9.9	273	292
AL260Z18-250	4500	20017	0.071	0.232	0.089	0.292	0.1021	0.3351	0.0533	0.1750	0.0385	0.1263	0.0497	0.0152	0.089 + j0.040	0.441 + j0.296	11.8	302	321
AL260Z18-350	6300	28024	0.051	0.166	0.064	0.209	0.0970	0.3182	0.0603	0.1978	0.0366	0.1200	0.0440	0.0134	0.064 + j0.038	0.406 + j0.270	16.5	368	385
AL260Z18-500	9000	40034	0.035	0.116	0.045	0.147	0.0921	0.3021	0.0689	0.2260	0.0347	0.1139	0.0385	0.0117	0.045 + j0.036	0.375 + j0.241	23.5	454	462

* Calculations are based on 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 D17N of the 2015 Canadian Electrical Code Part I (40°C Ambient Air Temperature, indoor installation)

‡ Ampacities are based on Table D17E of the 2015 Canadian Electrical Code Part I

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