Southwire® CANADA

HVTECK SPECIFICATIONS

HVTECK CU 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 compressed stranded copper
  - in accordance with ASTM B3 and ASTM B8

Options
- Class B compact stranded -8000 Series Aluminum -ACM
- Class B compact stranded copper

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.3/0 AWG = 0.11 inches (2.79mm)
  No.4/0 AWG 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.3/0 AWG = 0.075 inches (1.91mm)
  No.4/0 AWG to 500 kcmil = 0.085 inches (2.16mm)

Typical Print Legend
- (CSA) SOUTHWIRE (NESC) #P# 3/C [#AWG or #kcmil] CU 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
CU260K91-001	1(19)	0.322	8.2	0.872	22.1	0.952	24.2	6	2.320	58.9	2.650	67.3	2.800	71.1	19.6	498	3452	5138	9495	4307	108/70.5	2.74/1.79	2300	701
CU260K91-010	1/0(19)	0.362	9.2	0.912	23.2	0.992	25.2	6	2.406	61.1	2.736	69.5	2.886	73.3	20.2	513	3770	5610	10225	4638	108/70.5	2.74/1.79	2300	701
CU260K91-020	2/0(19)	0.405	10.3	0.955	24.3	1.035	26.3	6	2.499	63.5	2.829	71.9	2.979	75.7	20.9	530	4149	6174	10683	4846	108/70.5	2.74/1.79	2200	671
CU260K91-030	3/0(19)	0.456	11.6	1.006	25.6	1.086	27.6	4	2.609	66.3	2.939	74.6	3.089	78.5	21.6	549	4665	6943	11119	5044	108/70.5	2.74/1.79	2050	625
CU260K91-040	4/0(19)	0.512	13.0	1.062	27.0	1.142	29.0	4	2.790	70.9	3.120	79.2	3.290	83.6	23.0	585	5475	8148	10316	4679	108/70.5	2.74/1.79	1600	488
CU260K91-250	250(37)	0.558	14.2	1.118	28.4	1.198	30.4	4	2.911	73.9	3.241	82.3	3.411	86.6	23.9	606	5835	8683	10307	4675	108/70.5	2.74/1.79	1500	457
CU260K91-350	350(37)	0.661	16.8	1.221	31.0	1.301	33.0	3	3.133	79.6	3.463	88.0	3.633	92.3	25.4	646	7292	10851	9576	4344	108/70.5	2.74/1.79	1100	335
CU260K91-500	500(37)	0.789	20.0	1.349	34.3	1.429	36.3	3	3.410	86.6	3.740	95.0	3.910	99.3	27.4	695	9073	13503	11082	5027	108/70.5	2.74/1.79	1050	320

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

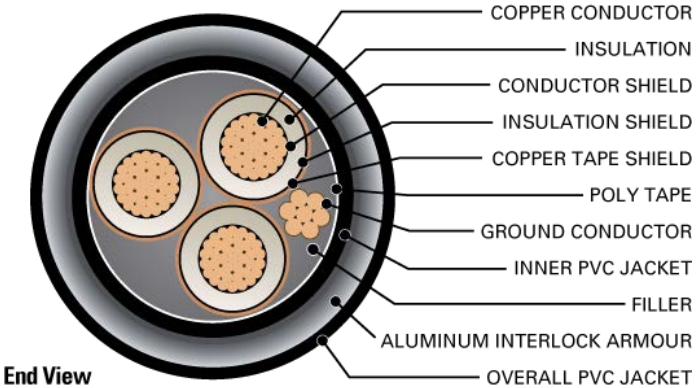
- FT1 - Flame Test - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000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

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
CU260K91-001	2009	8935	0.129	0.423	0.161	0.529	0.1183	0.3882	0.0391	0.1284	0.0446	0.1463	0.0678	0.0207	0.162 + j0.047	0.530 + j0.368	6.0	202	226
CU260K91-010	2534	11274	0.102	0.335	0.128	0.419	0.1139	0.3737	0.0422	0.1384	0.0429	0.1409	0.0629	0.0192	0.128 + j0.045	0.493 + j0.352	7.6	231	256
CU260K91-020	3194	14209	0.081	0.266	0.101	0.333	0.1099	0.3605	0.0454	0.1491	0.0414	0.1359	0.0584	0.0178	0.102 + j0.044	0.464 + j0.336	9.6	265	290
CU260K91-030	4027	17914	0.064	0.211	0.081	0.264	0.1058	0.3472	0.0493	0.1616	0.0399	0.1309	0.0538	0.0164	0.081 + j0.042	0.439 + j0.319	12.1	303	327
CU260K91-040	5078	22590	0.051	0.167	0.064	0.210	0.1021	0.3348	0.0534	0.1753	0.0385	0.1262	0.0497	0.0151	0.065 + j0.040	0.417 + j0.301	15.2	348	369
CU260K91-250	6000	26689	0.043	0.141	0.054	0.178	0.0999	0.3279	0.0561	0.1840	0.0377	0.1236	0.0473	0.0144	0.055 + j0.040	0.402 + j0.285	18.0	384	408
CU260K91-350	8400	37365	0.031	0.101	0.039	0.128	0.0950	0.3116	0.0635	0.2084	0.0358	0.1175	0.0418	0.0127	0.040 + j0.038	0.377 + j0.258	25.2	468	485
CU260K91-500	12000	53379	0.022	0.071	0.028	0.092	0.0903	0.2962	0.0727	0.2384	0.0340	0.1117	0.0365	0.0111	0.028 + j0.036	0.353 + j0.230	36.0	565	571

* 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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