HVTECK SPECIFICATIONS

HVTECK CU 1/C 260TRXLPE CB 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. When used in a 3 phase system, the combination of each bond conductor from each single conductor cable provide a 100% bonded system to ground.

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%
- 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 Full Bond Wire Shield
- Concentrically applied copper bond / shield wires
- *** Complies with greater than the minimum requirement as per Table 44, CSA Standard C68.10 and Table 16A, Canadian Electrical Code Part 1

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 = 0.05 inches (1.27mm)
  No.1/0 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] CU 260 TRXLPE AIA 25KV 100% INS LEVEL CB [No. x SIZE] AWG 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		CB 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	No. X AWG	inches	mm	inches	mm	inches	mm	inches	mm	lb / 1000ft	kg/km	lbs	kg	inches	m	feet	m
CU260B51-001	1(19)	0.322	8.2	0.872	22.1	0.952	24.2	17X16	1.163	29.5	1.483	37.7	1.583	40.2	19.0	482	1199	1784	8535	3871	104/56.5	2.64/1.44	6000	1829
CU260B51-010	1/0(19)	0.362	9.2	0.912	23.2	0.992	25.2	17X16	1.203	30.6	1.523	38.7	1.643	41.7	19.7	501	1332	1982	9335	4234	104/56.5	2.64/1.44	6000	1829
CU260B51-020	2/0(19)	0.405	10.3	0.955	24.3	1.035	26.3	17X16	1.246	31.6	1.566	39.8	1.686	42.8	20.2	514	1456	2167	10079	4572	104/56.5	2.64/1.44	6000	1829
CU260B51-030	3/0(19)	0.456	11.6	1.006	25.6	1.086	27.6	21X16	1.297	32.9	1.617	41.1	1.737	44.1	20.8	529	1629	2424	11117	5042	104/56.5	2.64/1.44	6000	1829
CU260B51-040	4/0(19)	0.512	13.0	1.062	27.0	1.142	29.0	21X16	1.353	34.4	1.673	42.5	1.793	45.5	21.5	546	1815	2701	12445	5645	108/70.5	2.74/1.79	6000	1829
CU260B51-250	250(37)	0.558	14.2	1.118	28.4	1.198	30.4	27X16	1.409	35.8	1.729	43.9	1.849	47.0	22.2	564	1958	2914	13303	6034	108/70.5	2.74/1.79	6000	1829
CU260B51-350	350(37)	0.661	16.8	1.221	31.0	1.301	33.0	21X14	1.525	38.7	1.855	47.1	1.975	50.2	23.7	602	2528	3762	15839	7184	108/70.5	2.74/1.79	5650	1722
CU260B51-500	500(37)	0.789	20.0	1.349	34.3	1.429	36.3	27X14	1.653	42.0	1.983	50.4	2.103	53.4	25.2	641	3160	4703	16249	7370	108/70.5	2.74/1.79	4650	1417
CU260B51-750	750(61)	0.968	24.6	1.538	39.1	1.618	41.1	33X14	1.902	48.3	2.232	56.7	2.352	59.7	28.2	717	4294	6391	16370	7425	108/70.5	2.74/1.79	3450	1052
CU260B51-1000	1000(61)	1.117	28.4	1.687	42.8	1.767	44.9	33X14	2.051	52.1	2.381	60.5	2.531	64.3	30.4	771	5371	7993	16325	7405	108/70.5	2.74/1.79	2750	838

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.

*** Concentric 1/3 Bond size values are available on request

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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

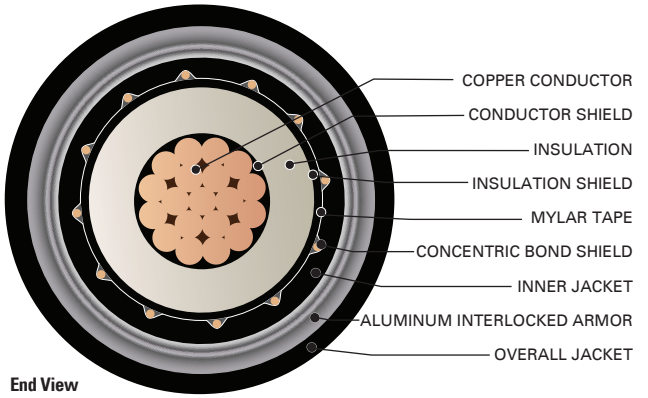
- FT1 - Flame Test - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000 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
CU260B51-001	670	2978	0.129	0.423	0.161	0.529	0.1183	0.3882	0.0391	0.1284	0.0446	0.1463	0.0678	0.0207	0.164 + j0.058	0.384 + j0.117	6.0	245	244
CU260B51-010	845	3758	0.102	0.335	0.128	0.419	0.1139	0.3737	0.0422	0.1384	0.0429	0.1409	0.0629	0.0192	0.130 + j0.056	0.350 + j0.115	7.6	278	272
CU260B51-020	1065	4736	0.081	0.266	0.101	0.333	0.1099	0.3605	0.0454	0.1491	0.0414	0.1359	0.0584	0.0178	0.104 + j0.054	0.323 + j0.114	9.6	316	303
CU260B51-030	1342	5971	0.064	0.211	0.080	0.264	0.1058	0.3472	0.0493	0.1616	0.0399	0.1309	0.0538	0.0164	0.084 + j0.052	0.268 + j0.087	12.1	356	333
CU260B51-040	1693	7530	0.051	0.167	0.064	0.210	0.1021	0.3348	0.0534	0.1753	0.0385	0.1262	0.0497	0.0151	0.067 + j0.050	0.252 + j0.085	15.2	403	367
CU260B51-250	2000	8896	0.043	0.141	0.054	0.178	0.0999	0.3279	0.0561	0.1840	0.0377	0.1236	0.0473	0.0144	0.058 + j0.049	0.206 + j0.064	18.0	455	411
CU260B51-350	2800	12455	0.031	0.101	0.039	0.128	0.0950	0.3116	0.0635	0.2084	0.0358	0.1175	0.0418	0.0127	0.043 + j0.046	0.164 + j0.051	25.2	537	459
CU260B51-500	4000	17793	0.022	0.071	0.028	0.091	0.0903	0.2962	0.0727	0.2384	0.0340	0.1117	0.0365	0.0111	0.033 + j0.043	0.127 + j0.039	36.0	616	499
CU260B51-750	6000	26689	0.014	0.047	0.019	0.062	0.0858	0.2815	0.0842	0.2762	0.0323	0.1061	0.0315	0.0096	0.025 + j0.040	0.101 + j0.032	53.9	716	557
CU260B51-1000	8000	35586	0.011	0.035	0.015	0.049	0.0827	0.2714	0.0945	0.3102	0.0312	0.1023	0.0281	0.0086	0.021 + j0.038	0.097 + j0.031	71.9	825	608

* 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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