CSA TRAY RATED

HVTC SPECIFICATIONS

HVTC CU 1/C 115TRXLPE TS PVC 8KV 100% CSA

Southwire® CANADA

PRODUCT HIGHLIGHTS

Southwire's 8KV HVTC is a CSA approved copper tape shielded cable for Industrial and Commercial medium voltage applications. FT4, -40°C, and 105°C rated for use in harsh Canadian environments. Rated for installation in cable trays, duct banks, direct burial, troughs, continuous rigid cable supports and concrete encaseable. For use in cable trays, exposed run and hazardous locations as per the limitations in the Canadian Electrical Code Part I, particularly Table 19.

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: 0.115 inches (2.92mm) - 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

Overall Jacket
- Black PVC (optional colours available)
- Nominal Thickness:
  No.2 AWG to No.1 AWG = 0.06 inches (1.52mm)
  No.1/0 AWG to 1000 kcmil = 0.08 inches (2.03mm)

Typical Print Legend
- (CSA) SOUTHWIRE (NESC) #P# [#AWG or #kcmil] CU 115 TRXLPE 8KV 100% INS LEVEL 25% TS SUN RES TC-ER 105° FT4 (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

TABLE 1 - WEIGHTS & MEASUREMENTS

	Conductor Size *	Conductor Diameter		Diameter Over Insulation		Diameter Over Insulation Shield		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 **	
HVTC Product Code	AWG or Kcmil	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	lb / 1000ft	kg/km	lbs	kg	inches	m	feet	m
CU115V10-002	2(7)	0.283	7.2	0.543	13.8	0.623	15.8	0.763	19.4	9.2	233	437	651	2900	1315	60/32	1.52/0.81	6000	1829
CU115V10-001	1(19)	0.322	8.2	0.582	14.8	0.662	16.8	0.802	20.4	9.6	244	507	755	3244	1472	72/42	1.83/1.07	6000	1829
CU115V10-010	1/0(19)	0.362	9.2	0.622	15.8	0.702	17.8	0.882	22.4	10.6	269	624	928	3943	1788	72/42	1.83/1.07	6000	1829
CU115V10-020	2/0(19)	0.405	10.3	0.665	16.9	0.745	18.9	0.925	23.5	11.1	282	729	1084	4571	2073	72/42	1.83/1.07	6000	1829
CU115V10-030	3/0(19)	0.456	11.6	0.716	18.2	0.796	20.2	0.976	24.8	11.7	297	859	1278	5354	2429	72/42	1.83/1.07	6000	1829
CU115V10-040	4/0(19)	0.512	13.0	0.772	19.6	0.852	21.6	1.032	26.2	12.4	315	1020	1518	6319	2866	72/42	1.83/1.07	6000	1829
CU115V10-250	250(37)	0.558	14.2	0.828	21.0	0.908	23.1	1.088	27.6	13.1	332	1108	1650	7401	3357	78/54	1.98/1.37	6000	1829
CU115V10-350	350(37)	0.661	16.8	0.931	23.6	1.011	25.7	1.191	30.3	14.3	363	1525	2270	9902	4492	78/54	1.98/1.37	6000	1829
CU115V10-500	500(37)	0.789	20.0	1.059	26.9	1.139	28.9	1.319	33.5	15.8	402	2048	3048	13447	6099	96/54.5	2.44/1.38	6000	1829
CU115V10-750	750(61)	0.968	24.6	1.248	31.7	1.328	33.7	1.508	38.3	18.1	460	2915	4339	16423	7449	108/70.5	2.74/1.79	5100	1554
CU115V10-1000	1000(61)	1.117	28.4	1.397	35.5	1.477	37.5	1.657	42.1	19.9	505	3758	5592	16398	7438	108/70.5	2.74/1.79	3950	1204

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. 230 - Tray Cables
- ICEA S-93-639 (NEMA WC 74) 5 to 46 kV - Shielded Power Cable
- AEIC CS-8 - Qualification Testing Requirements

Flame Test Ratings

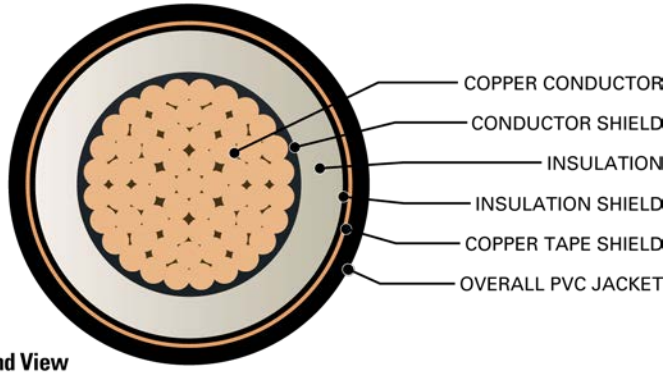
- FT1 - Flame Test - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000 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 FT4 - for Flame Retardancy rating
- CSA SUN RES - for Sunlight Resistant rating
- CSA TC-ER (marked TC for No. 1/0 AWG and larger)***

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

HVTC 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
CU115V10-002	531	2361	0.162	0.532	0.203	0.665	0.0973	0.3192	0.0598	0.1962	0.0367	0.1204	0.0443	0.0135	0.203 + j0.044	0.569 + j0.506	4.8	215	221
CU115V10-001	670	2978	0.129	0.423	0.161	0.530	0.0937	0.3073	0.0659	0.2161	0.0353	0.1158	0.0403	0.0123	0.162 + j0.043	0.531 + j0.484	6.0	245	247
CU115V10-010	845	3758	0.102	0.335	0.128	0.419	0.0906	0.2972	0.0720	0.2363	0.0341	0.1120	0.0368	0.0112	0.128 + j0.042	0.498 + j0.462	7.6	278	275
CU115V10-020	1065	4736	0.081	0.266	0.101	0.333	0.0878	0.2881	0.0786	0.2579	0.0331	0.1086	0.0337	0.0103	0.102 + j0.041	0.473 + j0.441	9.6	317	306
CU115V10-030	1342	5971	0.064	0.211	0.081	0.264	0.0851	0.2791	0.0864	0.2834	0.0321	0.1052	0.0307	0.0094	0.081 + j0.039	0.452 + j0.417	12.1	357	335
CU115V10-040	1693	7530	0.051	0.167	0.064	0.210	0.0826	0.2710	0.0949	0.3114	0.0311	0.1022	0.0279	0.0085	0.065 + j0.038	0.434 + j0.392	15.2	404	369
CU115V10-250	2000	8896	0.043	0.141	0.054	0.178	0.0816	0.2678	0.0988	0.3240	0.0308	0.1010	0.0269	0.0082	0.055 + j0.037	0.422 + j0.370	18.0	456	412
CU115V10-350	2800	12455	0.031	0.101	0.039	0.129	0.0784	0.2574	0.1138	0.3734	0.0296	0.0970	0.0233	0.0071	0.040 + j0.035	0.401 + j0.332	25.2	537	456
CU115V10-500	4000	17793	0.022	0.071	0.028	0.092	0.0755	0.2477	0.1324	0.4345	0.0285	0.0934	0.0200	0.0061	0.029 + j0.033	0.379 + j0.292	36.0	616	497
CU115V10-750	6000	26689	0.014	0.047	0.020	0.064	0.0731	0.2397	0.1534	0.5034	0.0275	0.0904	0.0173	0.0053	0.020 + j0.032	0.353 + j0.244	53.9	706	551
CU115V10-1000	8000	35586	0.011	0.035	0.016	0.051	0.0712	0.2336	0.1743	0.5717	0.0268	0.0881	0.0152	0.0046	0.016 + j0.031	0.334 + j0.214	71.9	813	596

* 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

*** For use in cable trays, exposed run and hazardous locations as per the limitations in the Canadian Electrical Code Part I, particularly Table 19.

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