CSA TRAY RATED

HVTC SPECIFICATIONS

HVTC AL 3/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 - 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: 0.115 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
- 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

Overall Jacket
- Black PVC (optional colours available)
- Nominal Thickness:
  No.2 AWG to No.1 AWG = 0.08 inches (2.03mm)
  No.1/0 AWG to 500 kcmil = 0.11 inches (2.79mm)
  750 kcmil to 1000 kcmil = 0.14 inches (3.56mm)

Typical Print Legend
- (CSA) SOUTHWIRE (NESC) #P# 3/C [#AWG or #kcmil] CPT AL 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		Bonding Cond. Size	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	AWG	inches	mm	inches	mm	lb / 1000ft	kg/km	lbs	kg	inches	m	feet	m
AL115J88-002	2(7)	0.268	6.8	0.528	13.4	0.608	15.4	8	1.516	38.5	10.6	270	1011	1504	6214	2819	96/54.5	2.44/1.38	5000	1524
AL115J88-001	1(19)	0.299	7.6	0.559	14.2	0.639	16.2	6	1.583	40.2	11.1	282	1140	1696	6857	3110	96/54.5	2.44/1.38	5000	1524
AL115J88-010	1/0(19)	0.336	8.5	0.596	15.1	0.676	17.2	6	1.723	43.8	12.1	306	1356	2018	8123	3684	104/56.5	2.64/1.44	5000	1524
AL115J88-020	2/0(19)	0.376	9.6	0.636	16.2	0.716	18.2	6	1.810	46.0	12.7	322	1505	2239	8865	4021	104/56.5	2.64/1.44	5000	1524
AL115J88-030	3/0(19)	0.423	10.7	0.683	17.3	0.763	19.4	6	1.911	48.5	13.4	340	1686	2509	9986	4530	108/70.5	2.74/1.79	5000	1524
AL115J88-040	4/0(19)	0.475	12.1	0.735	18.7	0.815	20.7	6	2.024	51.4	14.2	360	1905	2834	11078	5025	108/70.5	2.74/1.79	5000	1524
AL115J88-250	250(37)	0.520	13.2	0.790	20.1	0.870	22.1	4	2.142	54.4	15.0	381	2174	3236	11666	5292	108/70.5	2.74/1.79	4650	1417
AL115J88-350	350(37)	0.616	15.6	0.886	22.5	0.966	24.5	4	2.350	59.7	16.4	418	2639	3928	11321	5135	108/70.5	2.74/1.79	3700	1128
AL115J88-500	500(37)	0.736	18.7	1.006	25.6	1.086	27.6	3	2.609	66.3	18.3	464	3332	4958	11384	5164	108/70.5	2.74/1.79	2950	899
AL115J88-750	750(61)	0.908	23.1	1.188	30.2	1.268	32.2	2	3.062	77.8	21.4	544	4646	6914	11079	5025	108/70.5	2.74/1.79	2050	625
AL115J88-1000	1000(61)	1.060	26.9	1.340	34.0	1.420	36.1	2	3.390	86.1	23.7	603	5697	8478	10100	4581	108/70.5	2.74/1.79	1500	457

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

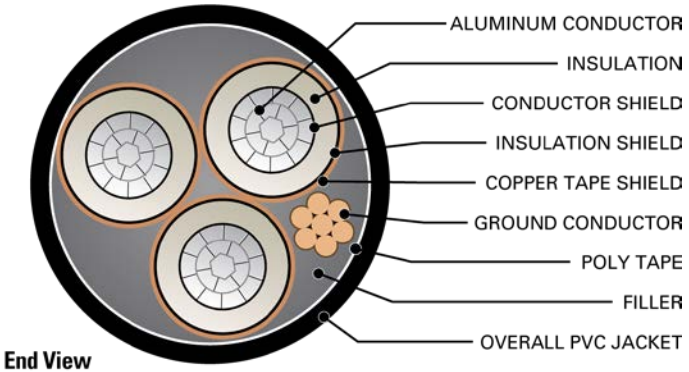
- FT1 - Flame Test - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000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

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
AL115J88-002	1194	5313	0.265	0.869	0.333	1.093	0.0989	0.3245	0.0575	0.1886	0.0373	0.1223	0.0461	0.0141	0.333 + j0.041	0.703 + j0.516	3.1	135	157
AL115J88-001	1506	6701	0.211	0.692	0.265	0.870	0.0957	0.3140	0.0623	0.2044	0.0361	0.1184	0.0426	0.0130	0.265 + j0.040	0.638 + j0.498	3.9	154	178
AL115J88-010	1901	8455	0.168	0.551	0.211	0.693	0.0925	0.3035	0.0680	0.2231	0.0349	0.1144	0.0390	0.0119	0.211 + j0.038	0.586 + j0.478	5.0	176	202
AL115J88-020	2396	10657	0.133	0.436	0.167	0.549	0.0896	0.2940	0.0742	0.2433	0.0338	0.1108	0.0358	0.0109	0.168 + j0.037	0.543 + j0.456	6.3	204	229
AL115J88-030	3020	13435	0.105	0.345	0.132	0.433	0.0868	0.2847	0.0814	0.2669	0.0327	0.1073	0.0326	0.0099	0.132 + j0.036	0.508 + j0.433	7.9	234	260
AL115J88-040	3809	16942	0.084	0.274	0.105	0.345	0.0842	0.2762	0.0893	0.2929	0.0317	0.1041	0.0297	0.0091	0.106 + j0.035	0.480 + j0.409	9.9	268	294
AL115J88-250	4500	20017	0.071	0.232	0.089	0.292	0.0831	0.2725	0.0932	0.3058	0.0313	0.1027	0.0285	0.0087	0.089 + j0.034	0.462 + j0.386	11.8	296	323
AL115J88-350	6300	28024	0.051	0.166	0.064	0.209	0.0797	0.2616	0.1072	0.3519	0.0301	0.0986	0.0247	0.0075	0.064 + j0.032	0.431 + j0.348	16.5	363	386
AL115J88-500	9000	40034	0.035	0.116	0.045	0.148	0.0766	0.2514	0.1247	0.4092	0.0289	0.0948	0.0213	0.0065	0.045 + j0.031	0.403 + j0.308	23.5	447	465
AL115J88-750	13500	60051	0.024	0.077	0.031	0.100	0.0740	0.2426	0.1450	0.4758	0.0279	0.0915	0.0183	0.0056	0.031 + j0.030	0.372 + j0.258	35.3	566	563
AL115J88-1000	18000	80068	0.018	0.058	0.023	0.077	0.0719	0.2358	0.1663	0.5456	0.0271	0.0889	0.0160	0.0049	0.024 + j0.029	0.349 + j0.224	47.0	661	638

* 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

*** 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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