



CSA TRAY RATED

HVTC SPECIFICATIONS

HVTC AL 1/C 260EPR TS PVC 25KV 100% CSA



PRODUCT HIGHLIGHTS

Southwire's 25KV 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

- No-lead EPR (Ethylene Propylene Rubber)
- 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
- 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.1 AWG to 500 kcmil = 0.08 inches (2.03mm)
750 kcmil to 1000 kcmil = 0.11 inches (2.79mm)

Typical Print Legend

- (CSA) SOUTHWIRE (NESC) #P# [#AWG or #kcmil] CPT AL 260 EPR 25KV 100% INS LEVEL 25% TS SUN RES TC-ER 105° FT4 (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

TABLE 1 - WEIGHTS & MEASUREMENTS

HVTC Product Code	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**	
	AWG or Kcmil	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	lb / 1000ft	kg/km	lbs	kg	inches	m	feet	m
AL260J77-001	1(19)	0.299	7.6	0.849	21.6	0.929	23.6	1.109	28.2	13.3	338	603	898	4371	1983	78/54	1.98/1.37	6000	1829
AL260J77-010	1/0(19)	0.336	8.5	0.886	22.5	0.966	24.5	1.146	29.1	13.8	349	650	968	4652	2110	78/54	1.98/1.37	6000	1829
AL260J77-020	2/0(19)	0.376	9.6	0.926	23.5	1.006	25.6	1.186	30.1	14.2	361	705	1049	4979	2258	78/54	1.98/1.37	6000	1829
AL260J77-030	3/0(19)	0.423	10.7	0.973	24.7	1.053	26.7	1.233	31.3	14.8	376	771	1147	5374	2438	78/54	1.98/1.37	6000	1829
AL260J77-040	4/0(19)	0.475	12.1	1.025	26.0	1.105	28.1	1.285	32.6	15.4	392	849	1264	5844	2651	78/54	1.98/1.37	6000	1829
AL260J77-250	250(37)	0.520	13.2	1.080	27.4	1.160	29.5	1.340	34.0	16.1	408	928	1381	6320	2867	78/54	1.98/1.37	6000	1829
AL260J77-350	350(37)	0.616	15.6	1.176	29.9	1.256	31.9	1.436	36.5	17.2	438	1091	1624	7706	3495	96/54.5	2.44/1.38	6000	1829
AL260J77-500	500(37)	0.736	18.7	1.296	32.9	1.376	35.0	1.556	39.5	18.7	474	1318	1961	9067	4113	96/54.5	2.44/1.38	6000	1829
AL260J77-750	750(61)	0.908	23.1	1.478	37.5	1.558	39.6	1.798	45.7	21.6	548	1790	2664	12298	5578	108/70.5	2.74/1.79	6000	1829
AL260J77-1000	1000(61)	1.060	26.9	1.630	41.4	1.710	43.4	1.950	49.5	23.4	594	2143	3190	13986	6344	108/70.5	2.74/1.79	5800	1768

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

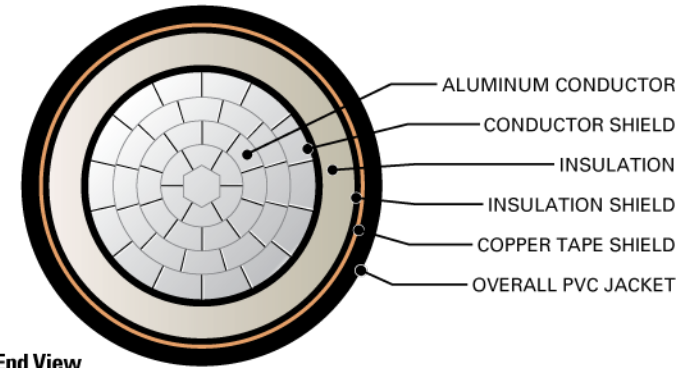
- FT1 - Flame Test - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000 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 Buried 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					
AL260J77-001	502	2234	0.211	0.692	0.265	0.870	0.1212	0.3977	0.0471	0.1545	0.0457	0.1499	0.0563	0.0172	0.266 + j0.052	0.632 + j0.377	3.7	193	194
AL260J77-010	634	2818	0.168	0.551	0.211	0.693	0.1167	0.3828	0.0507	0.1663	0.0440	0.1443	0.0523	0.0160	0.212 + j0.050	0.576 + j0.362	4.7	221	219
AL260J77-020	799	3552	0.133	0.436	0.167	0.549	0.1125	0.3692	0.0545	0.1789	0.0424	0.1392	0.0486	0.0148	0.168 + j0.048	0.529 + j0.347	5.9	253	246
AL260J77-030	1007	4478	0.105	0.345	0.132	0.433	0.1084	0.3555	0.0590	0.1936	0.0408	0.1340	0.0450	0.0137	0.133 + j0.046	0.491 + j0.330	7.4	288	275
AL260J77-040	1270	5647	0.084	0.274	0.105	0.345	0.1045	0.3427	0.0639	0.2097	0.0394	0.1292	0.0415	0.0127	0.106 + j0.045	0.459 + j0.313	9.4	327	305
AL260J77-250	1500	6672	0.071	0.232	0.089	0.292	0.1021	0.3351	0.0672	0.2206	0.0385	0.1263	0.0394	0.0120	0.090 + j0.043	0.438 + j0.296	11.1	367	343
AL260J77-350	2100	9341	0.051	0.166	0.064	0.209	0.0970	0.3182	0.0760	0.2494	0.0366	0.1200	0.0349	0.0106	0.064 + j0.041	0.404 + j0.270	15.5	443	399
AL260J77-500	3000	13345	0.035	0.116	0.045	0.147	0.0921	0.3021	0.0869	0.2850	0.0347	0.1139	0.0305	0.0093	0.046 + j0.039	0.374 + j0.241	22.2	529	451
AL260J77-750	4500	20017	0.024	0.077	0.030	0.099	0.0873	0.2863	0.1009	0.3310	0.0329	0.1079	0.0263	0.0080	0.031 + j0.037	0.341 + j0.206	33.2	633	505
AL260J77-1000	6000	26689	0.018	0.058	0.023	0.076	0.0838	0.2750	0.1142	0.3747	0.0316	0.1037	0.0232	0.0071	0.024 + j0.036	0.319 + j0.182	44.3	711	544

* 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.

