CSA TRAY RATED

HVTC SPECIFICATIONS

HVTC AL 1/C 345EPR TS PVC 35KV 100% CSA

PRODUCT HIGHLIGHTS

Southwire's 35KV 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: 0.345 inches (8.76mm) - 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.1/0 AWG to 350 kcmil = 0.08 inches (2.03mm)
  500 kcmil to 1000 kcmil = 0.11 inches (2.79mm)

Typical Print Legend
- (CSA) SOUTHWIRE (NESC) #P# [#AWG or #kcmil] CPT AL 345 EPR 35KV 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
AL345L60-010	1/0(19)	0.336	8.5	1.056	26.8	1.136	28.9	1.316	33.4	15.8	401	827	1230	5711	2590	78/54	1.98/1.37	6000	1829
AL345L60-020	2/0(19)	0.376	9.6	1.096	27.8	1.176	29.9	1.356	34.4	16.3	413	886	1319	6478	2938	96/54.5	2.44/1.38	6000	1829
AL345L60-030	3/0(19)	0.423	10.7	1.143	29.0	1.223	31.1	1.403	35.6	16.8	428	959	1426	6910	3134	96/54.5	2.44/1.38	6000	1829
AL345L60-040	4/0(19)	0.475	12.1	1.195	30.4	1.275	32.4	1.455	37.0	17.5	443	1044	1553	7421	3366	96/54.5	2.44/1.38	6000	1829
AL345L60-250	250(37)	0.520	13.2	1.250	31.8	1.330	33.8	1.510	38.4	18.1	460	1130	1682	7939	3601	96/54.5	2.44/1.38	6000	1829
AL345L60-350	350(37)	0.616	15.6	1.346	34.2	1.426	36.2	1.606	40.8	19.3	490	1305	1943	9175	4162	104/56.5	2.64/1.44	6000	1829
AL345L60-500	500(37)	0.736	18.7	1.466	37.2	1.546	39.3	1.786	45.4	21.4	544	1647	2450	11434	5187	108/70.5	2.74/1.79	6000	1829
AL345L60-750	750(61)	0.908	23.1	1.648	41.9	1.728	43.9	1.968	50.0	23.6	600	2054	3057	13159	5969	108/70.5	2.74/1.79	5650	1722
AL345L60-1000	1000(61)	1.060	26.9	1.800	45.7	1.880	47.8	2.120	53.8	25.4	646	2427	3611	12839	5824	108/70.5	2.74/1.79	4650	1417

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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Southwire® CANADA

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

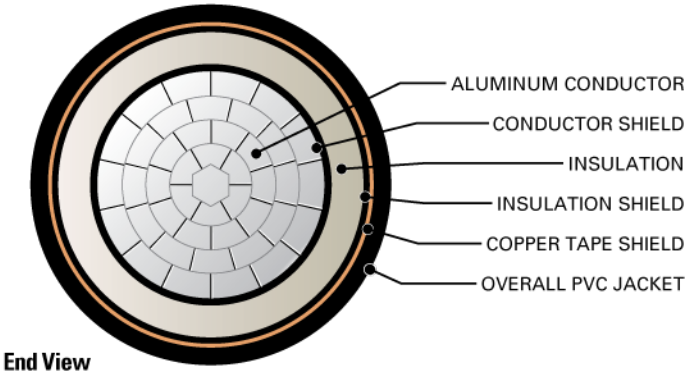
- FT1 - Flame Test - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000 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
AL345L60-010	634	2818	0.168	0.551	0.211	0.693	0.1274	0.4180	0.0429	0.1408	0.0480	0.1576	0.0618	0.0188	0.212 + j0.053	0.563 + j0.312	4.7	221	219
AL345L60-020	799	3552	0.133	0.436	0.167	0.549	0.1228	0.4029	0.0459	0.1507	0.0463	0.1519	0.0577	0.0176	0.168 + j0.051	0.515 + j0.300	5.9	253	246
AL345L60-030	1007	4478	0.105	0.345	0.132	0.433	0.1182	0.3877	0.0494	0.1622	0.0446	0.1462	0.0537	0.0164	0.133 + j0.049	0.476 + j0.286	7.4	288	275
AL345L60-040	1270	5647	0.084	0.274	0.105	0.345	0.1138	0.3734	0.0533	0.1748	0.0429	0.1408	0.0498	0.0152	0.106 + j0.047	0.444 + j0.272	9.4	327	305
AL345L60-250	1500	6672	0.071	0.232	0.089	0.292	0.1110	0.3643	0.0560	0.1838	0.0419	0.1374	0.0473	0.0144	0.090 + j0.046	0.422 + j0.258	11.1	367	343
AL345L60-350	2100	9341	0.051	0.166	0.064	0.209	0.1052	0.3452	0.0629	0.2063	0.0397	0.1302	0.0422	0.0129	0.064 + j0.044	0.388 + j0.236	15.5	443	399
AL345L60-500	3000	13345	0.035	0.116	0.045	0.147	0.0996	0.3267	0.0713	0.2340	0.0375	0.1232	0.0372	0.0113	0.046 + j0.042	0.356 + j0.213	22.2	529	451
AL345L60-750	4500	20017	0.024	0.077	0.030	0.099	0.0939	0.3081	0.0825	0.2705	0.0354	0.1162	0.0322	0.0098	0.031 + j0.039	0.324 + j0.183	33.2	633	505
AL345L60-1000	6000	26689	0.018	0.058	0.023	0.076	0.0899	0.2948	0.0928	0.3045	0.0339	0.1111	0.0286	0.0087	0.024 + j0.038	0.303 + j0.163	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.

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