



CSA TRAY RATED

HVTC SPECIFICATIONS
HVTC AL 1/C 345TRXLPE TS PVC 28KV 133% CSA

PRODUCT HIGHLIGHTS

Southwire's 28KV 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: 0.345 inches (8.76mm) - nominal
- Insulation level: 133%
- 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 350 kcmil = 0.08 inches (2.03mm)
500 kcmil to 750 kcmil = 0.11 inches (2.79mm)

Typical Print Legend

- (CSA) SOUTHWIRE (NESC) #P# [#AWG or #kcmil] CPT AL 345 TRXLPE 28KV 133% 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	
AL345V05-001	1(19)	0.299	7.6	1.019	25.9	1.099	27.9	1.279	32.5	15.3	390	708	1054	5001	2268	78/54	1.98/1.37	6000	1829	
AL345V05-010	1/0(19)	0.336	8.5	1.056	26.8	1.136	28.9	1.316	33.4	15.8	401	757	1126	5289	2399	78/54	1.98/1.37	6000	1829	
AL345V05-020	2/0(19)	0.376	9.6	1.096	27.8	1.176	29.9	1.356	34.4	16.3	413	812	1209	6032	2736	96/54.5	2.44/1.38	6000	1829	
AL345V05-030	3/0(19)	0.423	10.7	1.143	29.0	1.223	31.1	1.403	35.6	16.8	428	880	1309	6437	2920	96/54.5	2.44/1.38	6000	1829	
AL345V05-040	4/0(19)	0.475	12.1	1.195	30.4	1.275	32.4	1.455	37.0	17.5	443	960	1428	6917	3138	96/54.5	2.44/1.38	6000	1829	
AL345V05-250	250(37)	0.520	13.2	1.250	31.8	1.330	33.8	1.510	38.4	18.1	460	1041	1549	7403	3358	96/54.5	2.44/1.38	6000	1829	
AL345V05-350	350(37)	0.616	15.6	1.346	34.2	1.426	36.2	1.606	40.8	19.3	490	1207	1796	8582	3893	104/56.5	2.64/1.44	6000	1829	
AL345V05-500	500(37)	0.736	18.7	1.466	37.2	1.546	39.3	1.786	45.4	21.4	544	1536	2286	10770	4885	108/70.5	2.74/1.79	6000	1829	
AL345V05-750	750(61)	0.908	23.1	1.648	41.9	1.728	43.9	1.968	50.0	23.6	600	1925	2865	12432	5639	108/70.5	2.74/1.79	5650	1722	

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.



CSA TRAY RATED

HVTC SPECIFICATIONS

HVTC AL 1/C 345TRXLPE TS PVC 28KV 133% CSA



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

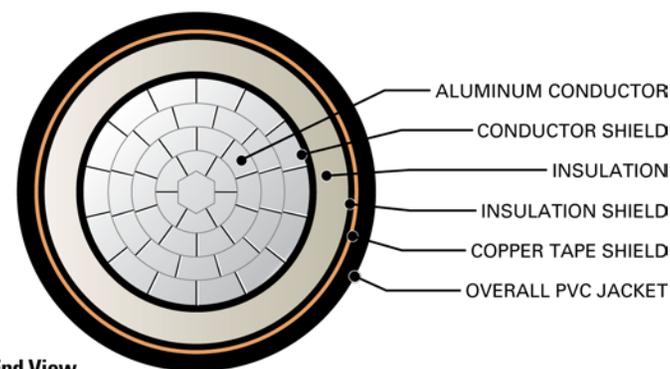
- FT1 - Flame Test - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000 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 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					
AL345V05-001	502	2234	0.211	0.692	0.265	0.870	0.1323	0.4342	0.0318	0.1043	0.0499	0.1637	0.0834	0.0254	0.266 + j0.055	0.620 + j0.325	3.9	193	194
AL345V05-010	634	2818	0.168	0.551	0.211	0.693	0.1274	0.4180	0.0340	0.1117	0.0480	0.1576	0.0779	0.0238	0.212 + j0.053	0.563 + j0.312	5.0	221	219
AL345V05-020	799	3552	0.133	0.436	0.167	0.549	0.1228	0.4029	0.0364	0.1195	0.0463	0.1519	0.0728	0.0222	0.168 + j0.051	0.515 + j0.300	6.3	253	246
AL345V05-030	1007	4478	0.105	0.345	0.132	0.433	0.1182	0.3877	0.0392	0.1287	0.0446	0.1462	0.0676	0.0206	0.133 + j0.049	0.476 + j0.286	7.9	288	275
AL345V05-040	1270	5647	0.084	0.274	0.105	0.345	0.1138	0.3734	0.0422	0.1386	0.0429	0.1408	0.0628	0.0191	0.106 + j0.047	0.444 + j0.272	9.9	327	305
AL345V05-250	1500	6672	0.071	0.232	0.089	0.292	0.1110	0.3643	0.0444	0.1458	0.0419	0.1374	0.0597	0.0182	0.090 + j0.046	0.422 + j0.258	11.8	367	343
AL345V05-350	2100	9341	0.051	0.166	0.064	0.209	0.1052	0.3452	0.0499	0.1636	0.0397	0.1302	0.0532	0.0162	0.064 + j0.044	0.388 + j0.236	16.5	443	399
AL345V05-500	3000	13345	0.035	0.116	0.045	0.147	0.0996	0.3267	0.0566	0.1856	0.0375	0.1232	0.0469	0.0143	0.046 + j0.042	0.356 + j0.213	23.5	529	451
AL345V05-750	4500	20017	0.024	0.077	0.030	0.099	0.0939	0.3081	0.0654	0.2145	0.0354	0.1162	0.0406	0.0124	0.031 + j0.039	0.324 + j0.183	35.3	633	505

* 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.

