CSA TRAY RATED

HVTC SPECIFICATIONS

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

Southwire® CANADA

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 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
- 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] CU 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
CU345B55-010	1/0(19)	0.362	9.2	1.082	27.5	1.162	29.5	1.342	34.1	16.1	409	1076	1601	7613	3453	96/54.5	2.44/1.38	6000	1829
CU345B55-020	2/0(19)	0.405	10.3	1.125	28.6	1.205	30.6	1.385	35.2	16.6	422	1197	1781	8341	3783	96/54.5	2.44/1.38	6000	1829
CU345B55-030	3/0(19)	0.456	11.6	1.176	29.9	1.256	31.9	1.436	36.5	17.2	438	1347	2005	9243	4192	96/54.5	2.44/1.38	6000	1829
CU345B55-040	4/0(19)	0.512	13.0	1.232	31.3	1.312	33.3	1.492	37.9	17.9	455	1530	2277	10338	4689	96/54.5	2.44/1.38	6000	1829
CU345B55-250	250(37)	0.558	14.2	1.288	32.7	1.368	34.7	1.548	39.3	18.6	472	1640	2441	10999	4989	96/54.5	2.44/1.38	6000	1829
CU345B55-350	350(37)	0.661	16.8	1.391	35.3	1.471	37.4	1.651	41.9	19.8	503	2097	3121	13924	6316	104/56.5	2.64/1.44	6000	1829
CU345B55-500	500(37)	0.789	20.0	1.519	38.6	1.599	40.6	1.839	46.7	22.1	561	2770	4123	16515	7491	108/70.5	2.74/1.79	5400	1646
CU345B55-750	750(61)	0.968	24.6	1.708	43.4	1.788	45.4	2.028	51.5	24.3	618	3722	5538	16442	7458	108/70.5	2.74/1.79	4000	1219
CU345B55-1000	1000(61)	1.117	28.4	1.857	47.2	1.937	49.2	2.177	55.3	26.1	664	4630	6890	16371	7426	108/70.5	2.74/1.79	3200	975

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

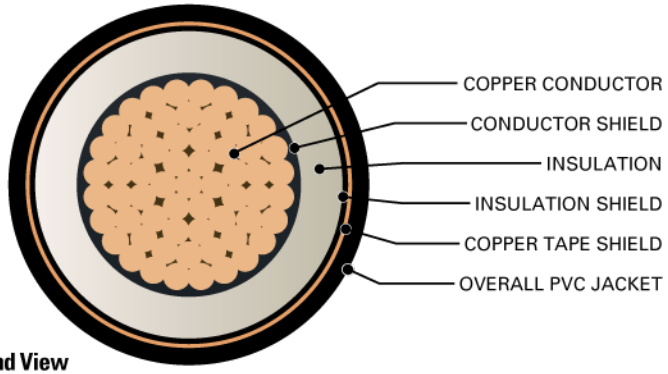
- FT1 - Flame Test - (1,706 BTU/Hr. nominal - Vertical Wire Flame Test)
- FT4, Flame Test - (70,000 BTU/Hr. - Vertical Tray Flame Test)
- IEEE 1202 - Flame Test - (70,000 BTU/Hr. - Vertical Tray Test)
- IEEE 383 - Flame Test - (70,000 BTU/Hr.)
- ICEA T-29-520 - Vertical Cable Tray Flame Test - (210,000 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
CU345B55-010	845	3758	0.102	0.335	0.128	0.419	0.1243	0.4079	0.0449	0.1473	0.0469	0.1538	0.0591	0.0180	0.128 + j0.052	0.477 + j0.304	7.2	278	272
CU345B55-020	1065	4736	0.081	0.266	0.101	0.333	0.1199	0.3933	0.0481	0.1578	0.0452	0.1483	0.0551	0.0168	0.102 + j0.050	0.447 + j0.291	9.0	316	303
CU345B55-030	1342	5971	0.064	0.211	0.080	0.264	0.1153	0.3784	0.0519	0.1702	0.0435	0.1427	0.0511	0.0156	0.081 + j0.048	0.421 + j0.277	11.4	356	333
CU345B55-040	1693	7530	0.051	0.167	0.064	0.210	0.1111	0.3645	0.0560	0.1836	0.0419	0.1374	0.0474	0.0144	0.065 + j0.046	0.399 + j0.262	14.3	403	367
CU345B55-250	2000	8896	0.043	0.141	0.054	0.178	0.1086	0.3562	0.0588	0.1928	0.0409	0.1343	0.0451	0.0138	0.055 + j0.045	0.384 + j0.249	16.9	455	411
CU345B55-350	2800	12455	0.031	0.101	0.039	0.128	0.1029	0.3377	0.0661	0.2167	0.0388	0.1273	0.0402	0.0122	0.040 + j0.043	0.358 + j0.227	23.7	537	459
CU345B55-500	4000	17793	0.022	0.071	0.028	0.091	0.0975	0.3199	0.0750	0.2462	0.0368	0.1206	0.0354	0.0108	0.029 + j0.041	0.334 + j0.203	33.9	616	499
CU345B55-750	6000	26689	0.014	0.047	0.019	0.063	0.0922	0.3025	0.0865	0.2840	0.0348	0.1140	0.0306	0.0093	0.020 + j0.039	0.308 + j0.175	50.8	716	557
CU345B55-1000	8000	35586	0.011	0.035	0.015	0.049	0.0886	0.2906	0.0967	0.3172	0.0334	0.1095	0.0274	0.0084	0.016 + j0.037	0.290 + j0.156	67.8	825	608

* 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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