

Multi-Conductor CU 600 V FR-XLPE LCT Shielded Thermoplastic CPE-TP Jacket Control Cable Color Method 1 Table 1

Control Cable 600 Volt Copper Conductors, Flame Retardant Cross Linked Polyethylene (FR-XLPE) Insulation Shielded Thermoplastic Chlorinated Polyethylene Chloride (CPE-TP) Jacket, Control Cable Conductor Identification Method 1 Table 1. Silicone Free



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** 7 strands class B compressed bare copper per ASTM B3 and ASTM B8
- Insulation:** Flame Retardant Cross Linked Polyethylene (FR-XLPE), 30 Mils thick for all cable sizes
- Filler:** Polypropylene filler on cables with 5 or less conductors
- Binder:** Polyester flat thread binder tape applied for cables with more than 5 conductors
- Shield:** 5 mils copper Longitudinally-Applied Corrugated Tape (LCT) shield
- Rip Cord:** Rip cord for ease of jacket removal
- Overall Jacket:** Thermoplastic Chlorinated Polyethylene Chloride (CPE-TP)

APPLICATIONS AND FEATURES:

Southwire's 600 Volt control cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, aerial supported by a messenger, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 90°C for normal operation in wet and dry locations, 130°C for emergency overload, and 250°C for short circuit conditions. UL rated construction can be used in Class I, II, and III, Division 2 hazardous locations per NEC Article 501 and 502. UL rated constructions with 3 or more conductors are listed for exposed runs (TC-ER) per NEC 336.10.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 44 Thermoset-Insulated Wires and Cables
- UL 1277 Electrical Power and Control Tray Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 1
- ICEA S-73-532 Standard for Control, Thermocouple Extension and Instrumentation Cables
- ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy
- IEEE 1202 FT4 Vertical Tray Flame Test (70,000 Btu/hr) and ICEA T-29-520 - (210,000 Btu/hr)
- VW-1 (Vertical-Wire) Flame Test



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SAMPLE PRINT LEGEND:

UL Listed

SOUTHWIRE E75755 {UL} XX AWG X/C FR-XLPE XHHW-2 TYPE TC-ER CDRS 90C CPE JKT SHIELDED 600V SUN RES YEAR {SEQUENTIAL FOOTAGE MARKS} SEQ FEET

Non UL Listed

SOUTHWIRE XX AWG X/C FR-XLPE CDRS 90C CPE JKT SHIELDED 600V SUN. RES. DIRECT BURIAL YEAR SEQUENTIAL FOOTAGE MARKS SEQ FEET



Table 1 – Physical and Electrical Data

Stock Number	Cond. Size	Cond. Number	Cond. Strands	Diameter Over Cond.	Insul. Thickness	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	DC Resistance @ 25°C	AC Resistance @ 75°C	Inductive Reactance	Min Bending Radius	Allowable Ampacity At 60°C	Allowable Ampacity 75°C	Allowable Ampacity 90°C
	AWG	No.	strands	inch	mil	mil	inch	lb / 1000ft	lb / 1000ft	Ω /1000ft	Ω /1000ft	Ω/1000ft	inch	Amp	Amp	Amp
18 AWG																
623219	18	2	7	0.046	25	45	0.387	37	86	6.669	8.676	0.039	4.6	-	-	14
14 AWG																
603683	14	7	7	0.070	30	60	0.612	128	256	2.631	3.170	0.058	7.3	10	14	17
604417	14	19	7	0.070	30	80	0.918	310	587	2.631	3.170	0.058	11.0	7	10	12
12 AWG																
603689	12	2	7	0.088	30	45	0.452	74	138	1.662	2.002	0.054	5.4	20	25	30
603691^	12	4	7	0.088	30	45	0.512	114	203	1.662	2.002	0.054	6.1	16	20	24
627832	12	4	7	0.088	30	60	0.579	114	221	1.662	2.002	0.054	6.9	16	20	24
603692	12	5	7	0.088	30	60	0.621	135	255	1.662	2.002	0.054	7.5	16	20	24
603694	12	7	7	0.088	30	60	0.661	187	324	1.662	2.002	0.054	7.9	14	17	21
603697	12	9	7	0.088	30	60	0.751	233	398	1.662	2.002	0.054	9.0	14	17	21
603699	12	12	7	0.088	30	80	0.872	299	529	1.662	2.002	0.054	10.5	10	12	15
618870\$	12	8	19	0.090	30	60	0.720	196	351	1.662	2.002	0.054	8.6	14	17	21
621553&	12	12	19	0.090	30	80	0.888	300	536	1.662	2.002	0.054	10.7	10	12	15
10 AWG																
621333	10	2	7	0.113	30	45	0.509	64	190	1.040	1.253	0.050	6.1	30	35	40
603701	10	2	7	0.113	30	60	0.566	103	198	1.040	1.253	0.050	6.8	30	35	40
603702	10	3	7	0.113	30	60	0.593	135	249	1.040	1.253	0.050	7.1	30	35	40
618685^	10	4	7	0.113	30	60	0.636	129	312	1.040	1.253	0.050	7.6	24	28	32
603703^	10	4	7	0.113	30	60	0.636	162	292	1.040	1.253	0.050	7.6	24	28	32
619436^	10	4	7	0.113	30	60	0.652	173	311	1.040	1.253	0.050	7.8	24	28	32
662671^	10	5	7	0.113	30	60	0.685	161	353	1.040	1.253	0.050	8.2	24	28	32
603707	10	7	7	0.113	30	60	0.737	276	444	1.040	1.253	0.050	8.8	21	24	28
603709^	10	9	7	0.113	30	80	0.880	324	560	1.040	1.253	0.050	10.6	21	24	28
603711	10	12	7	0.113	30	80	0.974	455	726	1.040	1.253	0.050	11.7	15	17	20
621305\$	10	2	19	0.117	30	60	0.566	98	191	1.040	1.253	0.050	6.8	30	35	40
604324\$	10	4	19	0.117	30	60	0.637	162	283	1.040	1.253	0.050	7.6	24	28	32
661043! &	10	9	19	0.117	30	80	0.884	346	573	1.040	1.253	0.050	10.6	21	24	28
604325!	10	12	19	0.117	30	80	0.983	421	691	1.040	1.253	0.050	11.8	15	17	20
8 AWG																
604320	8	4	7	0.141	45	60	0.790	256	434	0.653	0.786	0.052	9.5	32	40	44
625635	8	12	7	0.141	45	80	1.229	701	1113	0.653	0.786	0.052	14.7	20	25	27
6 AWG																
625639	6	2	7	0.177	45	60	0.756	210	363	0.411	0.495	0.051	9.1	55	65	75
604319	6	3	7	0.177	45	60	0.802	278	452	0.411	0.495	0.051	9.6	55	65	75
TBA	6	4	7	0.177	45	80	0.908	383	579	0.411	0.495	0.051	10.9	44	52	60
4 AWG																
604318	4	3	7	0.225	45	80	0.940	457	713	0.258	0.310	0.048	11.3	70	85	95



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	AWG	No.	strands	inch	mil	mil	inch	lb / 1000ft	lb / 1000ft	Ω /1000ft	Ω /1000ft	Ω/1000ft	inch	Amp	Amp	Amp
TBA	4	4	7	0.225	45	80	1.024	586	814	0.258	0.310	0.048	12.3	56	68	76
2 AWG																
604316	2	2	7	0.282	45	80	1.014	447	698	0.162	0.195	0.045	12.2	95	115	130
604317	2	3	7	0.282	45	80	1.083	692	1023	0.162	0.195	0.045	13.0	95	115	130
622692	2	4	7	0.282	45	80	1.160	903	1216	0.162	0.195	0.045	13.9	76	92	104
604315\$	1	2	19	0.333	55	80	1.122	596	903	0.128	0.154	0.046	13.5	110	130	145

All dimensions are nominal and subject to normal manufacturing tolerances

◇ Cable marked with this symbol is a standard stock item

^ UL listed part number

! Tinned copper conductor per ASTM B33

\$ 19 strand combination unilay conductor per ASTM B787

& 19 strand Class C compressed conductor per ASTM B8

* Ampacities based upon 2023 NEC Table 310.16 and do not take into account the overcurrent protection limitations in NEC 240.4(D) of 15 Amps for 14 AWG CU, 20 Amps for 12 AWG CU, and 30 Amps for 10 AWG CU (independent of the conductor temperature rating and stranding if size is present in table). Also, see NEC sections 310.15 and 110.14(C) for additional requirements. Ampacities have been adjusted for stock numbers containing more than Three Current-Carrying Conductors.



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