

# Multi-Conductor CU 600 V FR-XLPE Drain Wire LCT Shielded Thermoplastic CPE-TP Jacket Power Cable Color Method 1 Table 1

Power or Control Cable 600 Volt Copper Conductors, Cross Linked Polyethylene (XLPE) Insulation and/or XHHW-2, Shielded with Drain Wire, Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket, Control Cable Conductor Identification Method 1 Table 1. Silicone Free

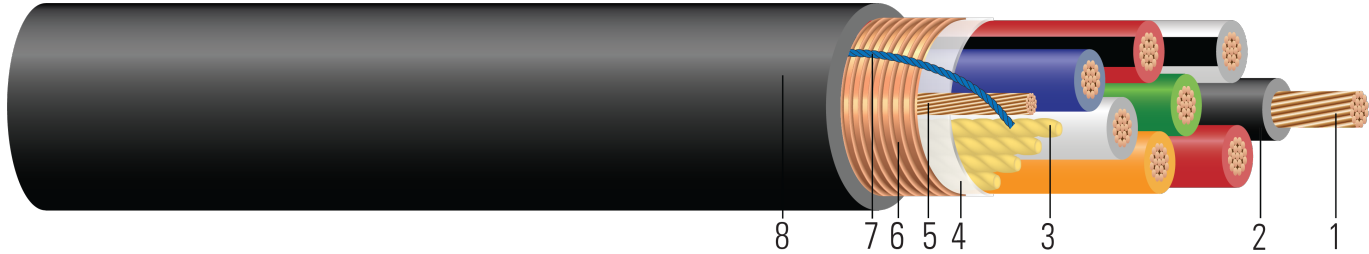


Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

1. **Conductor:** 7 strands class B compressed bare copper per ASTM B3 and ASTM B8. Tinned copper available upon request.
2. **Insulation:** Cross Linked Polyethylene (XLPE) Type XHHW-2 when UL listed
3. **Filler:** Polypropylene filler on cables with 5 or less conductors
4. **Binder:** Polyester flat thread binder tape applied for cables with more than 5 conductors
5. **Drain Wire:** Bare copper drain wire. Tinned copper drain wire available upon request.
6. **Shield:** 5 mils copper Longitudinally-Applied Corrugated Tape (LCT) shield
7. **Rip Cord:** Rip cord for ease of jacket removal
8. **Overall Jacket:** Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket

## APPLICATIONS AND FEATURES:

Southwire's 600 Volt Type TC-ER<sup>1</sup> power or 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. For uses in Class I, II, and III, Division 2 hazardous locations per NEC Article 501 and 502. Constructions with 3 or more conductors are listed for exposed runs (TC-ER) per NEC 336.10.

1 Only TC or TC-ER rated when in UL listed Stock Numbers

## 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-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

**SAMPLE PRINT LEGEND:**

SOUTHWIRE XX AWG XX/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 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
14 AWG															
622094	14	7	7	0.070	30	60	0.608	136	259	2.631	3.170	0.058	7.3	14	17
12 AWG															
627829	12	7	7	0.088	30	60	0.671	194	336	1.662	2.002	0.054	8.1	17	21
627845	12	12	7	0.088	30	80	0.872	309	539	1.662	2.002	0.054	10.5	12	15
10 AWG															
622685	10	4	7	0.113	30	60	0.654	186	316	1.040	1.253	0.050	7.9	28	32
622096	10	7	7	0.113	30	60	0.733	296	456	1.040	1.253	0.050	8.8	24	28
8 AWG															
668978	8	2	7	0.142	45	60	0.692	168	312	0.653	0.849	0.033	8.3	50	55
622682	8	4	7	0.142	45	60	0.790	276	458	0.653	0.849	0.033	9.5	40	44
6 AWG															
622679	6	2	7	0.177	45	60	0.756	233	386	0.411	0.495	0.051	9.1	65	75
622503	6	4	7	0.177	45	80	0.911	403	652	0.411	0.495	0.051	10.9	52	60
4 AWG															
668982	4	2	7	0.225	45	80	0.889	324	545	0.258	0.310	0.048	10.7	85	95

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

^ UL listed part number

\* 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.

