



CU 600V XLPE Insulation Thermoplastic CPE-TP Jacket XHHW-2. CT Rated - Sunlight Resistant - For Direct Burial - Silicone Free

Type TC-ER Control Cable 600Volt Copper Cross Linked Polyethylene (XLPE) Insulation XHHW-2 Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket, Control Cable Conductor Identification Method 1 Table 2. CT Rated - Sunlight Resistant - For Direct Burial - Silicone Free



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** 7 strands class B compressed copper per ASTM B3 and ASTM B8
2. **Insulation:** Cross Linked Polyethylene (XLPE) XHHW-2, 30 Mils thick for all cable sizes
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. **Overall Jacket:** Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket

APPLICATIONS AND FEATURES:

Southwire's 600 Volt Type TC-ER 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. Sunlight Resistant - For Direct Burial - Silicone Free

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 2
- 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 Flame Test (70,000) BTU/hr Vertical Tray Test

SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE® {UL} XX AWG XX/C TYPE TC-ER XHHW-2 CDRS 90°C CPE JACKET SUN RES OIL RES II FT4/IEEE1202 600 VOLTS





Table 1 – Physical and Electrical Data

Stock Number	Cond. Size	Cond. Number	Cond. Strands	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	mil	mil	inch	lb / 1000ft	lb / 1000ft	Ω /1000ft	Ω /1000ft	Ω/1000ft	inch	Amp	Amp
14 AWG														
890674	14	2	7	30	45	0.355	25	67	2.631	3.170	0.058	1.4	20	25
890675	14	3	7	30	45	0.376	38	91	2.631	3.170	0.058	1.5	20	25
890676	14	4	7	30	45	0.409	51	111	2.631	3.170	0.058	1.6	16	20
890677	14	5	7	30	45	0.447	64	129	2.631	3.170	0.058	1.8	16	20
890678	14	7	7	30	45	0.486	89	172	2.631	3.170	0.058	1.9	14	17
890679	14	9	7	30	60	0.592	114	232	2.631	3.170	0.058	2.4	14	17
550407	14	12	7	30	60	0.670	153	299	2.631	3.170	0.058	2.7	10	12
TBA	14	15	7	30	60	0.734	204	358	2.631	3.170	0.058	2.9	10	12
890680	14	19	7	30	60	0.774	243	440	2.631	3.170	0.058	3.1	10	12
TBA	14	25	7	30	80	0.942	332	591	2.631	3.170	0.058	3.8	9	11
TBA	14	30	7	30	80	0.995	396	688	2.631	3.170	0.058	4.0	9	11
TBA	14	37	7	30	80	1.072	486	825	2.631	3.170	0.058	5.4	8	10
12 AWG														
550411	12	2	7	30	45	0.388	40	89	1.662	2.002	0.054	1.6	25	30
890681	12	3	7	30	45	0.412	61	120	1.662	2.002	0.054	1.6	25	30
890682	12	4	7	30	45	0.449	81	154	1.662	2.002	0.054	1.8	20	24
890683	12	5	7	30	45	0.491	101	178	1.662	2.002	0.054	2.0	20	24
890684	12	12	7	30	60	0.738	244	408	1.662	2.002	0.054	3.0	12	15
TBA	12	15	7	30	60	0.819	325	502	1.662	2.002	0.054	3.3	12	15
TBA	12	19	7	30	80	0.902	406	646	1.662	2.002	0.054	3.6	12	15
TBA	12	25	7	30	80	1.050	528	826	1.662	2.002	0.054	5.3	11	13
TBA	12	30	7	30	80	1.111	630	967	1.662	2.002	0.054	5.6	11	13
TBA	12	37	7	30	80	1.198	772	1163	1.662	2.002	0.054	6.0	10	12
10 AWG														
550419	10	2	7	30	45	0.432	64	119	1.040	1.253	0.050	1.7	35	40
890685	10	3	7	30	45	0.476	97	169	1.040	1.253	0.050	1.9	35	40
890686	10	4	7	30	45	0.547	129	228	1.040	1.253	0.050	2.2	28	32
550420	10	5	7	30	60	0.603	161	275	1.040	1.253	0.050	2.4	28	32
550421	10	7	7	30	60	0.657	226	364	1.040	1.253	0.050	2.6	24	28
890688	10	12	7	30	80	0.871	386	613	1.040	1.253	0.050	3.5	17	20

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

* 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 more than Three Current-Carrying Conductors.

