

CU 600V XLPE Insulation Thermoplastic CPE-TP Jacket. XHHW-2

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



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.

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{R} MASTER-DESIGN {UL} XX AWG XX/C TYPE TC-ER XHHW-2 CDRS 90{D}C CPE JACKET SUN RES OIL RES II FT4/IEEE1202 600 VOLTS



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Table 1 – Physical and Electrical Data

Stock Number	Cond. Size	Cond. Number	Cond. Strands	Diameter Over Cond.	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	DC Resistance @ 25°C	AC Resistance @ 75°C	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	Ω /1000ft	Ω /1000ft	inch	Amp	Amp	Amp
14 AWG														
890674	14	2	7	0.070	30	45	0.355	67	2.631	3.170	1.4	15	20	25
890675	14	3	7	0.070	30	45	0.376	91	2.631	3.170	1.5	15	20	25
890676	14	4	7	0.070	30	45	0.409	111	2.631	3.170	1.6	12	16	20
890677	14	5	7	0.070	30	45	0.447	129	2.631	3.170	1.7	12	16	20
890678	14	7	7	0.070	30	45	0.486	172	2.631	3.170	1.9	10	14	17
890679	14	9	7	0.070	30	60	0.592	232	2.631	3.170	2.3	10	14	17
550407	14	12	7	0.070	30	60	0.670	299	2.631	3.170	2.6	7	10	12
TBA	14	15	7	0.070	30	60	0.744	357	2.631	3.170	2.9	7	10	12
890680	14	19	7	0.070	30	60	0.774	440	2.631	3.170	3.0	7	10	12
TBA	14	25	7	0.070	30	80	0.952	590	2.631	3.170	3.8	6	9	11
TBA	14	30	7	0.070	30	80	1.005	688	2.631	3.170	5.0	6	9	11
TBA	14	37	7	0.070	30	80	1.082	824	2.631	3.170	5.4	6	8	10
12 AWG														
550411	12	2	7	0.088	30	45	0.388	89	1.662	2.002	1.5	20	25	30
890681	12	3	7	0.088	30	45	0.412	120	1.662	2.002	1.6	20	25	30
890682	12	4	7	0.088	30	45	0.449	154	1.662	2.002	1.7	16	20	24
890683	12	5	7	0.088	30	45	0.491	178	1.662	2.002	1.9	16	20	24
550412	12	7	7	0.088	30	60	0.576	243	1.662	2.002	2.3	14	17	21
550413	12	9	7	0.088	30	60	0.666	306	1.662	2.002	2.6	14	17	21
890684	12	12	7	0.088	30	60	0.738	408	1.662	2.002	2.9	10	12	15
TBA	12	15	7	0.088	30	80	0.869	535	1.662	2.002	3.4	10	12	15
TBA	12	19	7	0.088	30	80	0.912	647	1.662	2.002	3.6	10	12	15
TBA	12	25	7	0.088	30	80	1.060	807	1.662	2.002	5.3	9	11	13
TBA	12	30	7	0.088	30	80	1.120	967	1.662	2.002	5.6	9	11	13
TBA	12	37	7	0.088	30	80	1.208	1164	1.662	2.002	6.0	8	10	12
10 AWG														
550419	10	2	7	0.113	30	45	0.432	119	1.040	1.253	1.7	30	35	40
890685	10	3	7	0.113	30	45	0.463	167	1.040	1.253	1.8	30	35	40
890686	10	4	7	0.113	30	45	0.502	209	1.040	1.253	2.0	24	28	32
550420	10	5	7	0.113	30	60	0.587	269	1.040	1.253	2.3	24	28	32
550421	10	7	7	0.113	30	60	0.639	357	1.040	1.253	2.5	21	24	28
890687	10	9	7	0.113	30	60	0.756	436	1.040	1.253	3.0	21	24	28
890688	10	12	7	0.113	30	80	0.871	613	1.040	1.253	3.4	15	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.

