TCU 600 EPR Insulation XHHW-2 Thermoplastic CPE-TP Jacket. CT Rated - Sunlight Resistant - For Direct Burial - Silicone Free

Type TC-ER Control Cable 600Volt Tinned Copper Conductors, Ethylene Propylene Rubber (EPR) Insulation XHHW-2 Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket, Control Cable Conductor Identification Method 1 Table 1. CT Rated - Sunlight Resistant - Oil Resistant - For Direct Burial - VW-1 rated - Silicone Free



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** 7 strands class B compressed tinned copper per ASTM B33 and ASTM B8
2. **Insulation:** Ethylene Propylene Rubber (EPR) XHHW-2, 30 Mils thick for all cable sizes
3. **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. VW-1 rated - Sunlight Resistant - Oil Resistant - For Direct Burial - Silicone Free

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- UL 44 Thermoset-Insulated Wires and Cables
- UL 44 VW-1 Vertical flame test on individual conductors
- 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 Flame Test (70,000) BTU/hr Vertical Tray Test

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SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE® XX AWG (X.XX{mm2}) XX/C EPR/CPE TYPE TC-ER XHHW-2 CDRS E75755 {UL} 600V 90°C DRY/90°C WET OIL RES I SUNLIGHT RESISTANT DIRECT BURIAL FT4/IEEE 1202 -- {NOM}-ANCE EPR/CPE Tipo XHHW-2 SR FT4 600V 90°C USA

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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 Rectance	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														
TBA	14	2	7	30	45	0.352	38	80	2.631	3.170	0.058	1.4	20	25
599457	14	3	7	30	45	0.388	37	86	2.631	3.170	0.058	1.6	20	25
599458	14	4	7	30	45	0.423	50	107	2.631	3.170	0.058	1.7	16	20
599459	14	5	7	30	45	0.461	62	129	2.631	3.170	0.058	1.8	16	20
595479	14	7	7	30	45	0.502	87	170	2.631	3.170	0.058	2.0	14	17
599460	14	9	7	30	60	0.616	112	232	2.631	3.170	0.058	2.5	14	17
599461	14	12	7	30	60	0.692	150	299	2.631	3.170	0.058	2.8	10	12
TBA	14	15	7	30	60	0.734	204	358	2.631	3.170	0.058	2.9	10	12
595475	14	19	7	30	60	0.804	237	434	2.631	3.170	0.058	3.2	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														
595635	12	2	7	30	45	0.466	40	86	1.662	2.002	0.054	1.9	25	30
595472	12	3	7	30	45	0.466	61	115	1.662	2.002	0.054	1.9	25	30
595636	12	4	7	30	45	0.466	81	148	1.662	2.002	0.054	1.9	20	24
595477	12	12	7	30	60	0.466	244	410	1.662	2.002	0.054	1.9	12	15
592111	12	5	7	30	45	0.543	101	198	1.662	2.002	0.054	2.2	20	24
TBA	12	7	7	30	60	0.566	162	263	1.662	2.002	0.054	2.3	17	21
596919	12	9	7	30	60	0.589	183	319	1.662	2.002	0.054	2.4	17	21
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														
595632	10	2	7	30	45	0.466	64	116	1.040	1.253	0.050	1.9	35	40
645726	10	12	7	30	80	0.466	388	615	1.040	1.253	0.050	1.9	17	20
595556	10	3	7	30	45	0.478	97	161	1.040	1.253	0.050	1.9	35	40
595633	10	4	7	30	45	0.556	129	223	1.040	1.253	0.050	2.2	28	32
TBA	10	5	7	30	60	0.589	193	291	1.040	1.253	0.050	2.4	28	32
TBA	10	7	7	30	60	0.641	258	376	1.040	1.253	0.050	2.6	24	28
TBA	10	9	7	30	60	0.747	323	468	1.040	1.253	0.050	3.0	24	28
TBA	10	15	7	30	80	0.977	517	764	1.040	1.253	0.050	3.9	17	20
TBA	10	19	7	30	80	1.027	646	929	1.040	1.253	0.050	5.1	17	20
TBA	10	25	7	30	80	1.200	840	1193	1.040	1.253	0.050	6.0	15	18
TBA	10	30	7	30	80	1.271	1002	1401	1.040	1.253	0.050	6.4	15	18
TBA	10	37	7	30	80	1.373	1228	1693	1.040	1.253	0.050	6.9	14	16

All dimensions are nominal and subject to normal manufacturing tolerances

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◊ 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.