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

Type TC-ER Control Cable 600 Volt Tinned Copper Conductors, Ethylene Propylene Rubber (EPR) Insulation XHHW-2 Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket, Control Cable Conductor Identification Method 1 Table 2. VW-1 Rated #14 - #10 AWG. 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 tinned copper per ASTM B33 and ASTM B8
2. **Insulation:** Ethylene Propylene Rubber (EPR) XHHW-2, 30 Mils thick for all cable sizes. VW-1 Rated #14 - #10 AWG
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. VW-1 Rated #14 - #10 AWG. Sunlight Resistant - For Direct Burial - Silicone Free

SPECIFICATIONS:

- 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 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

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SAMPLE PRINT LEGEND:

SOUTHWIRE® 14 AWG (2.08mm2) 3/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
16 AWG														
591931	16	2	7	30	45	0.332	16	52	4.181	5.037	0.033	1.3	-	18
591932	16	3	7	30	45	0.351	24	66	4.181	5.037	0.033	1.4	-	18
591933	16	4	7	30	45	0.382	32	82	4.181	5.037	0.033	1.5	-	14
591934	16	5	7	30	45	0.415	40	100	4.181	5.037	0.033	1.7	-	14
591935	16	7	7	30	45	0.451	56	128	4.181	5.037	0.033	1.8	-	12
591936	16	9	7	30	45	0.555	72	178	4.181	5.037	0.033	2.2	-	12
591937	16	12	7	30	60	0.618	96	225	4.181	5.037	0.033	2.5	-	9
591938	16	15	7	30	60	0.684	120	273	4.181	5.037	0.033	2.7	-	9
14 AWG														
591944	14	2	7	30	45	0.366	25	65	2.631	3.170	0.058	1.5	20	25
591947	14	3	7	30	45	0.388	37	86	2.631	3.170	0.058	1.6	20	25
591948◊	14	4	7	30	45	0.423	50	107	2.631	3.170	0.058	1.7	16	20
591949◊	14	5	7	30	45	0.461	62	129	2.631	3.170	0.058	1.8	16	20
591950◊	14	7	7	30	45	0.502	87	170	2.631	3.170	0.058	2.0	14	17
591953	14	15	7	30	60	0.560	187	413	2.631	3.170	0.058	2.2	10	12
591954	14	19	7	30	60	0.560	237	413	2.631	3.170	0.058	2.2	10	12
591951◊	14	9	7	30	60	0.616	112	232	2.631	3.170	0.058	2.5	14	17
591952◊	14	12	7	30	60	0.692	150	299	2.631	3.170	0.058	2.8	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
12 AWG														
591959	12	2	7	30	45	0.404	40	86	1.662	2.002	0.054	1.6	25	30
591960◊	12	3	7	30	45	0.466	61	116	1.662	2.002	0.054	1.9	25	30
591966◊	12	12	7	30	60	0.466	244	411	1.662	2.002	0.054	1.9	12	15
591962◊	12	4	7	30	45	0.469	81	147	1.662	2.002	0.054	1.9	20	24
591963	12	5	7	30	45	0.543	101	198	1.662	2.002	0.054	2.2	20	24
591964◊	12	7	7	30	60	0.589	142	253	1.662	2.002	0.054	2.4	17	21
591965◊	12	9	7	30	60	0.589	183	307	1.662	2.002	0.054	2.4	17	21
591967	12	15	7	30	60	0.864	305	542	1.662	2.002	0.054	3.5	12	15
591968	12	19	7	30	80	0.934	386	659	1.662	2.002	0.054	3.7	12	15
10 AWG														
591973◊	10	2	7	30	45	0.448	64	116	1.040	1.253	0.050	1.8	35	40
591974◊	10	3	7	30	45	0.476	97	160	1.040	1.253	0.050	1.9	35	40
591976◊	10	4	7	30	45	0.560	129	225	1.040	1.253	0.050	2.2	28	32
591977◊	10	5	7	30	60	0.602	161	267	1.040	1.253	0.050	2.4	28	32
591978	10	7	7	30	60	0.655	226	355	1.040	1.253	0.050	2.6	24	28
591979	10	9	7	30	60	0.765	291	450	1.040	1.253	0.050	3.1	24	28
591980	10	12	7	30	80	0.899	388	619	1.040	1.253	0.050	3.6	17	20

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.