

TCU 600V EPR Insulation Thermoplastic CPE-TP Jacket. XHHW-2

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



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** 7 strands class B compressed tinned copper per ASTM B33 and ASTM B8
- Insulation:** Ethylene Propylene Rubber (EPR) XHHW-2, 30 Mils thick for all cable sizes. VW-1 Rated #14 - #10 AWG
- Filler:** Polypropylene filler on cables with 5 or less conductors
- Binder:** Polyester flat thread binder tape applied for cables with more than 5 conductors
- 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

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

SAMPLE PRINT LEGEND:

SOUTHWIRE{R} 14 AWG (2.08mm²) 3/C EPR/CPE TYPE TC-ER XHHW-2 CDRS E75755 MASTER-DESIGN (UL) 600V 90{D}C DRY/90{D}C WET OIL RES I SUNLIGHT RESISTANT DIRECT BURIAL FT4/IEEE 1202 -- NOM-ANCE EPR/CPE Tipo XHHW-2 SR FT4 600V 90{D}C USA



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	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	lb /1000ft	Ω /1000ft	Ω /1000ft	inch	Amp	Amp	Amp
16 AWG															
591931	16	2	7	0.056	30	45	0.332	16	52	4.181	5.037	1.3	-	-	18
591932	16	3	7	0.056	30	45	0.351	24	66	4.181	5.037	1.4	-	-	18
591933	16	4	7	0.056	30	45	0.382	32	82	4.181	5.037	1.5	-	-	14
591934	16	5	7	0.056	30	45	0.415	40	100	4.181	5.037	1.6	-	-	14
591935	16	7	7	0.056	30	45	0.451	56	128	4.181	5.037	1.8	-	-	12
591936	16	9	7	0.056	30	60	0.555	72	178	4.181	5.037	2.2	-	-	12
591937	16	12	7	0.056	30	60	0.618	96	225	4.181	5.037	2.4	-	-	9
591938	16	15	7	0.056	30	60	0.684	120	273	4.181	5.037	2.7	-	-	9
14 AWG															
591944	14	2	7	0.070	30	45	0.366	25	65	2.631	3.170	1.4	15	20	25
591947	14	3	7	0.070	30	45	0.388	37	86	2.631	3.170	1.5	15	20	25
591948	14	4	7	0.070	30	45	0.423	50	107	2.631	3.170	1.6	12	16	20
591949	14	5	7	0.070	30	45	0.461	62	129	2.631	3.170	1.8	12	16	20
591950	14	7	7	0.070	30	45	0.502	87	170	2.631	3.170	2.0	10	14	17
591953	14	15	7	0.070	30	60	0.560	187	413	2.631	3.170	2.2	7	10	12
591954	14	19	7	0.070	30	60	0.560	237	413	2.631	3.170	2.2	7	10	12
591951	14	9	7	0.070	30	60	0.616	112	232	2.631	3.170	2.4	10	14	17
591952	14	12	7	0.070	30	60	0.692	150	299	2.631	3.170	2.7	7	10	12
591955	14	25	7	0.070	30	80	0.949	313	597	2.631	3.170	3.7	6	9	11
591956	14	30	7	0.070	30	80	0.996	375	665	2.631	3.170	3.9	6	9	11
12 AWG															
591959	12	2	7	0.088	30	45	0.404	40	86	1.662	2.002	1.6	20	25	30
591960	12	3	7	0.088	30	45	0.466	61	116	1.662	2.002	1.8	20	25	30
591966	12	12	7	0.088	30	60	0.466	244	411	1.662	2.002	1.8	10	12	15
591962	12	4	7	0.088	30	45	0.469	81	147	1.662	2.002	1.8	16	20	24
591963	12	5	7	0.088	30	45	0.543	101	198	1.662	2.002	2.1	16	20	24
591964	12	7	7	0.088	30	60	0.589	142	253	1.662	2.002	2.3	14	17	21
591965	12	9	7	0.088	30	60	0.589	183	307	1.662	2.002	2.3	14	17	21
591967	12	15	7	0.088	30	80	0.864	305	538	1.662	2.002	3.4	10	12	15
591968	12	19	7	0.088	30	80	0.934	386	659	1.662	2.002	3.7	10	12	15
10 AWG															
591973	10	2	7	0.113	30	45	0.448	64	116	1.040	1.253	1.7	30	35	40
591974	10	3	7	0.113	30	45	0.476	97	160	1.040	1.253	1.9	30	35	40
591976	10	4	7	0.113	30	45	0.560	129	225	1.040	1.253	2.2	24	28	32
591977	10	5	7	0.113	30	60	0.602	161	267	1.040	1.253	2.4	24	28	32
591978	10	7	7	0.113	30	60	0.655	226	355	1.040	1.253	2.6	21	24	28
591979	10	9	7	0.113	30	60	0.765	291	450	1.040	1.253	3.0	21	24	28
591980	10	12	7	0.113	30	80	0.899	388	619	1.040	1.253	3.5	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.

