TCU 600 EPR Insulation Thermoplastic CPE-TP Jacket. XHHW-2 Table 1 Color Code

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. VW-1 rated

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.

SPECIFICATIONS:

- ASTM B3 Standard Specification for 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

SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE{R} XX AWG (X.XX{mm2}) XX/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 @ 90°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
14 AWG															
TBA	14	2	7	0.070	30	45	0.350	37	78	2.631	3.170	1.4	15	20	25
599457	14	3	7	0.070	30	45	0.388	37	86	2.631	3.170	1.5	15	20	25
599458	14	4	7	0.070	30	45	0.423	50	107	2.631	3.170	1.6	12	16	20
599459	14	5	7	0.070	30	45	0.461	62	129	2.631	3.170	1.8	12	16	20
595479	14	7	7	0.070	30	45	0.502	87	170	2.631	3.170	2.0	10	14	17
599460	14	9	7	0.070	30	60	0.616	112	232	2.631	3.170	2.4	10	14	17
599461	14	12	7	0.070	30	60	0.692	150	299	2.631	3.170	2.7	7	10	12
TBA	14	15	7	0.070	30	60	0.744	203	357	2.631	3.170	2.9	7	10	12
595475	14	19	7	0.070	30	60	0.804	237	434	2.631	3.170	3.2	7	10	12
TBA	14	25	7	0.070	30	80	0.952	331	590	2.631	3.170	3.8	6	9	11
TBA	14	30	7	0.070	30	80	1.005	395	688	2.631	3.170	5.0	6	9	11
TBA	14	37	7	0.070	30	80	1.082	485	824	2.631	3.170	5.4	6	8	10
12 AWG															
595635	12	2	7	0.088	30	45	0.466	40	86	1.662	2.002	1.8	20	25	30
595472	12	3	7	0.088	30	45	0.466	61	115	1.662	2.002	1.8	20	25	30
595636	12	4	7	0.088	30	45	0.466	81	148	1.662	2.002	1.8	16	20	24
595477	12	12	7	0.088	30	60	0.466	244	410	1.662	2.002	1.8	10	12	15
592111	12	5	7	0.088	30	45	0.543	101	198	1.662	2.002	2.1	16	20	24
TBA	12	7	7	0.088	30	60	0.576	162	263	1.662	2.002	2.3	14	17	21
596919	12	9	7	0.088	30	60	0.589	183	319	1.662	2.002	2.3	14	17	21
TBA	12	15	7	0.088	30	80	0.869	325	535	1.662	2.002	3.4	10	12	15
TBA	12	19	7	0.088	30	80	0.912	406	647	1.662	2.002	3.6	10	12	15
TBA	12	25	7	0.088	30	80	1.060	528	827	1.662	2.002	5.3	9	11	13
TBA	12	30	7	0.088	30	80	1.120	630	967	1.662	2.002	5.6	9	11	13
TBA	12	37	7	0.088	30	80	1.208	772	1164	1.662	2.002	6.0	8	10	12
10 AWG															
595632	10	2	7	0.113	30	45	0.466	64	116	1.040	1.253	1.8	30	35	40
645726	10	12	7	0.113	30	80	0.466	388	615	1.040	1.253	1.8	15	17	20
595556	10	3	7	0.113	30	45	0.478	97	161	1.040	1.253	1.9	30	35	40
595633	10	4	7	0.113	30	45	0.556	129	223	1.040	1.253	2.2	24	28	32
TBA	10	5	7	0.113	30	60	0.599	193	291	1.040	1.253	2.3	24	28	32
TBA	10	7	7	0.113	30	60	0.651	258	377	1.040	1.253	2.6	21	24	28
TBA	10	9	7	0.113	30	60	0.756	323	468	1.040	1.253	3.0	21	24	28
TBA	10	15	7	0.113	30	80	0.986	517	765	1.040	1.253	3.9	15	17	20
TBA	10	19	7	0.113	30	80	1.037	646	930	1.040	1.253	5.1	15	17	20
TBA	10	25	7	0.113	30	80	1.210	840	1193	1.040	1.253	6.0	13	15	18
TBA	10	30	7	0.113	30	80	1.280	1002	1401	1.040	1.253	6.4	13	15	18
TBA	10	37	7	0.113	30	80	1.383	1228	1693	1.040	1.253	6.9	12	14	16

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item
† Ampacities are based on Table 310.16 of the NEC 2020 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts with not more than three current-carrying conductors in raceway, cable or direct buried based on ambient temperature of 30°C (86°F). Ampacities have been adjusted for more than three current-carrying conductors based on Table 310.15(C) 1.