

4/C CU 600V EPR XHHW-2 Thermoplastic CPE-TP Power Cable With Ground

Type TC-ER Power Cable 600Volt Four Conductor Copper, Ethylene Propylene Rubber (EPR) insulation XHHW-2 Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket with 1 Tinned CU Ground. VW-1 rated



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded tinned copper per ASTM B33 and ASTM B8
2. **Insulation:** Ethylene Propylene Rubber (EPR) Type XHHW-2
3. **Grounding Conductor:** Class B compressed stranded tinned copper per ASTM B33 and ASTM B8
4. **Filler:** Paper filler (cable size 8 & 6 uses Polypropylene filler)
5. **Binder:** Polyester flat thread binder tape for cable sizes larger than 2 AWG
6. **Overall Jacket:** Thermoplastic Chlorinated Polyethylene (CPE-TP) Jacket

APPLICATIONS AND FEATURES:

Southwire's 600 Volt Type TC-ER power 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

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 3 (1-BLACK, 2-RED, 3-BLUE)
- 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} ROYAL{TM} E75755 MASTER-DESIGN {UL} XXX AWG (XX.X{mm²}) 4/C EPR/CPE TYPE TC-ER EPR XHHW-2 CDRS GW 1 X 6 AWG 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



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Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Insul. Thickness	Diameter Over Insulation	Ground	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/Kcmil	inch	mil	inch	No. x AWG	mil	inch	lb/1000ft	lb/1000ft
591982	8	0.139	45	0.229	1 x 10	60	0.673	238	394
591984	6	0.174	45	0.264	1 x 8	60	0.758	379	568
591986	4	0.221	45	0.311	1 x 8	80	0.910	572	824
591988	2	0.277	45	0.367	1 x 6	80	1.047	910	1218
591990	1	0.321	55	0.431	1 x 6	80	1.200	1126	1508
591992	1/0	0.360	55	0.470	1 x 6	80	1.295	1398	1823
591994	2/0	0.404	55	0.514	1 x 6	80	1.401	1742	2216
TBA	3/0	0.454	55	0.564	1 x 4	80	1.521	2223	2756
591997	4/0	0.510	55	0.620	1 x 4	80	1.657	2770	3371
591999	250	0.558	65	0.688	1 x 4	110	1.881	3249	4063
592001	350	0.661	65	0.791	1 x 3	110	2.129	4531	5499
592003	500	0.789	65	0.919	1 x 2	110	2.438	6445	7608
646849	600	0.866	80	1.026	1 x 2	110	2.697	7693	9092
TBA	750	0.968	80	1.128	1 x 1	140	3.003	9618	11370

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.

Table 2 – Electrical and Engineering Data

Stock Number	Cond. Size	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 90°C	Inductive Reactance @ 60Hz	Allowable Ampacity At 60°C†	Allowable Ampacity At 75°C†	Allowable Ampacity At 90°C†
	AWG/Kcmil	inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
591982	8	2.7	528	0.652	0.815	0.036	32	40	44
591984	6	3.0	840	0.411	0.514	0.034	44	52	60
591986	4	3.6	1336	0.258	0.323	0.033	56	68	76
591988	2	5.2	2124	0.162	0.203	0.031	76	92	104
591990	1	6.0	2678	0.129	0.161	0.032	88	104	116
591992	1/0	6.5	3379	0.102	0.128	0.031	100	120	136
591994	2/0	7.0	4259	0.081	0.101	0.030	116	140	156
TBA	3/0	7.6	5370	0.064	0.080	0.030	132	160	180
591997	4/0	8.3	6771	0.051	0.064	0.029	156	184	208
591999	250	9.4	8000	0.043	0.054	0.030	172	204	232
592001	350	12.8	11200	0.031	0.039	0.029	208	248	280
592003	500	14.6	16000	0.022	0.027	0.028	256	304	344
646849	600	16.2	19200	0.018	0.023	0.029	280	336	380
TBA	750	18.0	24000	0.014	0.019	0.028	320	380	428

† 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.

