

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

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



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Class B compressed stranded tinned copper per ASTM B33 and ASTM B8
- Insulation:** Ethylene Propylene Rubber (EPR) Type XHHW-2. VW-1 Rated
- Grounding Conductor:** Class B compressed stranded tinned copper per ASTM B33 and ASTM B8
- 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 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 4
- 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 (XX.X{mm²}) 3/C EPR/CPE TYPE TC-ER XHHW-2 CDRS GW 1 X X AWG TINNED 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



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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
591981◇	8	0.139	45	0.229	1 x 10	60	0.615	187	319
591983◇	6	0.174	45	0.264	1 x 8	60	0.691	297	458
591985◇	4	0.221	45	0.311	1 x 8	60	0.791	442	624
591987◇	2	0.277	45	0.367	1 x 6	80	0.953	703	965
591989◇	1	0.321	55	0.431	1 x 6	80	1.091	865	1188
591991◇	1/0	0.360	55	0.470	1 x 6	80	1.175	1069	1428
591993◇	2/0	0.404	55	0.514	1 x 6	80	1.270	1327	1728
591995	3/0	0.454	55	0.564	1 x 4	80	1.378	1700	2150
591996◇	4/0	0.510	55	0.620	1 x 4	80	1.499	2110	2617
591998◇	250	0.558	65	0.688	1 x 4	80	1.646	2469	3063
592000◇	350	0.661	65	0.791	1 x 3	110	1.929	3440	4263
592002	500	0.789	65	0.919	1 x 2	110	2.205	4885	5877
674038	500	0.789	65	0.919	1 x 3/0	110	2.224	4885	5976
TBA	750	0.968	80	1.128	1 x 1	110	2.656	7278	8617

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
591981◇	8	2.5	396	0.652	0.815	0.033	40	50	55
591983◇	6	2.8	630	0.411	0.514	0.031	55	65	75
591985◇	4	3.2	1002	0.258	0.323	0.030	70	85	95
591987◇	2	3.8	1593	0.162	0.203	0.028	95	115	130
591989◇	1	5.5	2009	0.129	0.162	0.028	110	130	145
591991◇	1/0	5.9	2534	0.102	0.128	0.028	125	150	170
591993◇	2/0	6.4	3194	0.081	0.102	0.027	145	175	195
591995	3/0	6.9	4027	0.064	0.081	0.027	165	200	225
591996◇	4/0	7.5	5078	0.051	0.064	0.026	195	230	260
591998◇	250	8.2	6000	0.043	0.055	0.027	215	255	290
592000◇	350	9.6	8400	0.031	0.040	0.026	260	310	350
592002	500	13.2	12000	0.022	0.029	0.025	320	380	430
674038	500	13.2	12000	0.022	0.029	0.025	320	380	430
TBA	750	15.9	18000	0.014	0.020	0.025	400	475	535

† 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.



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