TCU 600/1000V EPR Insulation XHHW-2 Thermoplastic CPE-TP Jacket. CT Rated - Sunlight Resistant - For Direct Burial - Silicone Free

Type TC-ER Power Cable, 600/1000 Volt, Four Conductor, Tinned 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 B8
2. **Insulation:** Ethylene Propylene Rubber (EPR) Type XHHW-2
3. **Grounding Conductor:** Class B compressed stranded tinned copper per ASTM B33 and 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)

APPLICATIONS AND FEATURES:

Southwire's 600/1000 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 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

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SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE® ROYAL™ E75755 {UL} XX AWG or KCMIL (XX{MM2}) 4/C EPR/CPE TYPE TC-ER EPR XHHW-2 CDRS GW 1 X X AWG 600/1000V 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 600/1000V 90°C USA

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Cond. Number	Strand Count	Diameter Over Conductor	Insul. Thickness	Ground	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Jacket Color
	AWG/ Kcmil		No. of Strands	inch	mil	No. x AWG	mil	inch	lb/1000ft	lb/1000ft	
591982	8	4	7	0.142	45	1 x 10	60	0.724	238	389	BK
591984	6	4	7	0.178	45	1 x 8	60	0.816	379	553	BK
591986	4	4	7	0.225	45	1 x 8	80	0.936	572	803	BK
591988	2	4	7	0.283	45	1 x 6	80	1.123	910	1214	BK
591990	1	4	19	0.322	55	1 x 6	80	1.279	1126	1532	BK
591992	1/0	4	19	0.362	55	1 x 6	80	1.357	1399	1828	BK
591994	2/0	4	19	0.405	55	1 x 6	80	1.464	1742	2216	BK
TBA	3/0	4	19	0.456	55	1 x 4	80	1.536	2221	2626	BK
591997	4/0	4	19	0.512	55	1 x 4	110	1.74	2770	3376	BK
591999	250	4	37	0.558	65	1 x 4	110	1.939	3249	4016	BK
592001	350	4	37	0.661	65	1 x 3	110	2.202	4530	5421	BK
592003	500	4	37	0.789	65	1 x 2	110	2.464	6444	7386	BK
646849	600	4	61	0.866	80	1 x 2	140	2.791	7691	9205	BK
TBA	750	4	61	0.968	80	1 x 1	140	3.016	9614	10921	BK

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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Table 2 – Electrical and Engineering Data

Stock Number	Cond. Size	Cond. Number	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 75°C	Inductive Reactance @ 60Hz	Allowable Ampacity At 75°C	Allowable Ampacity At 90°C
	AWG/ Kcmil		inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
591982	8	4	2.9	528	0.653	0.81	0.052	40	44
591984	6	4	3.3	839	0.411	0.51	0.051	52	60
591986	4	4	3.7	1335	0.258	0.32	0.048	68	76
591988	2	4	5.6	2123	0.162	0.201	0.045	92	104
591990	1	4	6.4	2678	0.128	0.159	0.046	104	116
591992	1/0	4	6.8	3379	0.102	0.127	0.044	120	136
591994	2/0	4	7.3	4259	0.082	0.102	0.043	140	156
TBA	3/0	4	7.7	5369	0.064	0.079	0.042	160	180
591997	4/0	4	8.7	6771	0.051	0.063	0.041	184	208
591999	250	4	9.7	8000	0.043	0.053	0.041	204	232
592001	350	4	13.2	11200	0.031	0.039	0.04	248	280
592003	500	4	14.8	16000	0.021	0.027	0.039	304	344
646849	600	4	16.7	19200	0.018	0.024	0.039	336	380
TBA	750	4	18.1	24000	0.014	0.019	0.038	380	428

* Ampacities based upon 2023 NEC Table 310.16. See NEC sections 310.15 and 110.14(C) for additional requirements.
* Ampacities have been adjusted for more than Three Current-Carrying Conductors.

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