# 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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