

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

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® ROYAL{TM} E75755 {UL} XXX AWG (XX.X{mm2}) 4/C EPR/CPE TYPE TC-ER EPR XHHW-2 CDRS GW 1 X 6 AWG 600V 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 600V 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 |
|--------------|------------|--------------|----------------|-------------------------|------------------|-----------|------------------|------------|---------------|----------------|
|              | AWG/ Kcmil |              | No. of Strands | inch                    | mil              | No. x AWG | mil              | inch       | lb/1000ft     | lb/1000ft      |
| 646849       | 600        | 4            | 61             | 0.865                   | 80               | 1 x 2     | 140              | 2.790      | 7691          | 9439           |

All dimensions are nominal and subject to normal manufacturing tolerances  
◊ Cable marked with this symbol is a standard stock item

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 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                        |
| 646849       | 600        | 4            | 16.7               | 15360            | 0.018                | 0.025                | 0.039                      | 280                        | 336                        | 380                        |

\* 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.