



CU 600V PVC-Nylon Insulation PVC Jacket THHN/THWN-2. CT Rated - Sunlight Resistant - For Direct Burial - Silicone Free

Type TC-ER Power Cable 600Volt Three Conductor Copper, Polyvinyl Chloride (PVC) with nylon layer insulation THHN/THWN-2 Polyvinyl Chloride (PVC) Jacket with 1 Bare CU Ground. CT Rated - Sunlight Resistant - For Direct Burial - Silicone Free.



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8
2. **Insulation:** Polyvinyl Chloride (PVC) with nylon layer Type THHN/THWN-2
3. **Grounding Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8 (cable size 8 & 6 has insulated green ground)
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:** Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 600 Volt Type TC-ER THHN/THWN-2 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 in dry or wet locations, 105°C for emergency overload, and 150°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. Sunlight Resistant - For Direct Burial - Silicone Free

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1277 Electrical Power and Control Tray Cables
- UL 1685 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® {UL} XX AWG (XX.X{mm²}) CU 3 CDRS TYPE TC-ER THHN OR THWN CDRS GW 1 X X AWG 90°C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600 VOLTS {NOM}-ANCE {YYYY}

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 |
| 443390◇ | 8 | 3 | 7 | 0.141 | 30 | 1 x 10 GG | 60 | 0.640 | 186 | 307 |
| 443408◇ | 6 | 3 | 7 | 0.177 | 30 | 1 x 8 GG | 60 | 0.734 | 297 | 451 |
| 443416◇ | 4 | 3 | 7 | 0.225 | 40 | 1 x 8 | 60 | 0.804 | 441 | 618 |
| 443424◇ | 2 | 3 | 7 | 0.282 | 40 | 1 x 6 | 80 | 0.986 | 702 | 971 |
| 443432◇ | 1 | 3 | 19 | 0.322 | 50 | 1 x 6 | 80 | 1.116 | 864 | 1180 |
| 443440◇ | 1/0 | 3 | 19 | 0.361 | 50 | 1 x 6 | 80 | 1.183 | 1069 | 1406 |
| 443457◇ | 2/0 | 3 | 19 | 0.405 | 50 | 1 x 6 | 80 | 1.278 | 1326 | 1689 |
| 443465◇ | 3/0 | 3 | 19 | 0.456 | 50 | 1 x 4 | 80 | 1.386 | 1699 | 2100 |
| 443473◇ | 4/0 | 3 | 19 | 0.512 | 50 | 1 x 4 | 80 | 1.481 | 2109 | 2603 |
| 443481◇ | 250 | 3 | 37 | 0.558 | 60 | 1 x 4 | 80 | 1.659 | 2469 | 3091 |
| 443507◇ | 350 | 3 | 37 | 0.661 | 60 | 1 x 3 | 110 | 1.941 | 3438 | 4186 |
| 443523◇ | 500 | 3 | 37 | 0.789 | 60 | 1 x 2 | 110 | 2.168 | 4884 | 5733 |
| 679965 | 600 | 3 | 61 | 0.865 | 70 | 1 x 1/0 | 110 | 2.388 | 5942 | 7009 |
| 604777 | 600 | 3 | 61 | 0.865 | 70 | 1 x 2 | 110 | 2.388 | 5820 | 6784 |
| 602094◇ | 750 | 3 | 61 | 0.968 | 70 | 1 x 1 | 110 | 2.602 | 7277 | 8562 |

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 75°C | Allowable Ampacity At 90°C |
|--------------|---------------|--------------|--------------------|------------------|----------------------|----------------------|----------------------------|----------------------------|----------------------------|
| | AWG/ Kcmil | | inch | lb | Ω/1000ft | Ω/1000ft | Ω/1000ft | Amp | Amp |
| 443390◇ | 8 | 3 | 2.6 | 396 | 0.653 | 0.786 | 0.052 | 50 | 55 |
| 443408◇ | 6 | 3 | 2.9 | 629 | 0.411 | 0.495 | 0.051 | 65 | 75 |
| 443416◇ | 4 | 3 | 3.2 | 1001 | 0.258 | 0.310 | 0.048 | 85 | 95 |
| 443424◇ | 2 | 3 | 3.9 | 1592 | 0.162 | 0.195 | 0.045 | 115 | 130 |
| 443432◇ | 1 | 3 | 5.6 | 2008 | 0.128 | 0.154 | 0.046 | 130 | 145 |
| 443440◇ | 1/0 | 3 | 5.9 | 2534 | 0.102 | 0.122 | 0.044 | 150 | 170 |
| 443457◇ | 2/0 | 3 | 6.4 | 3194 | 0.081 | 0.097 | 0.043 | 175 | 195 |
| 443465◇ | 3/0 | 3 | 6.9 | 4027 | 0.064 | 0.078 | 0.042 | 200 | 225 |
| 443473◇ | 4/0 | 3 | 7.4 | 5078 | 0.051 | 0.062 | 0.041 | 230 | 260 |
| 443481◇ | 250 | 3 | 8.3 | 6000 | 0.043 | 0.053 | 0.041 | 255 | 290 |
| 443507◇ | 350 | 3 | 9.7 | 8400 | 0.031 | 0.039 | 0.040 | 310 | 350 |
| 443523◇ | 500 | 3 | 13.0 | 12000 | 0.022 | 0.029 | 0.039 | 380 | 430 |
| 679965 | 600 | 3 | 14.3 | 14400 | 0.018 | 0.025 | 0.039 | 420 | 475 |
| 604777 | 600 | 3 | 14.3 | 14400 | 0.018 | 0.025 | 0.039 | 420 | 475 |
| 602094◇ | 750 | 3 | 15.6 | 18000 | 0.014 | 0.022 | 0.038 | 475 | 535 |

* Ampacities based upon 2023 NEC Table 310.16. See NEC sections 310.15 and 110.14(C) for additional requirements.

