



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

| 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 |
| 1 | 3 | 19 | 0.322 | 50 | 1 x 6 | 80 | 1.116 | 864 | 1180 |

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

| 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 |
| 1 | 3 | 5.6 | 2008 | 0.128 | 0.154 | 0.046 | 130 | 145 |

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

