

4/C CU 600V PVC THHN PVC Jacket Power Cable With Ground

Type TC-ER Power Cable 600Volt Four Conductor Copper, Polyvinyl Chloride (PVC) with nylon layer insulation THHN Polyvinyl Chloride (PVC) Jacket with 1 Bare CU Ground



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8
- Insulation:** Polyvinyl Chloride (PVC) with nylon layer Type THHN/THWN
- Grounding Conductor:** Class B compressed stranded bare copper per ASTM B3 and ASTM B8 (cable size 8 & 6 has insulated green ground)
- Filler:** Paper filler (cable size 8 & 6 uses Polypropylene filler)
- Binder:** Polyester flat thread binder tape for cable sizes larger than 2 AWG
- Overall Jacket:** Polyvinyl Chloride (PVC) 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 75°C in wet locations and 90°C in 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.

SPECIFICATIONS:

- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 83 Thermoplastic Insulated Wires and Cables Type THHN
- 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 Vertical Tray Flame Test (70,000 Btu/hr) and ICEA T-29-520 - (210,000 Btu/hr)

SAMPLE PRINT LEGEND:

SOUTHWIRE EXXXXX #P# (UL) [#AWG Or #kcmil] CU THHN PVC/PVC 600V Type TC-ER For CT USE SUN. RES. For DIRECT BURIAL FT4 YEAR (NESC) [SEQUENTIAL FEET MARKS]



Table 1 – Weights and Measurements

| Stock Number | Cond. Size | Diameter Over Conductor | Insul. Thickness | Diameter Over Insulation | Ground | Jacket Thickness | Approx. OD | Copper Weight | Approx. Weight |
|--------------|---------------|-------------------------|------------------|--------------------------|--------------|------------------|------------|---------------|----------------|
| | AWG/ Kcmil | inch | mil | inch | No. x AWG | mil | inch | lb/1000ft | lb/1000ft |
| 557694◇ | 8 | 0.139 | 35 | 0.199 | 1 x 10 | 60 | 0.625 | 238 | 369 |
| 553438◇ | 6 | 0.174 | 35 | 0.234 | 1 x 8 | 60 | 0.710 | 379 | 541 |
| 601989◇ | 4 | 0.221 | 46 | 0.301 | 1 x 8 | 80 | 0.914 | 572 | 824 |
| 601997◇ | 2 | 0.277 | 46 | 0.357 | 1 x 6 | 80 | 1.052 | 910 | 1219 |
| 602003 | 1 | 0.321 | 57 | 0.421 | 1 x 6 | 80 | 1.210 | 1126 | 1515 |
| 554568◇ | 1/0 | 0.360 | 57 | 0.460 | 1 x 6 | 80 | 1.304 | 1398 | 1831 |
| 556720◇ | 2/0 | 0.404 | 57 | 0.504 | 1 x 6 | 80 | 1.410 | 1742 | 2225 |
| 602029◇ | 3/0 | 0.454 | 57 | 0.554 | 1 x 4 | 80 | 1.531 | 2223 | 2766 |
| 444745◇ | 4/0 | 0.510 | 57 | 0.610 | 1 x 4 | 80 | 1.666 | 2770 | 3382 |
| 602045◇ | 250 | 0.558 | 68 | 0.678 | 1 x 4 | 110 | 1.895 | 3249 | 4077 |
| 602060◇ | 350 | 0.661 | 68 | 0.781 | 1 x 3 | 110 | 2.144 | 4531 | 5515 |
| 552513◇ | 500 | 0.789 | 68 | 0.909 | 1 x 2 | 110 | 2.453 | 6445 | 7628 |
| 604819 | 600 | 0.866 | 79 | 1.024 | 1 x 2 | 110 | 2.692 | 7693 | 9078 |
| 604827 | 750 | 0.968 | 79 | 1.108 | 1 x 1 | 140 | 2.998 | 9618 | 11342 |

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 | Min Bending Radius | Max Pull Tension | DC Resistance @ 25°C | AC Resistance @ 90°C | Inductive Reactance @ 60Hz | Shield Short Circuit Current 6 Cycles | 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 | Amp |
| 557694◇ | 8 | 2.5 | 528 | 0.652 | 0.815 | 0.033 | 3754 | 32 | 40 | 44 |
| 553438◇ | 6 | 2.8 | 840 | 0.411 | 0.514 | 0.032 | 5966 | 44 | 52 | 60 |
| 601989◇ | 4 | 3.7 | 1336 | 0.258 | 0.323 | 0.032 | 9491 | 56 | 68 | 76 |
| 601997◇ | 2 | 5.3 | 2124 | 0.162 | 0.203 | 0.031 | 15089 | 76 | 92 | 104 |
| 602003 | 1 | 6.1 | 2678 | 0.129 | 0.161 | 0.031 | 19029 | 88 | 104 | 116 |
| 554568◇ | 1/0 | 6.5 | 3379 | 0.102 | 0.128 | 0.031 | 24011 | 100 | 120 | 136 |
| 556720◇ | 2/0 | 7.1 | 4259 | 0.081 | 0.101 | 0.030 | 30264 | 116 | 140 | 156 |
| 602029◇ | 3/0 | 7.7 | 5370 | 0.064 | 0.080 | 0.029 | 38154 | 132 | 160 | 180 |
| 444745◇ | 4/0 | 8.3 | 6771 | 0.051 | 0.064 | 0.029 | 48114 | 156 | 184 | 208 |
| 602045◇ | 250 | 9.5 | 8000 | 0.043 | 0.054 | 0.029 | 56845 | 172 | 204 | 232 |
| 602060◇ | 350 | 12.9 | 11200 | 0.031 | 0.039 | 0.029 | 79583 | 208 | 248 | 280 |
| 552513◇ | 500 | 14.7 | 16000 | 0.022 | 0.027 | 0.028 | 113690 | 256 | 304 | 344 |
| 604819 | 600 | 16.2 | 19200 | 0.018 | 0.023 | 0.028 | 136428 | 280 | 336 | 380 |
| 604827 | 750 | 18.0 | 24000 | 0.014 | 0.019 | 0.028 | 170535 | 320 | 380 | 428 |

† Ampacities are based on Table 310.15 (B)(16) of the NEC, 2017 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts, based on ambient temperature of 30°C (86°F)

