

# 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 Four Conductor Copper, Polyvinyl Chloride (PVC) with nylon layer insulation THHN 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
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 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, 105°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. 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

## SAMPLE PRINT LEGEND:

SOUTHWIRE® {UL} 1 AWG (XX.X{mm<sup>2</sup>}) CU 4 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      |
| 557694◇      | 8          | 4            | 7              | 0.141                   | 30               | 1 x 10 GG | 60               | 0.701      | 238           | 383            |
| 664736◇      | 8          | 4            | 7              | 0.141                   | 30               | 1 x 10 GG | 60               | 0.709      | 238           | 387            |
| 553438◇      | 6          | 4            | 7              | 0.177                   | 30               | 1 x 8 GG  | 60               | 0.789      | 378           | 559            |
| 601989◇      | 4          | 4            | 7              | 0.225                   | 40               | 1 x 8     | 80               | 0.933      | 572           | 876            |
| 601997◇      | 2          | 4            | 7              | 0.282                   | 40               | 1 x 6     | 80               | 1.082      | 909           | 1230           |
| 602003       | 1          | 4            | 19             | 0.322                   | 50               | 1 x 6     | 80               | 1.218      | 1125          | 1545           |
| 554568◇      | 1/0        | 4            | 19             | 0.361                   | 50               | 1 x 6     | 80               | 1.304      | 1399          | 1851           |
| 556720◇      | 2/0        | 4            | 19             | 0.405                   | 50               | 1 x 6     | 80               | 1.410      | 1742          | 2252           |
| 602029◇      | 3/0        | 4            | 19             | 0.456                   | 50               | 1 x 4     | 80               | 1.531      | 2223          | 2801           |
| 444745◇      | 4/0        | 4            | 19             | 0.512                   | 50               | 1 x 4     | 80               | 1.637      | 2769          | 3286           |
| 580495       | 250        | 4            | 37             | 0.558                   | 60               | 1 x 2     | 110              | 1.895      | 3325          | 4181           |
| 602045◇      | 250        | 4            | 37             | 0.558                   | 60               | 1 x 4     | 110              | 1.895      | 3248          | 4113           |
| 602060◇      | 350        | 4            | 37             | 0.661                   | 60               | 1 x 3     | 110              | 2.144      | 4530          | 5482           |
| 563180       | 350        | 4            | 37             | 0.661                   | 60               | 1 x 3/0   | 110              | 2.257      | 4889          | 5892           |
| 552513◇      | 500        | 4            | 37             | 0.789                   | 60               | 1 x 2     | 110              | 2.397      | 6443          | 7485           |
| 593375       | 500        | 4            | 37             | 0.789                   | 60               | 1 x 250   | 110              | 2.485      | 7016          | 8077           |
| 604819       | 600        | 4            | 61             | 0.865                   | 70               | 1 x 2     | 110              | 2.643      | 7691          | 8924           |
| TBA          | 600        | 4            | 61             | 0.865                   | 80               | 1 x 2     | 110              | 2.703      | 7683          | 8742           |
| 604827       | 750        | 4            | 61             | 0.968                   | 70               | 1 x 1     | 140              | 2.998      | 9616          | 11402          |

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                        |
| 5576940      | 8          | 4            | 2.8                | 422              | 0.653                | 0.786                | 0.052                      | 32                         | 40                         | 44                         |
| 6647360      | 8          | 4            | 2.8                | 422              | 0.653                | 0.786                | 0.052                      | 32                         | 40                         | 44                         |
| 5534380      | 6          | 4            | 3.2                | 671              | 0.411                | 0.495                | 0.051                      | 44                         | 52                         | 60                         |
| 6019890      | 4          | 4            | 3.7                | 1068             | 0.258                | 0.310                | 0.048                      | 56                         | 68                         | 76                         |
| 6019970      | 2          | 4            | 5.4                | 1698             | 0.162                | 0.195                | 0.045                      | 76                         | 92                         | 104                        |
| 602003       | 1          | 4            | 6.1                | 2142             | 0.128                | 0.154                | 0.046                      | 88                         | 104                        | 116                        |
| 5545680      | 1/0        | 4            | 6.5                | 2703             | 0.102                | 0.122                | 0.044                      | 100                        | 120                        | 136                        |
| 5567200      | 2/0        | 4            | 7.1                | 3407             | 0.081                | 0.097                | 0.043                      | 116                        | 140                        | 156                        |
| 6020290      | 3/0        | 4            | 7.7                | 4295             | 0.064                | 0.078                | 0.042                      | 132                        | 160                        | 180                        |
| 4447450      | 4/0        | 4            | 8.2                | 5416             | 0.051                | 0.062                | 0.041                      | 156                        | 184                        | 208                        |
| 580495       | 250        | 4            | 9.5                | 6400             | 0.043                | 0.053                | 0.041                      | 172                        | 204                        | 232                        |
| 6020450      | 250        | 4            | 9.5                | 6400             | 0.043                | 0.053                | 0.041                      | 172                        | 204                        | 232                        |
| 6020600      | 350        | 4            | 12.9               | 8960             | 0.031                | 0.039                | 0.040                      | 208                        | 248                        | 280                        |
| 563180       | 350        | 4            | 13.5               | 8960             | 0.031                | 0.039                | 0.040                      | 208                        | 248                        | 280                        |
| 5525130      | 500        | 4            | 14.4               | 12800            | 0.022                | 0.029                | 0.039                      | 256                        | 304                        | 344                        |
| 593375       | 500        | 4            | 14.9               | 12800            | 0.022                | 0.029                | 0.039                      | 256                        | 304                        | 344                        |
| 604819       | 600        | 4            | 15.9               | 15360            | 0.018                | 0.025                | 0.039                      | 280                        | 336                        | 380                        |
| TBA          | 600        | 4            | 16.2               | 15360            | 0.018                | 0.025                | 0.039                      | 280                        | 336                        | 380                        |
| 604827       | 750        | 4            | 18.0               | 19200            | 0.014                | 0.022                | 0.038                      | 320                        | 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.

