

4/C AL 600V XLPE XHHW-2 PVC Power Cable With Ground. Silicone Free

Type TC-ER Power Cable 600Volt Four Conductor Aluminum, Cross Linked Polyethylene (XLPE) insulation XHHW-2 Polyvinyl Chloride (PVC) Jacket with 1 Bare AL Ground. Silicone Free.



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
- Insulation:** Cross Linked Polyethylene (XLPE) Type XHHW-2
- Grounding Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
- 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 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. Silicone free.

SPECIFICATIONS:

- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- UL 44 Thermoset-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:

{SQFTG} SOUTHWIRE{R} MASTER-DESIGN {UL} XXX AWG (XX{mm2}) 3E AL 4/C TYPE TC-ER XHHW-2 CDRS GW 1 X X AWG 3E AL 90{D}C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600V or 1000V {NOM}-ANCE



Table 1 – Weights and Measurements

| Stock Number | Cond. Size | Diameter Over Conductor | Insul. Thickness | Diameter Over Insulation | Ground | Jacket Thickness | Approx. OD | Aluminum Weight | Approx. Weight |
|--------------|---------------|-------------------------|------------------|--------------------------|--------------|------------------|------------|-----------------|----------------|
| | AWG/ Kcmil | inch | mil | inch | No. x AWG | mil | inch | lb/1000ft | lb/1000ft |
| TBA | 8 | 0.134 | 45 | 0.224 | 1 x 8 | 60 | 0.661 | 78 | 218 |
| TBA | 6 | 0.169 | 45 | 0.259 | 1 x 8 | 60 | 0.745 | 115 | 281 |
| TBA | 4 | 0.213 | 45 | 0.303 | 1 x 6 | 80 | 0.891 | 184 | 415 |
| TBA | 2 | 0.268 | 45 | 0.358 | 1 x 6 | 80 | 1.024 | 277 | 557 |
| TBA | 1 | 0.299 | 55 | 0.409 | 1 x 4 | 80 | 1.147 | 358 | 706 |
| TBA | 1/0 | 0.336 | 55 | 0.446 | 1 x 4 | 80 | 1.237 | 441 | 827 |
| TBA | 2/0 | 0.376 | 55 | 0.486 | 1 x 4 | 80 | 1.333 | 545 | 972 |
| 672251 | 3/0 | 0.423 | 55 | 0.533 | 1 x 4 | 80 | 1.447 | 678 | 1156 |
| 583727 | 4/0 | 0.475 | 55 | 0.585 | 1 x 2 | 80 | 1.572 | 867 | 1402 |
| 582123 | 250 | 0.520 | 65 | 0.650 | 1 x 1 | 110 | 1.789 | 1029 | 1772 |
| 672252 | 300 | 0.570 | 65 | 0.700 | 1 x 2 | 110 | 1.909 | 1408 | 1952 |
| 582124 | 350 | 0.616 | 65 | 0.746 | 1 x 1/0 | 110 | 2.021 | 1428 | 2305 |
| 578537 | 400 | 0.659 | 65 | 0.792 | 1 x 1 | 110 | 2.131 | 1601 | 2505 |
| 582121 | 400 | 0.659 | 65 | 0.792 | 1 x 3/0 | 110 | 2.237 | 1601 | 2584 |
| 582125 | 500 | 0.736 | 65 | 0.866 | 1 x 2/0 | 110 | 2.311 | 2027 | 3080 |
| 578536 | 500 | 0.736 | 65 | 0.866 | 1 x 1 | 110 | 2.311 | 1982 | 3035 |
| 596549 | 500 | 0.736 | 65 | 0.866 | 1 x 3/0 | 110 | 2.434 | 2062 | 3209 |
| 582126 | 500 | 0.736 | 65 | 0.866 | 1 x 250 | 110 | 2.470 | 2141 | 3281 |
| 582127 | 600 | 0.813 | 80 | 0.973 | 1 x 350 | 110 | 2.72 | 2616 | 3981 |
| 582250 | 600 | 0.813 | 80 | 0.973 | 1 x 4/0 | 110 | 2.720 | 2485 | 3812 |
| 578538 | 750 | 0.908 | 80 | 1.068 | 1 x 1/0 | 140 | 2.858 | 2953 | 4575 |
| 580014 | 750 | 0.908 | 80 | 1.068 | 1 x 3/0 | 140 | 2.858 | 3010 | 4625 |
| TBA | 900 | 0.999 | 80 | 1.159 | 1 x 1/0 | 140 | 3.09 | 3487 | 4625 |

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

† Ampacities are based on Table 310.16 of the NEC 2020 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts with not more than three current-carrying conductors in raceway, cable or direct buried based on ambient temperature of 30°C (86°F). Ampacities have been adjusted for more than three current-carrying conductors based on Table 310.15(C) 1.



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 | 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 |
| TBA | 8 | 2.6 | 396 | 1.070 | 1.345 | 0.037 | 28 | 32 | 36 |
| TBA | 6 | 3.0 | 630 | 0.675 | 0.848 | 0.035 | 32 | 40 | 44 |
| TBA | 4 | 3.6 | 1002 | 0.424 | 0.533 | 0.033 | 44 | 52 | 60 |
| TBA | 2 | 5.1 | 1593 | 0.266 | 0.334 | 0.032 | 60 | 72 | 80 |
| TBA | 1 | 5.7 | 2009 | 0.211 | 0.265 | 0.032 | 68 | 80 | 92 |
| TBA | 1/0 | 6.2 | 2534 | 0.168 | 0.211 | 0.031 | 80 | 96 | 108 |
| TBA | 2/0 | 6.7 | 3194 | 0.133 | 0.167 | 0.031 | 92 | 108 | 120 |
| 672251 | 3/0 | 7.2 | 4027 | 0.105 | 0.132 | 0.030 | 104 | 124 | 140 |
| 583727 | 4/0 | 7.9 | 5078 | 0.084 | 0.105 | 0.030 | 120 | 144 | 164 |
| 582123 | 250 | 8.9 | 6000 | 0.071 | 0.089 | 0.030 | 136 | 164 | 184 |
| 672252 | 300 | 12 | 7200 | 0.0578 | 0.0725 | 0.029 | 195 | 230 | 260 |
| 582124 | 350 | 12.1 | 8400 | 0.051 | 0.064 | 0.029 | 168 | 200 | 224 |
| 578537 | 400 | 13.9 | 9600 | 0.044 | 0.47 | 0.029 | 180 | 216 | 244 |
| 582121 | 400 | 13.9 | 9600 | 0.044 | 0.47 | 0.029 | 180 | 216 | 244 |
| 582125 | 500 | 13.9 | 12000 | 0.035 | 0.045 | 0.029 | 208 | 248 | 280 |
| 578536 | 500 | 13.9 | 12000 | 0.035 | 0.045 | 0.029 | 208 | 248 | 280 |
| 596549 | 500 | 14.6 | 12000 | 0.035 | 0.045 | 0.029 | 208 | 248 | 280 |
| 582126 | 500 | 14.9 | 12000 | 0.035 | 0.045 | 0.029 | 208 | 248 | 280 |
| 582127 | 600 | 16.3 | 14400 | 0.030 | 0.037 | 0.029 | 228 | 272 | 308 |
| 582250 | 600 | 16.2 | 14400 | 0.030 | 0.037 | 0.029 | 228 | 272 | 308 |
| 578538 | 750 | 17.1 | 18000 | 0.024 | 0.030 | 0.029 | 256 | 308 | 348 |
| 580014 | 750 | 17.1 | 18000 | 0.024 | 0.030 | 0.029 | 256 | 308 | 348 |
| TBA | 900 | 18.5 | 21600 | 0.020 | 0.021 | 0.025 | 284 | 340 | 384 |

† Ampacities are based on Table 310.16 of the NEC 2020 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts with not more than three current-carrying conductors in raceway, cable or direct buried based on ambient temperature of 30°C (86°F). Ampacities have been adjusted for more than three current-carrying conductors based on Table 310.15(C) 1.

