

## CU 600V PVC-Nylon Insulation PVC Jacket. THHN/THWN-2

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

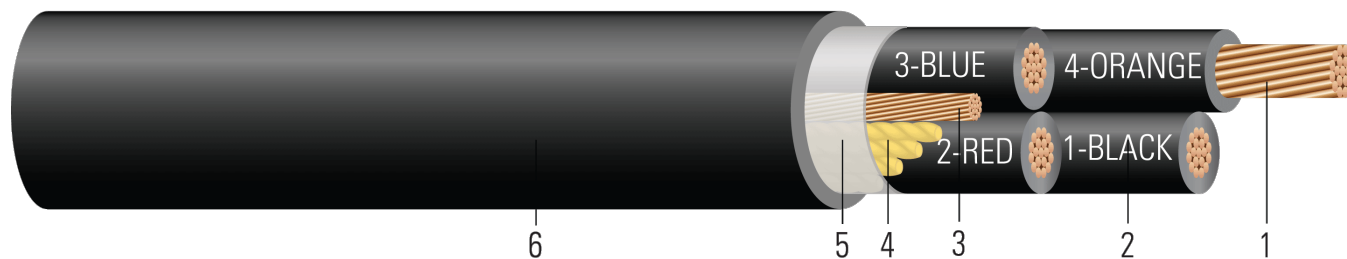


Image not to scale. See Table 1 for dimensions.

### 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, 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. Silicone Free

### 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
- 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{R} MASTER-DESIGN {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{D}C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600 VOLTS {NOM}-ANCE {YYYY}



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**Table 1 – Weights and Measurements**

Stock Number	Cond. Size	Diameter Over Conductor	Insul. Thickness	Ground	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/Kcmil	inch	mil	No. x AWG	mil	inch	lb/1000ft	lb/1000ft
557694◇	8	0.141	30	1 x 10	60	0.701	238	382
664736◇	8	0.141	30	1 x 10 GG	60	0.709	238	386
553438◇	6	0.177	30	1 x 8	60	0.789	378	559
601989◇	4	0.225	40	1 x 8	80	0.933	572	876
601997◇	2	0.282	40	1 x 6	80	1.082	909	1230
602003	1	0.322	50	1 x 6	80	1.218	1125	1545
554568◇	1/0	0.361	50	1 x 6	80	1.304	1399	1851
556720◇	2/0	0.405	50	1 x 6	80	1.410	1742	2252
602029◇	3/0	0.456	50	1 x 4	80	1.531	2223	2801
444745◇	4/0	0.512	50	1 x 4	80	1.637	2769	3286
580495	250	0.558	60	1 x 2	110	1.895	3325	4181
602045◇	250	0.558	60	1 x 4	110	1.895	3248	4113
602060◇	350	0.661	60	1 x 3	110	2.144	4530	5482
563180	350	0.661	60	1 x 3/0	110	2.257	4889	5892
552513◇	500	0.789	60	1 x 2	110	2.397	6443	7485
593375	500	0.789	60	1 x 250	30	2.485	7016	8064
604819	600	0.865	70	1 x 2	110	2.691	7691	9011
TBA	600	0.865	80	1 x 4/0	110	2.712	7478	8538
604827	750	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

† 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) and adjusted to 80% per Table 310.15(B)(3)(a) for More Than Three Current-Carrying Conductors.



**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
557694◇	8	2.8	528	0.653	0.786	0.052	32	40	44
664736◇	8	2.8	528	0.653	0.786	0.052	32	40	44
553438◇	6	3.1	839	0.411	0.495	0.051	44	52	60
601989◇	4	3.7	1335	0.258	0.310	0.048	56	68	76
601997◇	2	5.4	2123	0.162	0.195	0.045	76	92	104
602003	1	6.0	2678	0.128	0.154	0.046	88	104	116
554568◇	1/0	6.5	3379	0.102	0.122	0.044	100	120	136
556720◇	2/0	7.0	4259	0.081	0.097	0.043	116	140	156
602029◇	3/0	7.6	5369	0.064	0.078	0.042	132	160	180
444745◇	4/0	8.1	6771	0.051	0.062	0.041	156	184	208
580495	250	9.4	8000	0.043	0.053	0.041	172	204	232
602045◇	250	9.4	8000	0.043	0.053	0.041	172	204	232
602060◇	350	12.8	11200	0.031	0.039	0.040	208	248	280
563180	350	13.5	11200	0.031	0.039	0.040	208	248	280
552513◇	500	14.3	16000	0.022	0.029	0.039	256	304	344
593375	500	14.9	16000	0.022	0.029	0.039	256	304	344
604819	600	16.1	19200	0.018	0.025	0.039	280	336	380
TBA	600	16.2	19200	0.018	0.025	0.039	280	336	380
604827	750	17.9	24000	0.014	0.022	0.038	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) and adjusted to 80% per Table 310.15(B)(3)(a) for More Than Three Current-Carrying Conductors.

