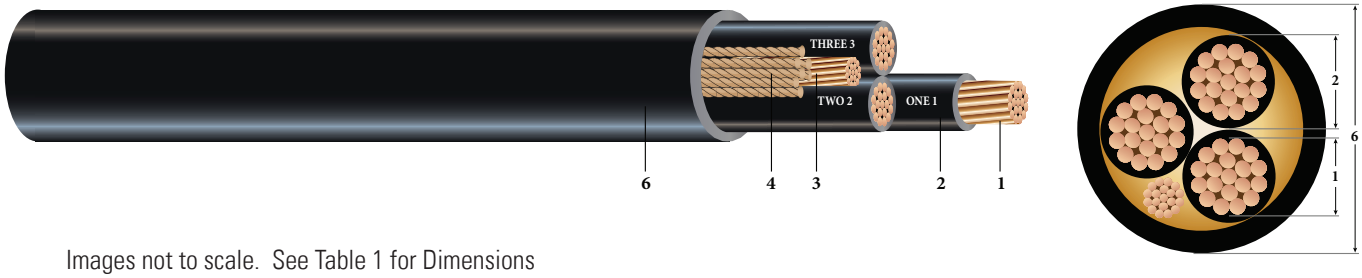
3/C CU 600V PVC THHN PVC Power Cable Type TC-ER

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



Images 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, 130°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.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper
- ASTM B8 Concentric-lay-standard copper
- UL 83 Thermoplastic Insulated wires And cables
- UL 1277 Electrical Power And Control Cable
- UL 1685 - Flame Test
- UL 1581 - Electrical Wires, Cables and Flexible Cords
- IEEE 1202/FT4 - Vertical Tray Flame Test (70,000 Btu/hr) And ICEA T-29-520 - (210,000 Btu/hr)
- ICEA S-58-679 - Control Cable Conductor Identification Method 4
- ICEA S-95-658 NEMA WC70 - Power cables rated 2000 volts or less for the distribution of electrical energy

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]

Copyright © 2019 Southwire Company, LLC. All Rights Reserved

Table 1 – Weights & Measurements

Stock Code	Cond. Size AWG	Dia Over Cond. (1) inches	Insul. Thickness inches	Dia Over Insul. (2) inches	Ground No. x AWG	Jacket Thickness mils	Approx. OD (6) inches	Copper Weight lbs./MFT	Approx. Weight lbs./MFT
443390 ◊	8	0.139	35	0.209	1 x 10	45	0.542	187	283
443408 ◊	6	0.174	35	0.244	1 x 8	60	0.648	297	436
443416 ◊	4	0.221	46	0.313	1 x 8	60	0.795	442	626
443424 ◊	2	0.277	46	0.369	1 x 6	80	0.958	703	964
443432 ◊	1	0.321	57	0.435	1 x 6	80	1.100	865	1192
443440 ◊	1/0	0.360	57	0.474	1 x 6	80	1.184	1069	1432
443457 ◊	2/0	0.404	57	0.518	1 x 6	80	1.279	1327	1732
443465 ◊	3/0	0.454	57	0.568	1 x 4	80	1.387	1700	2156
443473 ◊	4/0	0.510	57	0.624	1 x 4	80	1.508	2110	2624
443481◊	250	0.558	68	0.694	1 x 4	80	1.659	2469	3076
443507 ◊	350	0.661	68	0.797	1 x 3	110	1.942	3440	4272
443523 ◊	500	0.789	68	0.925	1 x 2	110	2.218	4885	5888
604777	600	0.866	79	1.024	1 x 2	110	2.432	5822	6994
602094 ◊	750	0.968	79	1.126	1 x 1	110	2.652	7278	8602

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Standard stock item

Table 2 – Electrical and Engineering Data

Stock Code	Cond. Size AWG	Min. Bending Radius Inches	Max. Pull Tension lbs.	Resistance DC @ 25°C Ω/MFT	Resistance AC @ 90°C Ω/MFT	Reactance X_L @ 60Hz Ω/MFT	Allowable Ampacities † 60 °C Amps	75 °C Amps	90 °C Amps
443390 ◊	8	2.2	396	0.652	0.815	0.030	40	50	55
443408 ◊	6	2.6	630	0.411	0.514	0.028	55	65	75
443416 ◊	4	3.2	1002	0.258	0.323	0.029	70	85	95
443424 ◊	2	3.8	1593	0.162	0.203	0.028	95	115	130
443432 ◊	1	5.5	2009	0.129	0.162	0.028	110	130	145
443440 ◊	1/0	5.9	2534	0.102	0.128	0.027	125	150	170
443457 ◊	2/0	6.4	3194	0.081	0.102	0.027	145	175	195
443465 ◊	3/0	6.9	4027	0.064	0.081	0.026	165	200	225
443473 ◊	4/0	7.5	5078	0.051	0.064	0.026	195	230	260
443481◊	250	8.3	6000	0.043	0.055	0.026	215	255	290
443507 ◊	350	9.7	8400	0.031	0.040	0.026	260	310	350
443523 ◊	500	13.3	12000	0.022	0.029	0.025	320	380	430
604777	600	14.6	14400	0.018	0.025	0.025	350	420	475
602094 ◊	750	15.9	18000	0.014	0.020	0.025	400	475	535

† Ampacities are based on Table 310.15 (B)(16) of the NEC, 2014 Edition. Ampacities of insulated conductors rated up to and including 2000 Volts, based on ambient temperature of 30°C (86°F)

Copyright © 2019 Southwire Company, LLC. All Rights Reserved