AL 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 Aluminum, Polyvinyl Chloride (PVC) with nylon layer insulation THHN Polyvinyl Chloride (PVC) Jacket with 1 Bare AL Ground



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
2. **Insulation:** Polyvinyl Chloride (PVC) with nylon layer Type THHN/THWN
3. **Grounding Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
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 90°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.

SPECIFICATIONS:

- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1277 Electrical Power and Control Tray Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 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® {UL} 3/0 AWG AL 4 CDRS TYPE TC-ER THHN OR THWN-2 CDRS AL GW 1 X 4 AWG 90°C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600 VOLTS {YYYY}

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Table 1 – Weights and Measurements

Stock Number	Cond. Size	Cond. Number	Strand Count	Diameter Over Conductor	Insul. Thickness	Ground	Jacket Thickness	Approx. OD	Aluminum Weight	Approx. Weight	Jacket Color
	AWG/ Kcmil		No. of Strands	inch	mil	No. x AWG	mil	inch	lb/1000ft	lb/1000ft	
TBA	8	4	7	0.134	35	1 x 8	60	0.62	83	185	BK
TBA	6	4	7	0.169	35	1 x 8	60	0.704	119	240	BK
TBA	4	4	7	0.213	50	1 x 6	80	0.923	184	398	BK
TBA	2	4	7	0.268	50	1 x 6	80	1.057	280	533	BK
TBA	1	4	19	0.299	60	1 x 4	80	1.18	358	669	BK
TBA	1/0	4	19	0.336	60	1 x 4	80	1.27	438	777	BK
675633	2/0	4	12	0.376	50	1 x 4	80	1.357	546	1014	BK
675635	3/0	4	15	0.423	50	1 x 4	80	1.471	678	1187	BK
TBA	4/0	4	19	0.475	60	1 x 2	80	1.606	861	1309	BK
TBA	250	4	37	0.52	70	1 x 2	110	1.823	1005	1636	BK
TBA	300	4	35	0.57	70	1 x 2	110	1.944	1193	1873	BK
TBA	350	4	37	0.616	70	1 x 2	110	2.056	1381	2105	BK
TBA	500	4	35	0.736	70	1 x 1	110	2.346	1965	2806	BK
668451	500	4	34	0.736	60	1 x 1	115	2.352	1983	3038	BK
673261	600	4	41	0.813	70	1 x 3/0	110	2.578	2443	3652	BK
TBA	750	4	61	0.908	80	1 x 1/0	140	2.871	2925	4169	BK
597540	750	4	58	0.908	70	1 x 3/0	140	2.925	3014	4600	BK

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Strand count meets minimum number per ASTM
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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 75°C	Allowable Ampacity At 90°C
	AWG/ Kcmil		inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
TBA	8	4	2.5	396	1.071	1.334	0.052	32	36
TBA	6	4	2.8	629	0.674	0.84	0.051	40	44
TBA	4	4	3.7	1001	0.424	0.528	0.048	52	60
TBA	2	4	5.3	1592	0.266	0.331	0.045	72	80
TBA	1	4	5.9	2008	0.211	0.263	0.046	80	92
TBA	1/0	4	6.4	2534	0.167	0.208	0.044	96	108
675633	2/0	4	6.8	3194	0.133	0.166	0.043	108	120
675635	3/0	4	7.4	4027	0.105	0.131	0.042	124	140
TBA	4/0	4	8	5078	0.084	0.105	0.041	144	164
TBA	250	4	9.1	6000	0.07	0.087	0.041	164	184
TBA	300	4	9.7	7200	0.059	0.071	0.041	184	208
TBA	350	4	12.3	8400	0.051	0.064	0.04	200	224
TBA	500	4	14.1	12000	0.036	0.045	0.039	248	280
668451	500	4	14.1	12000	0.036	0.045	0.039	248	280
673261	600	4	15.5	14400	0.03	0.038	0.039	272	308
TBA	750	4	17.2	18000	0.023	0.03	0.038	308	348
597540	750	4	17.5	18000	0.023	0.03	0.038	308	348

* 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.

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