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

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 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 Control Cable Conductor Identification Method 3 (1-BLACK, 2-RED, 3-BLUE)
- 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:

{SQFTG} SOUTHWIRE{R} MASTER-DESIGN {UL} 3/0 AWG AL 4 CDRS TYPE TC-ER THHN OR THWN-2 CDRS AL GW 1 X 4 AWG 90{D}C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600 VOLTS {YYYY}

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Insul. Thickness	Ground	Jacket Thickness	Approx. OD	Aluminum Weight	Approx. Weight
	AWG/Kcmil	inch	mil	No. x AWG	mil	inch	lb/1000ft	lb/1000ft
TBA	8	0.134	35	1 x 8	60	0.625	77	182
TBA	6	0.169	35	1 x 8	60	0.710	114	237
TBA	4	0.212	50	1 x 6	80	0.927	182	401
TBA	2	0.268	50	1 x 6	80	1.062	276	535
TBA	1	0.298	60	1 x 4	80	1.183	356	670
TBA	1/0	0.336	60	1 x 4	80	1.275	439	783
675633	2/0	0.376	50	1 x 4	80	1.342	546	1064
675635	3/0	0.422	50	1 x 4	80	1.456	678	1236
TBA	4/0	0.474	60	1 x 2	80	1.609	864	1314
TBA	250	0.520	70	1 x 2	110	1.829	1009	1652
599228	300	0.569	60	1 x 4 GG	30	1.924	1141	2104
TBA	350	0.615	70	1 x 2	110	2.059	1388	2125
TBA	500	0.735	70	1 x 1	110	2.349	1977	2832
597539	500	0.735	60	1 x 2/0 GG	110	2.415	2029	3177
TBA	750	0.908	80	1 x 1/0	140	2.876	2946	4220
597540	750	0.908	70	1 x 3/0 GG	140	2.925	3014	4687

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	2.5	396	1.072	1.290	0.052	28	32	36
TBA	6	2.8	629	0.674	0.812	0.051	32	40	44
TBA	4	3.7	1001	0.424	0.510	0.048	44	52	60
TBA	2	5.3	1592	0.267	0.321	0.045	60	72	80
TBA	1	5.9	2008	0.211	0.254	0.046	68	80	92
TBA	1/0	6.3	2534	0.168	0.201	0.044	80	96	108
675633	2/0	6.7	3194	0.133	0.160	0.043	92	108	120
675635	3/0	7.2	4027	0.105	0.126	0.042	104	124	140
TBA	4/0	8.0	5078	0.084	0.100	0.041	120	144	164
TBA	250	9.1	6000	0.071	0.086	0.041	136	164	184
599228	300	9.6	7200	0.059	0.071	0.041	156	184	208
TBA	350	12.3	8400	0.050	0.062	0.040	168	200	224
TBA	500	14.0	12000	0.035	0.044	0.039	208	248	280
597539	500	14.4	12000	0.035	0.044	0.039	208	248	280
TBA	750	17.2	18000	0.024	0.031	0.038	256	308	348
597540	750	17.5	18000	0.024	0.031	0.038	256	308	348

† 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.