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 Three Conductor Aluminum, Polyvinyl Chloride (PVC) with nylon layer insulation THHN Polyvinyl Chloride (PVC) Jacket with 1 Bare AL Ground. Silicone Free



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. Silicone free

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 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 Control Cable Conductor Identification Method 4

SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE® {UL} XXX AWG AL 3 CDRS TYPE TC-ER THHN OR THWN-2 CDRS AL GW 1 X X 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	3	7	0.134	35	1 x 8	60	0.567	66	152	BK
671383	6	3	7	0.169	30	1 x 8	60	0.663	91	218	BK
TBA	4	3	7	0.213	50	1 x 6	60	0.802	144	294	BK
675613	2	3	6	0.268	40	1 x 6	80	0.959	214	515	BK
675618	1	3	8	0.299	50	1 x 6	80	1.065	264	607	BK
588023	1	3	8	0.299	50	1 x 4	80	1.104	279	599	BK
675620	1/0	3	10	0.336	50	1 x 4	80	1.145	341	711	BK
675622	2/0	3	12	0.376	50	1 x 3	80	1.231	430	828	BK
672161	2/0	3	12	0.376	50	1 x 2	80	1.294	429	851	BK
675624	3/0	3	15	0.423	50	1 x 4	80	1.333	519	950	BK
673253	4/0	3	19	0.475	50	1 x 2	80	1.445	667	1115	BK
578218	4/0	3	3	0.475	50	1 x 2	80	1.445	667	1115	BK
675626	250	3	22	0.52	60	1 x 2	80	1.59	777	1316	BK
TBA	300	3	37	0.57	70	1 x 2	110	1.76	910	1473	BK
TBA	350	3	37	0.616	70	1 x 2	110	1.859	1051	1651	BK
678099	500	3	34	0.736	60	1 x 1	110	2.116	1507	2360	BK
599317	600	3	41	0.813	70	1 x 4/0	110	2.318	1914	2869	BK
673497	600	3	41	0.813	70	1 x 600	110	2.498	2284	3298	BK
677400	750	3	58	0.908	70	1 x 3/0	110	2.536	2301	3425	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	3	2.3	297	1.071	1.334	0.052	40	45
671383	6	3	2.7	472	0.674	0.84	0.051	50	55
TBA	4	3	3.2	751	0.424	0.528	0.048	65	75
675613	2	3	3.8	1194	0.266	0.331	0.045	90	100
675618	1	3	5.3	1506	0.211	0.263	0.046	100	115
588023	1	3	5.5	1506	0.211	0.263	0.046	100	115
675620	1/0	3	5.7	1900	0.167	0.208	0.044	120	135
675622	2/0	3	6.2	2395	0.133	0.166	0.043	135	150
672161	2/0	3	6.5	2395	0.133	0.166	0.043	135	150
675624	3/0	3	6.7	3020	0.105	0.131	0.042	155	175
673253	4/0	3	7.2	3808	0.084	0.105	0.041	180	205
578218	4/0	3	7.2	3808	0.084	0.105	0.041	180	205
675626	250	3	8	4500	0.07	0.087	0.041	205	230
TBA	300	3	8.8	5400	0.059	0.071	0.041	230	260
TBA	350	3	9.3	6300	0.051	0.064	0.04	250	280
678099	500	3	12.7	9000	0.036	0.045	0.039	310	350
599317	600	3	13.9	10800	0.03	0.038	0.039	340	385
673497	600	3	15	10800	0.03	0.038	0.039	340	385
677400	750	3	15.2	13500	0.023	0.03	0.038	385	435

***** Ampacities based upon 2023 NEC Table 310.16. See NEC sections 310.15 and 110.14(C) for additional requirements.

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