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 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 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 3 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
	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	0.563	61	160
671383	6	3	7	0.169	30	1 x 8	60	0.663	90	220
TBA	4	3	7	0.212	50	1 x 6	60	0.796	142	317
675613	2	3	7	0.268	40	1 x 6	80	0.945	214	569
675618	1	3	8	0.298	50	1 x 6	80	1.052	263	661
588023	1	3	8	0.298	50	1 x 4	80	1.104	278	599
675620	1/0	3	10	0.336	50	1 x 4	80	1.132	341	763
675622	2/0	3	12	0.376	50	1 x 3	80	1.218	429	880
675624	3/0	3	15	0.422	50	1 x 4	80	1.319	518	1001
578218	4/0	3	3	0.474	50	1 x 2	80	1.432	667	1145
673253	4/0	3	19	0.474	50	1 x 2	80	1.432	667	1140
583386	250	3	22	0.520	60	1 x 2	80	1.577	776	1363
675626	250	3	22	0.520	60	1 x 2	80	1.577	776	1366
TBA	300	3	37	0.569	70	1 x 2	110	1.753	914	1615
TBA	350	3	37	0.615	70	1 x 2	110	1.853	1056	1811
678099	500	3	34	0.735	60	1 x 1	110	2.103	1506	2464
599317	600	3	41	0.812	70	1 x 4/0	110	2.318	1914	2925
673497	600	3	41	0.812	70	1 x 600	110	2.498	2283	3358
677400	750	3	58	0.908	70	1 x 3/0	110	2.522	2300	3580

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

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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 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	3	2.3	297	1.072	1.290	0.052	35	40	45
671383	6	3	2.7	472	0.674	0.812	0.051	40	50	55
TBA	4	3	3.2	751	0.424	0.510	0.048	55	65	75
675613	2	3	3.8	1194	0.267	0.321	0.045	75	90	100
675618	1	3	5.3	1506	0.211	0.254	0.046	85	100	115
588023	1	3	5.5	1506	0.211	0.254	0.046	85	100	115
675620	1/0	3	5.7	1900	0.168	0.201	0.044	100	120	135
675622	2/0	3	6.1	2395	0.133	0.160	0.043	115	135	150
675624	3/0	3	6.6	3020	0.105	0.126	0.042	130	155	175
578218	4/0	3	7.2	3808	0.084	0.100	0.041	150	180	205
673253	4/0	3	7.2	3808	0.084	0.100	0.041	150	180	205
583386	250	3	7.9	4500	0.071	0.086	0.041	170	205	230
675626	250	3	7.9	4500	0.071	0.086	0.041	170	205	230
TBA	300	3	8.8	5400	0.059	0.071	0.041	195	230	260
TBA	350	3	9.3	6300	0.050	0.062	0.040	210	250	280
678099	500	3	12.6	9000	0.035	0.044	0.039	260	310	350
599317	600	3	13.9	10800	0.029	0.037	0.039	285	340	385
673497	600	3	15.0	10800	0.029	0.037	0.039	285	340	385
677400	750	3	15.1	13500	0.024	0.031	0.038	320	385	435

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