

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

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

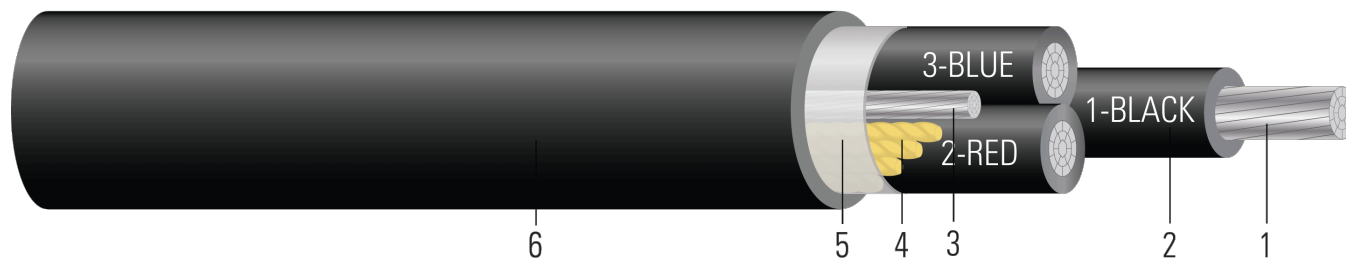


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
- Insulation:** Polyvinyl Chloride (PVC) with nylon layer Type THHN/THWN
- Grounding Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
- Filler:** Paper filler (cable size 8 & 6 uses Polypropylene filler)
- Binder:** Polyester flat thread binder tape for cable sizes larger than 2 AWG
- 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{R} MASTER-DESIGN {UL} XXX AWG AL 3 CDRS TYPE TC-ER THHN OR THWN-2 CDRS AL GW 1 X 3 AWG 90{D}C JACKET SUNLIGHT RESISTANT DIRECT BURIAL 600 VOLTS {YYYY}



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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	0.572	61	164
671383	6	0.169	30	1 x 8	60	0.663	90	220
TBA	4	0.212	50	1 x 6	60	0.805	142	324
675613	2	0.268	40	1 x 6	80	0.945	214	569
675618	1	0.298	50	1 x 6	80	1.052	263	661
588023	1	0.298	50	1 x 4	80	1.104	278	599
675620	1/0	0.336	50	1 x 4	80	1.132	341	763
675622	2/0	0.376	50	1 x 3	80	1.218	429	880
675624	3/0	0.422	50	1 x 4	80	1.319	518	1001
578218	4/0	0.474	50	1 x 2	80	1.432	667	1145
673253	4/0	0.474	50	1 x 2	80	1.432	667	1140
583386	250	0.520	60	1 x 2	80	1.577	776	1363
675626	250	0.520	60	1 x 2	80	1.577	776	1366
TBA	300	0.569	70	1 x 2	110	1.763	914	1632
TBA	350	0.615	70	1 x 2	110	1.862	1056	1829
678099	500	0.735	60	1 x 1	110	2.103	1506	2464
673497	600	0.812	70	1 x 600	110	2.498	2283	3358
599317	600	0.865	70	1 x 4/0	110	2.318	1914	2925
677400	750	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

† 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	2.2	297	1.072	1.290	0.052	35	40	45
671383	6	2.6	472	0.674	0.812	0.051	40	50	55
TBA	4	3.2	751	0.424	0.510	0.048	55	65	75
675613	2	3.7	1194	0.267	0.321	0.045	75	90	100
675618	1	5.2	1506	0.211	0.254	0.046	85	100	115
588023	1	5.5	1506	0.211	0.254	0.046	85	100	115
675620	1/0	5.6	1900	0.168	0.201	0.044	100	120	135
675622	2/0	6.0	2395	0.133	0.160	0.043	115	135	150
675624	3/0	6.5	3020	0.105	0.126	0.042	130	155	175
578218	4/0	7.1	3808	0.084	0.100	0.041	150	180	205
673253	4/0	7.1	3808	0.084	0.100	0.041	150	180	205
583386	250	7.8	4500	0.071	0.086	0.041	170	205	230
675626	250	7.8	4500	0.071	0.086	0.041	170	205	230
TBA	300	8.8	5400	0.059	0.071	0.041	195	230	260
TBA	350	9.3	6300	0.050	0.062	0.040	210	250	280
678099	500	12.6	9000	0.035	0.044	0.039	260	310	350
673497	600	14.9	10800	0.029	0.037	0.039	285	340	385
599317	600	13.9	10800	0.029	0.037	0.039	285	340	385
677400	750	15.1	13500	0.024	0.031	0.038	320	385	435

† 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.

