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

Type TC-ER, PLTC, FPL, and NFPL Control Cable 600 Volt Copper Conductors, Polyvinyl Chloride (PVC) with nylon layer Insulation THHN/THWN Polyvinyl Chloride (PVC) Jacket, Shielded Control Cable Conductor Identification Method 1 Table 2

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** 7 strands class B compressed bare copper per ASTM B3 and ASTM B8
2. **Insulation:** Polyvinyl Chloride (PVC) with nylon layer Type THHN/THWN
3. **Drain Wire:** Tinned copper
4. **Shielding:** 100% coverage aluminum foil
5. **Jacket:** Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's Type TC-ER, PLTC, FPL, and NFPL Control Cable 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 dry locations and 75°C in wet locations, 105°C for emergency overload, and 150°C for short circuit conditions. For uses in Class I, II, and III per NEC Article 725 and 760. Constructions with 3 or more conductors are listed for exposed runs (TC-ER) per NEC 336.10. Oil and sunlight resistant.

SPECIFICATIONS:

- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 13 Standard for Power-Limited Circuit Cables
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1277 TC-ER
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-73-532 Standard for Control, Thermocouple Extension and Instrumentation Cables
- ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy
- EPA 40 CFR, Part 26, Subpart C heavy metals per Table 1, TCLP method

SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE{R} XX AWG (X.XX{mm2}) 4/C SHIELDED PVCN/PVC TYPE TC-ER THHN/THWN E75755 {UL} 600V 90 {D}C DRY/75{D}C WET OIL RES I SUNLIGHT RESISTANT DIRECT BURIAL -- PLTC SUN RES --- FPL SUN RES --- NPLF SUN RES {NOM}-ANCE

Table 1 – Physical and Electrical Data

Stock Number	Cond. Size	Cond. Number	Cond. Strands	Diameter Over Cond.	Insul. Thickness	Jacket Thickness	Approx. OD	Approx. Weight	DC Resistance @ 25°C	AC Resistance @ 90°C	Min Bending Radius	Allowable Ampacity At 60°C *	Allowable Ampacity 75°C *	Allowable Ampacity 90°C *
	AWG	No.	strands	inch	mil	mil	inch	lb /1000ft	Ω /1000ft	Ω /1000ft	inch	Amp	Amp	Amp
14 AWG														
581276	14	2	7	0.070	19	45	0.323	66	2.631	3.170	3.8	15	20	25
TBA	14	3	7	0.070	19	45	0.337	86	2.631	3.170	4.0	15	20	25
TBA	14	4	7	0.070	19	45	0.369	106	2.631	3.170	4.4	15	15	20
TBA	14	5	7	0.070	19	45	0.404	125	2.631	3.170	4.9	15	15	20
TBA	14	7	7	0.070	19	45	0.438	164	2.631	3.170	5.3	14	14	17
TBA	14	9	7	0.070	19	45	0.486	193	2.631	3.170	5.8	14	14	17
TBA	14	12	7	0.070	19	60	0.593	279	2.631	3.170	7.1	10	10	12
TBA	14	19	7	0.070	19	60	0.666	403	2.631	3.170	8.0	10	10	12
TBA	14	24	7	0.070	19	60	0.772	513	2.631	3.170	9.3	9	9	11
12 AWG														
TBA	12	2	7	0.088	19	45	0.366	94	1.662	2.002	4.4	25	25	30
TBA	12	3	7	0.088	19	45	0.387	122	1.662	2.002	4.6	25	25	30
581600	12	4	7	0.088	19	45	0.422	148	1.662	2.002	5.0	16	20	24
581566	12	5	7	0.088	19	45	0.463	176	1.662	2.002	5.5	16	20	24
TBA	12	7	7	0.088	19	60	0.500	239	1.662	2.002	6.0	16	17	21
581565	12	12	7	0.088	19	60	0.686	389	1.662	2.002	8.2	10	12	15
10 AWG														
TBA	10	2	7	0.113	24	45	0.434	137	1.040	1.253	5.2	30	35	40
TBA	10	3	7	0.113	24	45	0.461	180	1.040	1.253	5.5	30	35	40
646394	10	4	7	0.113	24	45	0.504	224	1.040	1.253	6.0	24	28	32
581567	10	5	7	0.113	24	60	0.588	288	1.040	1.253	7.0	24	28	32
TBA	10	7	7	0.113	24	60	0.634	375	1.040	1.253	7.6	21	24	28

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.