

## ROME TRAY CABLE, TYPE TC

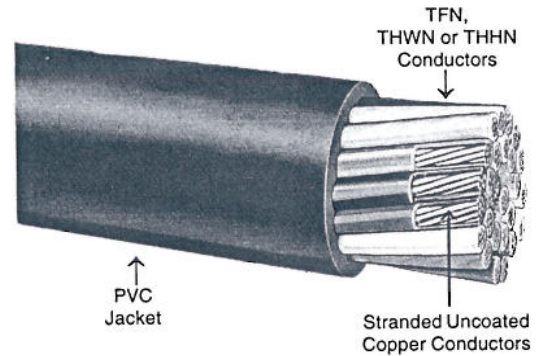
TFN, THWN or THHN Conductors, PVC Jacket, 600 Volts

**APPLICATION:** As flame-retardant multi-conductor control, signal or power cables rated 600 volts, 90°C in dry locations<sup>3</sup>, 75°C in wet locations. Specifically approved for installation in cable trays per Article 336 of the NEC. Also approved for use in Class 1 remote-control and signaling circuits per Article 725 of the NEC. Type TC cable is suitable for use in Class I and II, Division 2 hazardous locations. Cables may be installed in air, in ducts or conduits, in tray or trough, and are suitable for direct burial.

**STANDARDS:**

- Listed by UL as Type TC Tray Cable per Article 336 of the NEC.
- Individual conductors UL listed as Type THWN or THHN (14-10 AWG) or Type TFN (16 AWG).
- Overall jacket UL listed as Sunlight Resistant.
- Cables UL listed for Direct Burial (14-10 AWG).
- Cables with grounding conductor UL listed for Open Wiring.
- Cables pass UL and IEEE-383 ribbon burner tests and ICEA 210,000 BTU/hour test.

**CONSTRUCTION:** Individual conductors of stranded uncoated copper Type TFN (16 AWG), Type THWN or THHN (14-10 AWG), color coded, two conductors flat, three or more conductors twisted, PVC jacket overall, surface printed.



No. of Condrs.	# 10 AWG-7 Strand			# 12 AWG-7 Strand			# 14 AWG-7 Strand			# 16 AWG-7 Strand		
	Over-all PVC Jacket Mils	Nom. Diam. Inches	Approx. Net Wt. Lb./ 1000 Ft.	Over-all PVC Jacket Mils	Nom. Diam. Inches	Approx. Net Wt. Lb./ 1000 Ft.	Over-all PVC Jacket Mils	Nom. Diam. Inches	Approx. Net Wt. Lb./ 1000 Ft.	Over-all PVC Jacket Mils	Nom. Diam. Inches	Approx. Net Wt. Lb./ 1000 Ft.
2	45	.26 x .43	110	45	.23 x .37	75	45	.21 x .33	55	45	.20 x .30	40
3	45	.46	155	45	.36	105	45	.34	75	45	.32	60
3w/g	45	.47	194	45	.40	130	45	.35	92	-	-	-
4	45	.50	200	45	.40	135	45	.37	100	45	.34	75
5	60	.58	265	45	.45	165	45	.41	115	45	.37	85
6	60	.63	315	45	.50	195	45	.44	140	45	.40	100
7	60	.63	345	45	.50	215	45	.44	150	45	.40	110
8	60	.69	420	60	.58	260	45	.48	170	45	.44	130
9	60	.73	450	60	.62	300	45	.51	195	45	.47	140
10	60	.81	500	60	.66	325	60	.58	220	45	.51	155
11	60	.81	540	60	.66	350	60	.58	240	45	.51	170
12	60	.82	580	60	.68	375	60	.60	265	60	.55	200
13	80	.89	680	60	.70	400	60	.62	280	60	.56	210
14	80	.92	725	60	.73	425	60	.64	295	60	.58	225
15	80	.95	745	60	.76	455	60	.66	310	60	.61	240
16	80	.95	810	60	.76	485	60	.66	340	60	.61	250
17	80	1.02	860	60	.79	515	60	.70	355	60	.64	265
18	80	1.02	900	60	.79	545	60	.70	370	60	.64	275
19	80	1.02	940	60	.79	565	60	.70	390	60	.64	285
20	80	1.07	990	80	.89	590	60	.73	415	60	.67	305
23	80	1.12	1120	80	.93	690	60	.78	475	60	.70	340
25	80	1.19	1210	80	.96	770	80	.85	540	60	.74	370
27	80	1.22	1295	80	1.00	840	80	.88	570	60	.76	395
29	80	1.23	1375	80	1.01	910	80	.90	600	60	.77	420
31	80	1.29	1465	80	1.06	950	80	.92	640	60	.80	445
32	80	1.31	1510	80	1.08	1000	80	.94	660	60	.82	460
37	80	1.36	1710	80	1.10	1090	80	.96	755	80	.89	550

- Notes: 1. Cables designated (w/g) contain an additional bare copper grounding conductor, same size as circuit conductors, and are UL listed for Open Wiring.
2. Standard color coding is ICEA Method 1 for NEC applications. This color coding method omits white and green from the color sequence (TECH 1006 Option A). ICEA Method 4 color coding is also provided. This consists of printed numbers and words, 1-ONE, 2-TWO, etc..
3. Size 16 AWG is rated 90°C dry only.

## Specification

### ROME TRAY CABLE, TYPE TC

### TFN, THWN or THHN Conductors, PVC Jacket, 600 Volts

#### 1. SCOPE

- 1.1 This specification describes multi-conductor Rome Tray Cable, Type TC with TFN, THWN or THHN conductors and PVC jacket overall, for use on circuits rated 600 volts. Cables are recommended for operation at 90°C maximum continuous conductor temperature in dry locations and 75°C for wet locations. (Size 16 AWG is rated 90°C in dry locations only). The cables are specifically approved for installation in cable trays in accordance with Article 336 of the NEC and may also be used in Class 1 remote-control and signaling circuits per Article 725 of the Code. Cables may be installed in air, in ducts or conduits, in tray or trough, and are also suitable for direct burial. [Cables with ground are UL listed as Open Wiring per NEC 336.10(6)].

#### 2. APPLICABLE STANDARDS

- 2.1 The following standards shall form a part of this specification to the extent specified herein:
- 2.1.1 Underwriters Laboratories Standard 1277 for Type TC Power and Control Tray Cables.
  - 2.1.2 Underwriters Laboratories Standard 62 for Flexible Cord and Fixture Wire.
  - 2.1.3 Underwriters Laboratories Standard 83 for Thermoplastic Insulated Wires.

#### 3. CONDUCTORS

- 3.1 Conductors shall be Class B stranded uncoated soft copper conforming to UL Standards 62 and 83. Conductor sizes shall be 16 AWG through 10 AWG.

#### 4. INSULATION

- 4.1 **Compound:** Each conductor shall be insulated with PVC, meeting the requirements of UL Standard 62 for Type TFN wire or UL Standard 83 for Type THWN or THHN wire.
- 4.2 **Thickness:** The average thickness of insulation shall be 15 mils for sizes 16-12 AWG and 20 mils for size 10 AWG. The minimum thickness at any point shall be not less than 90% of the specified average thickness. The insulation shall be applied tightly to the conductor and shall be free-stripping.

#### 5. JACKET

- 5.1 **Compound:** Each insulated conductor shall be jacketed with Nylon, meeting the requirements of UL Standard 62 for Type TFN wire or UL Standard 83 for Type THWN or THHN wire.
- 5.2 **Thickness:** The minimum thickness of Nylon shall not be less than 4 mils at any point.

#### 6. CIRCUIT IDENTIFICATION

- 6.1 Circuit identification shall consist of Method 1 color coding for NEC applications. Cables shall not contain a green or white conductor unless specifically ordered (TECH 1006 Option A). Conductors shall also be identified with ICEA Method 4 color coding consisting of printed numbers and words 1-ONE, 2-TWO, etc..

#### 7. ASSEMBLY

- 7.1 Two (2) conductor cable shall be flat, unless otherwise specified. For three (3) conductors or more, the insulated conductors shall be cabled together with fillers where necessary to make round. Where indicated, a bare copper grounding conductor of the same size as the circuit conductors shall be included in the assembly.

#### 8. OVERALL JACKET

- 8.1 **Compound:** Each cable shall have a PVC protective jacket applied over the assembly. The jacket properties shall be as specified in UL Standard 1277 for 75°C PVC jacket compound. The jacket shall meet the Sunlight Resistant requirements of UL Standard 1277.
- 8.2 **Thickness:** The average jacket thickness shall be in accordance with UL Standard 1277. The minimum thickness at any point shall be not less than 80% of the specified average thickness.

#### 9. SURFACE MARKING

- 9.1 Cables shall be identified by means of surface ink printing indicating: Rome TC, (UL), 600v, No. of Conductors, Size, THWN or THHN (or TFN) Conductors, Sun. Res., Direct Burial, (14-10 AWG), E57349. Sizes 14-10 AWG with ground shall be printed Open Wiring.

#### 10. TESTS

- 10.1 Individual conductors and completed cables shall be tested in accordance with UL requirements for Type TC Power and Control Tray Cables having THWN or THHN (or TFN) conductors.
- 10.2 Cables shall be capable of passing the ribbon burner cable tray flame test requirements of UL and IEEE.