

TRAY CABLE, TYPE TC (VNTC) (16AWG)

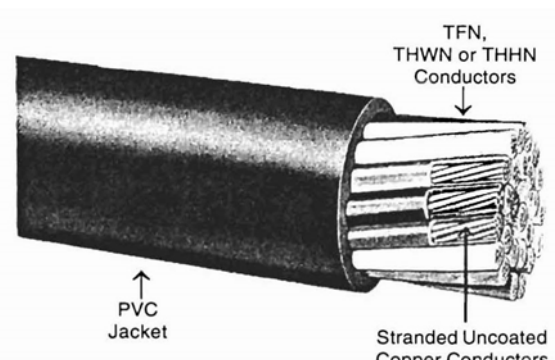
TFN, THWN OR THHN Conductors, PVC Jacket, 600 Volts

APPLICATION: As flame-retardant multi-conductor control, signal or power cables rated 600 volts, 90°C in dry locations, 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.



TFN, THWN or THHN Conductors

PVC Jacket

Stranded Uncoated Copper Conductors

# 16 AWG-7 Strand					
USAWC Part #	No. of Condrs.	Overall PVC Jacket Mils	Nom. Diam. Inches	Approx. Net Wt. lbs/1000 ft	Copper Weight lbs/1000 ft
16-02VNTC	2	45	.20 x .30	40	20
16-03VNTC	3	45	.32	60	24
16-04VNTC	4	45	.34	75	32
16-05VNTC	5	45	.37	85	40
16-06VNTC	6	45	.40	100	48
16-07VNTC	7	45	.40	110	56
16-08VNTC	8	45	.44	130	64
16-09VNTC	9	45	.47	140	72
16-10VNTC	10	45	.51	155	80
16-11VNTC	11	45	.51	170	88
16-12VNTC	12	60	.55	200	97
16-13VNTC	13	60	.56	210	104
16-14VNTC	14	60	.58	225	112
16-15VNTC	15	60	.61	240	121
16-16VNTC	16	60	.61	250	128
16-17VNTC	17	60	.64	265	136
16-18VNTC	18	60	.64	275	144
16-19VNTC	19	60	.64	285	153
16-20VNTC	20	60	.67	305	160
16-23VNTC	23	60	.70	340	184
16-25VNTC	25	60	.74	370	201
16-27VNTC	27	60	.76	395	216
16-29VNTC	29	60	.77	420	232
16-31VNTC	31	60	.80	445	248
16-32VNTC	32	60	.82	460	256
16-37VNTC	37	80	.89	550	306

Notes: 1. Cables designated (w/g) contain an additional bare copper grounding conductor, same size as circuit conductors.

2. Standard color coding is ICEA Method E-2 for NEC applications. This color coding method omits white and green from the color sequence ICEA Method 4 color coding may also be provided. This consists of printed numbers and words, 1-ONE, 2-TWO, etc..

TRAY CABLE, TYPE TC (VNTC) (14AWG)

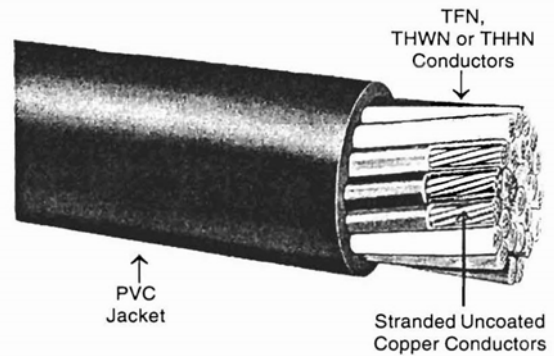
TFN, THWN OR THHN Conductors, PVC Jacket, 600 Volts

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STANDARDS:

1. Listed by UL as Type TC Tray Cable per Article 336 of the NEC.
2. Individual conductors UL listed as Type THWN or THHN (14-10 AWG) or Type TFN (16 AWG).
3. Overall jacket UL listed as Sunlight Resistant.
4. Cables UL listed for Direct Burial (14-10 AWG).
5. Cables with grounding conductor UL listed for Open Wiring.
6. 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.



14 AWG-7 Strand

USAWC Part #	No. of Condrs.	Overall PVC Jacket Mils	Nom. Diam. Inches	Approx. Net Wt. lbs/1000 ft	Copper Weight lbs/1000 ft
14-02VNTC	2	45	.21 x .33	55	26
14-03VNTC	3	45	.34	75	39
14-03VNGTC	3w/g	45	.35	92	52
14-04VNTC	4	45	.37	100	52
14-05VNTC	5	45	.41	115	65
14-06VNTC	6	45	.44	140	78
14-07VNTC	7	45	.44	150	90
14-08VNTC	8	45	.48	170	104
14-09VNTC	9	45	.51	195	116
14-10VNTC	10	60	.58	220	130
14-11VNTC	11	60	.58	240	143
14-12VNTC	12	60	.60	265	155
14-13VNTC	13	60	.62	280	169
14-14VNTC	14	60	.64	295	182
14-15VNTC	15	60	.66	310	195
14-16VNTC	16	60	.66	340	208
14-17VNTC	17	60	.70	355	221
14-18VNTC	18	60	.70	370	234
14-19VNTC	19	60	.70	390	245
14-20VNTC	20	60	.73	415	260
14-23VNTC	23	60	.78	475	299
14-25VNTC	25	80	.85	540	323
14-27VNTC	27	80	.88	570	351
14-29VNTC	29	80	.90	600	377
14-31VNTC	31	80	.92	640	403
14-32VNTC	32	80	.94	660	416
14-37VNTC	37	80	.96	755	478

- Notes: 1. Cables designated (w/g) contain an additional bare copper grounding conductor, same size as circuit conductors.
 2. Standard color coding is ICEA Method E-2 for NEC applications. This color coding method omits white and green from the color sequence
 ICEA Method 4 color coding may also be provided. This consists of printed numbers and words, 1-ONE, 2-TWO, etc..

TRAY CABLE, TYPE TC (VNTC) (12AWG)

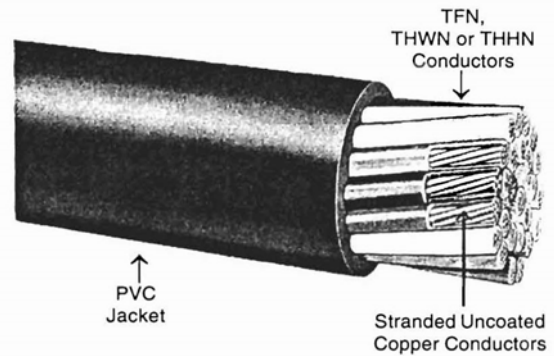
TFN, THWN OR THHN Conductors, PVC Jacket, 600 Volts

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STANDARDS:

1. Listed by UL as Type TC Tray Cable per Article 336 of the NEC.
2. Individual conductors UL listed as Type THWN or THHN (14-10 AWG) or Type TFN (16 AWG).
3. Overall jacket UL listed as Sunlight Resistant.
4. Cables UL listed for Direct Burial (14-10 AWG).
5. Cables with grounding conductor UL listed for Open Wiring.
6. 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.



12 AWG-7 Strand

USAWC Part #	No. of Condrs.	Overall PVC Jacket Mils	Nom. Diam. Inches	Approx. Net Wt. lbs/1000 ft	Copper Weight lbs/1000 ft
12-02VNTC	2	45	.23 x .37	75	41
12-03VNTC	3	45	.36	105	63
12-03VNGTC	3w/g	45	.40	130	86
12-04VNTC	4	45	.40	135	86
12-05VNTC	5	45	.45	165	108
12-06VNTC	6	45	.50	195	126
12-07VNTC	7	45	.50	215	144
12-08VNTC	8	60	.58	260	168
12-09VNTC	9	60	.62	300	185
12-10VNTC	10	60	.66	325	210
12-11VNTC	11	60	.66	350	231
12-12VNTC	12	60	.68	375	247
12-13VNTC	13	60	.70	400	273
12-14VNTC	14	60	.73	425	294
12-15VNTC	15	60	.76	455	315
12-16VNTC	16	60	.76	485	336
12-17VNTC	17	60	.79	515	357
12-18VNTC	18	60	.79	545	378
12-19VNTC	19	60	.79	565	391
12-20VNTC	20	80	.89	590	420
12-23VNTC	23	80	.93	690	483
12-25VNTC	25	80	.96	770	515
12-27VNTC	27	80	1.00	840	567
12-29VNTC	29	80	1.01	910	609
12-31VNTC	31	80	1.06	950	651
12-32VNTC	32	80	1.08	1000	672
12-37VNTC	37	80	1.10	1090	762

- Notes: 1. Cables designated (w/g) contain an additional bare copper grounding conductor, same size as circuit conductors.
 2. Standard color coding is ICEA Method E-2 for NEC applications. This color coding method omits white and green from the color sequence
 ICEA Method 4 color coding may also be provided. This consists of printed numbers and words, 1-ONE, 2-TWO, etc..

TRAY CABLE, TYPE TC (VNTC) (10AWG)

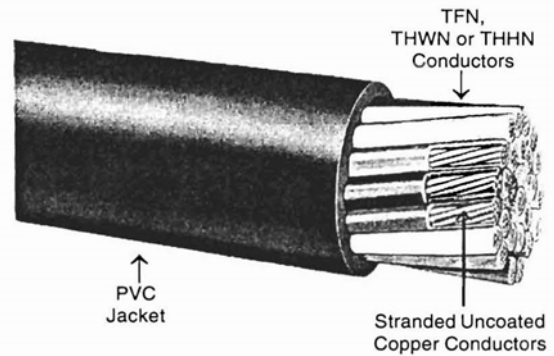
TFN, THWN OR THHN Conductors, PVC Jacket, 600 Volts

APPLICATION: As flame-retardant multi-conductor control, signal or power cables rated 600 volts, 90°C in dry locations, 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:

1. Listed by UL as Type TC Tray Cable per Article 336 of the NEC.
2. Individual conductors UL listed as Type THWN or THHN (14-10 AWG) or Type TFN (16 AWG).
3. Overall jacket UL listed as Sunlight Resistant.
4. Cables UL listed for Direct Burial (14-10 AWG).
5. Cables with grounding conductor UL listed for Open Wiring.
6. 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.



10 AWG-7 Strand

USAWC Part #	No. of Condrs.	Overall PVC Jacket Mils	Nom. Diam. Inches	Approx. Net Wt. lbs/1000 ft	Copper Weight lbs/1000 ft
10-02 VNTC	2	45	.26 x .43	110	65
10-03 VNTC	3	45	.46	155	98
10-03VNGTC	3w/g	45	.47	194	131
10-04VNTC	4	45	.50	200	135
10-05VNTC	5	60	.58	265	169
10-06VNTC	6	60	.63	315	192
10-07VNTC	7	60	.63	345	236
10-08VNTC	8	60	.69	420	256
10-09VNTC	9	60	.73	450	295
10-10VNTC	10	60	.81	500	320
10-11VNTC	11	60	.81	540	352
10-12VNTC	12	60	.82	580	404
10-13VNTC	13	80	.89	680	416
10-14VNTC	14	80	.92	725	448
10-15VNTC	15	80	.95	745	480
10-16VNTC	16	80	.95	810	512
10-17VNTC	17	80	1.02	860	544
10-18VNTC	18	80	1.02	900	576
10-19VNTC	19	80	1.02	940	608
10-20VNTC	20	80	1.07	990	640
10-23VNTC	23	80	1.12	1120	736
10-25VNTC	25	80	1.19	1210	800
10-27VNTC	27	80	1.22	1295	864
10-29VNTC	29	80	1.23	1375	928
10-31VNTC	31	80	1.29	1465	992
10-32VNTC	32	80	1.31	1510	1024
10-37VNTC	37	80	1.36	1710	1184

- Notes: 1. Cables designated (w/g) contain an additional bare copper grounding conductor, same size as circuit conductors.
 2. Standard color coding is ICEA Method E-2 for NEC applications. This color coding method omits white and green from the color sequence
 ICEA Method 4 color coding may also be provided. This consists of printed numbers and words, 1-ONE, 2-TWO, etc..

Specification

TRAY CABLE, TYPE TC (VNCT)

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

1. SCOPE
 - 1.1 This specification describes multi-conductor 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. 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: TC, (UL), 600v, No. of Conductors, Size, THWN or THHN (or TFN) Conductors, Sun. Res., Direct Burial, (14-10 AWG), . 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.