

## (3C) TRAY CABLE, TYPE TC (VNGTC)

THWN or THHN Conductors, PVC Jacket, 600 Volts

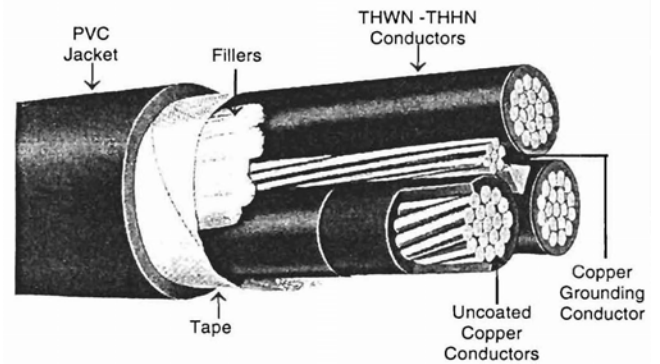
Three Conducting with Grounding Conductor

**APPLICATION:** As flame-retardant three conductor 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. Type TC cables are approved 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 or direct buried.

**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.
3. Overall jacket UL listed as Sunlight Resistant.
4. Cables UL listed for Direct Burial.
5. Cables UL listed for Open Wiring.
6. Cables pass UL and IEEE-383 ribbon burner flame tests and ICEA 210,000 BTU/hour test.

**CONSTRUCTION:** Individual conductors of stranded uncoated copper Type THWN or THHN, surface print phase identification. Three insulated conductors twisted with a Class B stranded uncoated copper grounding conductor and fillers, cable tape, PVC jacket overall, surface printed.



### THREE CONDUCTORS WITH GROUNDING CONDUCTOR

USAWC Part #	Size AWG or kcmil	No. of Strands	Thickness in Mils			Nominal Diameter Inches	Grounding Conductor Size' AWG	Approx. Net Wt. lbs/1000 ft	Copper Weight lbs/1000 ft	Ampacity	
			PVC Insulation	Nylon Jacket	Overall PVC Jacket					90°C Dry	75°C Wet
8-03VNGTC	8	7	30	5	60	.62	10	315	189	55	50
6-03VNGTC	6	7	30	5	60	.70	8	445	300	75	65
4-03VNGTC	4	7	40	6	80	.88	8	675	446	95	85
2-03VNGTC	2	7	40	6	80	1.01	6	995	710	130	115
1-03VNGTC	1	19	50	7	80	1.14	6	1200	855	150	130
1/0-03VNGTC	1/0	19	50	7	80	1.23	6	1480	1080	170	150
2/0-03VNGTC	2/0	19	50	7	80	1.32	6	1770	1340	195	175
3/0-03VNGTC	3/0	19	50	7	80	1.43	4	2180	1683	225	200
4/0-03VNGTC	4/0	19	50	7	80	1.56	4	2690	2130	260	230
250-03VNGTC	250	37	60	8	110	1.76	4	3225	2494	290	255
350-03VNGTC	350	37	60	8	110	1.98	3	4370	3474	350	310
500-03VNGTC	500	37	60	8	110	2.26	2	5960	4934	430	380
750-03VNGTC	750	61	70	9	110	2.71	1	9050	7206	535	475
1000-03VNGTC	1000	61	70	9	140	3.10	1/0	11720	9584	615	545

\*AMPACITY in accordance with the NEC for cables in uncovered cable tray without maintained spacing and for cables in raceway or directly buried; 90 C conductor temperature for dry locations, 75 C conductor temperature for wet locations, 30 C ambient temperature.

## Specification

### TRAY CABLE, TYPE TC (VNGTC)

#### THWN or THHN Conductors, PVC Jacket, 600 Volts Three Conductor with Grounding Conductor

1. SCOPE
  - 1.1 This specification describes three conductor Type TC Tray Cable with THWN or THHN conductors and PVC jacketed 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. The cables are specifically approved for installation in cable trays in accordance with Article 336 of the NEC. They may be installed in air, in ducts or conduits, in tray or trough, in open wiring or direct buried.
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 83 for Thermoplastic Insulated Wires.
3. CONDUCTORS
  - 3.1 Conductors shall be Class B stranded uncoated soft copper conforming to UL Standard 83.
4. INSULATION
  - 4.1 Compound: Each phase conductor shall be insulated with PVC, meeting the requirements of UL Standard 83 for Type THWN or THHN wire.
  - 4.2 Thickness: The average thickness of insulation shall be as specified in UL Standard 83 for Type THWN or THHN wire. The minimum thickness at any point shall be not less than 90% of the specified average thickness.
5. JACKET
  - 5.1 Compound: Each insulated conductor shall be jacketed with Nylon, meeting the requirements of UL Standard 83 for Type THWN or THHN wire.
  - 5.2 Thickness: The minimum thickness of Nylon shall not be less than specified in UL Standard 83 for Type THWN or THHN wire.
6. PHASE IDENTIFICATION
  - 6.1 The insulated phase conductors shall be black in color and shall be printed with alpha-numeric numbers on two opposite sides (1-ONE, 2-TWO, etc.).
7. ASSEMBLY
  - 7.1 Three phase conductors shall be cabled together with a Class B stranded, uncoated copper grounding conductor and suitable nonhygroscopic fillers to make round. Length of lay shall not exceed 35 times the phase conductor diameter. The grounding conductor shall comply with the requirements of UL Standard 1277.
8. CABLE TAPE
  - 8.1 The cable assembly shall be covered with a suitable tape applied with a 10% minimum lap.
9. OVERALL JACKET
  - 9.1 Compound: Each cable shall have a PVC protective jacket applied over the taped assembly. The jacket shall meet the requirements of Standard 1277 for 75°C PVC jacket compound and the Sunlight Resistant requirements of UL Standard 1277.
  - 9.2 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.
10. SURFACE MARKING
  - 10.1 Cables shall be identified by means of surface ink printing indicating: able, TC, (UL), 600v, No. of Conductors, Size, THWN or THHN Conductors, Sun Res., Direct Burial, Open Wiring,.
11. TESTS
  - 11.1 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 conductors.
  - 11.2 Cables shall be capable of passing the ribbon burner cable tray flame test requirements of UL and IEEE.