

## (4C) TRAY CABLE, TYPE TC

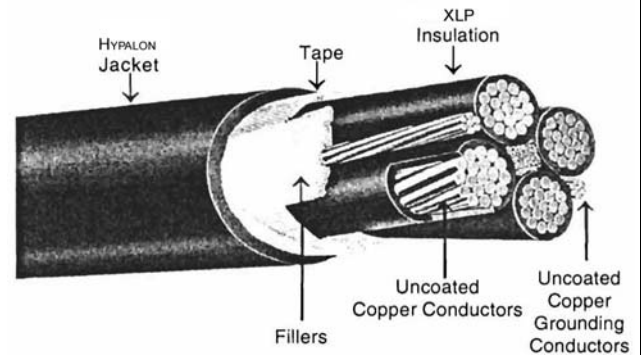
FR-XLP Insulation, Hypalon Jacket, 600 Volts  
Four Conductors with Grounding Conductor

**APPLICATION:** As flame-retardant four conductor power cables rated 600 volts, 90°C in wet or dry locations. Specifically approved for installation in cable trays per Article 336 of the NEC. Type TC Cables are approved for use in Class I, 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 Standard 1277 for Tray Cables.
2. Individual conductors UL listed as Type XHHW-2.
3. Individual conductors pass UL VW-1 flame test.
4. Overall Jacket UL listed as Sunlight Resistant and Oil Resistant II.
5. Cables pass IEEE-383 ribbon burner flame test and ICEA 210,000 BTU/hour test.
6. Cables UL listed for Direct Burial.
7. Cables meet requirements of ICEA S-95-658, NEMA WC70.

**CONSTRUCTION:** Class B stranded uncoated copper conductor, FR-XLP flame-retardant crosslinked polyethylene insulation, surface print phase identification. Four insulated conductors twisted with a Class B stranded uncoated copper grounding conductor and suitable fillers, cable tape, Hypalon jacket overall, surface printed.



### FOUR 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 <sup>1</sup>	
			Insulation	Jacket					90°C	75°C
8-04XHGTC	8	7	45	60	.73	10	421	242	55	50
6-04XHGTC	6	7	45	60	.82	8	600	384	75	65
4-04XHGTC	4	7	45	80	.98	8	882	578	95	85
2-04XHGTC	2	7	45	80	1.12	6	1295	919	130	115
1-04XHGTC	1	19	55	80	1.24	6	1704	1136	150	130
1/0-04XHGTC	1/0	19	55	80	1.33	6	1830	1413	170	150
2/0-04XHGTC	2/0	19	55	80	1.48	6	2326	1760	195	175
3/0-04XHGTC	3/0	19	55	80	1.57	4	3132	2245	225	200
4/0-04XHGTC	4/0	19	55	110	1.77	4	3909	2796	260	230
250-04XHGTC	250	37	65	110	1.94	4	4571	3282	290	255
350-04XHGTC	350	37	65	110	2.18	3	6068	4577	350	310
500-04XHGTC	500	37	65	110	2.56	2	7905	6509	430	380

<sup>1</sup>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.

NOTES: 1. Grounding conductor per UL Standard 1277 for Type TC Tray Cable

## Specification

### TRAY CABLE, TYPE TC

#### FR-XLP Insulation, Hypalon Jacket, 600 Volts Four Conductor with Grounding Conductor

##### 1. SCOPE

- 1.1 This specification describes four conductor Type TC Tray Cable insulated with FR-XLP flame-retardant crosslinked polyethylene and Hypalon jacketed overall, for use on circuits rated 600 volts. Cables are recommended for operation at 90°C maximum continuous conductor temperature in wet or dry 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, 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 44 for Rubber Insulated Wires and Cables.
  - 2.1.3 ICEA Pub. No. S-95-658, NEMA Pub. No. WC70, Nonshielded Power Cables Rated 2000 Volts or Less.

##### 3. CONDUCTORS

- 3.1 Conductors shall be Class B stranded uncoated soft copper per Part 2 of ICEA S-95-658.

##### 4. SEPARATOR

- 4.1 A suitable separator over the conductor may be used at the option of the manufacturer.

##### 5. INSULATION

- 5.1 Compound: Each phase conductor shall be insulated with FR-XLP flame-retardant chemically crosslinked polyethylene, meeting the requirements of ICEA S-95-658, Table 3-7, Class X-2 and Type XHHW-2, VW-1 requirements of Underwriters Laboratories.
- 5.2 Thickness: The average thickness of insulation shall be as specified in UL Standard 44 for Type XHHW-2 conductors and in Table 3-4, Column B of ICEA. The minimum thickness at any point shall be not less than 90% of the specified average thickness.

##### 6. PHASE IDENTIFICATION

- 6.1 The insulated phase conductors shall be black in color and shall be printed with the numerals "1", "2" and "3" on their surface.

##### 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 Chlorosulfonated Polyethylene (Hypalon) protective jacket applied over the taped assembly. The jacket shall meet the requirements of ICEA S-95-658, Table 4-1 (TP-CPE) and the Sunlight Resistant and Oil Resistant II 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 manufacturer, number of conductors, size, voltage rating, and required UL information.

##### 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 XHHW-2 conductors, and ICEA S-95-658.
- 11.2 Cables shall be capable of passing the ribbon burner cable tray flame test requirements of UL and IEEE.