

## (3C) TRAY CABLE, TYPE TC

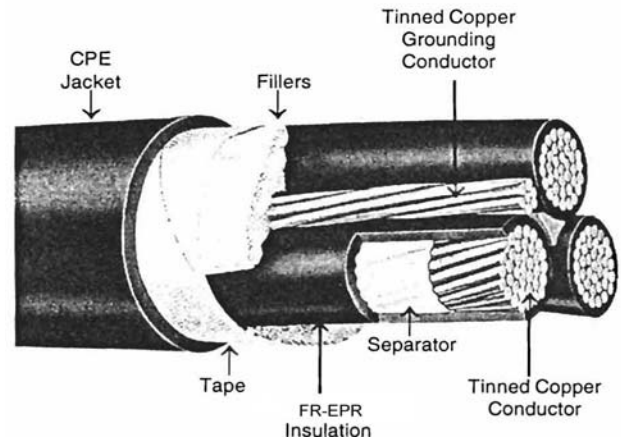
### FR-EPR XHHW-2 Conductors, CPE Jacket, 600 Volts Three Conductors with Grounding Conductor

**APPLICATION:** As flame-retardant three 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 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 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 11.
5. Cables UL listed for Direct Burial.
6. Cables pass IEEE 383 (70,000 BTU/hr) and ICEA T-29-520 (210,000 BTU/hr) cable tray flame tests.
7. Cables pass IEEE 1202/CSA FT4 (70,000 BTU/hr) cable tray flame test.
8. Cables meet requirements of ICEA S-95-658, NEMA WC70.

**CONSTRUCTION:** Class B stranded tinned copper conductor, FR-EPR flame-retardant ethylene-propylene-rubber insulation, surface print phase identification. Three insulated conductors twisted with a Class B stranded tinned copper grounding conductor and suitable fillers, cable tape, CPE 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*	
			Insulation	Jacket					90 C	75°C
8-03EPGCPETC	8	7	45	60	.66	10	330	190	55	50
6-03EPGCPETC	6	7	45	60	.74	8	460	297	75	65
4-03EPGCPETC	4	7	45	80	.88	8	685	442	95	85
2-03EPGCPETC	2	7	45	80	1.00	6	1015	703	130	115
1-03EPGCPETC	1	19	55	80	1.13	6	1270	872	150	130
1/0-03EPGCPETC	1/0	19	55	80	1.22	6	1500	1069	170	150
2/0-03EPGCPETC	2/0	19	55	80	1.31	6	1810	1340	195	175
3/0-03EPGCPETC	3/0	19	55	80	1.42	4	2250	1717	225	200
4/0-03EPGCPETC	4/0	19	55	80	1.55	4	2685	2130	260	230
250-03EPGCPETC	250	37	65	110	1.76	4	3170	2494	290	255
350-03EPGCPETC	350	37	65	110	1.98	3	4320	3474	350	310
500-03EPGCPETC	500	37	65	110	2.26	2	6020	4934	430	380
750-03EPGCPETC	750	61	80	110	2.71	1	8980	7278	535	475
1000-03EPGCPETC	1000	61	80	140	3.10	1/0	11700	9584	615	545

\*AMPACITY in accordance with the NEC for cables installed in uncovered cable tray without maintained spacing and for cables in raceway or directly buried; at the conductor temperature indicated, 30 C ambient temperature.

- NOTES: 1. Grounding conductor per UL Standard 1277 for Type TC Tray Cable  
2. Cables with Open Wiring listing available upon request.

## Specification

### TRAY CABLE, TYPE TC

#### FR-EPR XHHW-2 Conductors, CPE Jacket, 600 Volts Three Conductor with Grounding Conductor

##### 1. SCOPE

- 1.1 This specification describes three conductor Type TC Tray Cable insulated with FR-EPR flame-retardant ethylene-propylene-rubber and CPE 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. Cables may be installed in air, in ducts or conduits, in tray or trough, and are also suitable for direct burial.

##### 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 tinned 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-EPR flame-retardant ethylene-propylene-rubber, meeting the requirements of ICEA S-95-658, Table 3-7, Class E-2 and Underwriters Laboratories requirements for Type XHHW-2, VW-1.
- 5.2 Thickness: The average thickness of insulation shall be as specified 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, tinned 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 Chlorinated Polyethylene (CPE) protective jacket applied over the taped assembly. The jacket shall meet the requirements of ICEA S-95-658, Table 4-1 (CPE-TP) 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, VW-1 insulated 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 1202/CSA FT 4.