



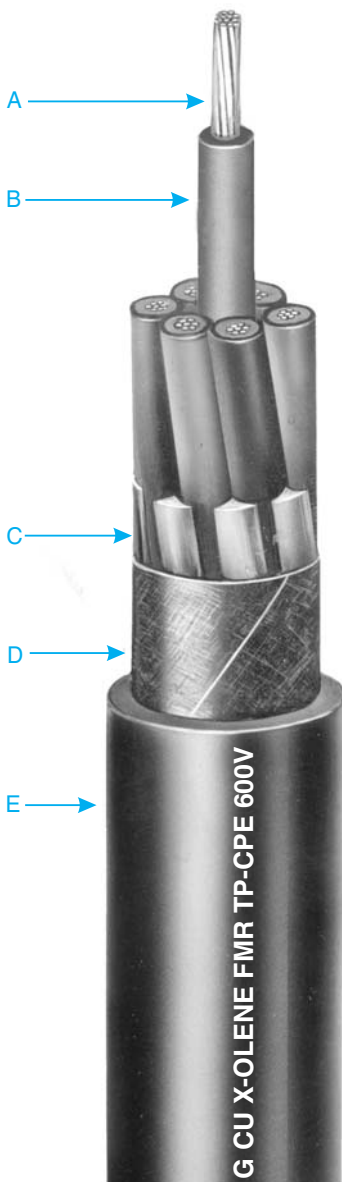
## X-Olene FMR® Okolon® TP-CPE

UL Type TC or TC-ER Cable and cUL Type CIC and TC

### 600V Power and Control Tray Cable

Multiple Copper Conductors With or Without  
Grounding Conductor/90°C Wet or Dry

**For Cable Tray Use - Sunlight Resistant - For Direct Burial**



- A Bare Stranded Conductors
- B X-Olene FMR Insulation
- C Fillers, as necessary
- D Binder Tape
- E Okolon TP-CPE Jacket  
— Black

#### Insulation

X-Olene FMR is Okonite's trade name for its heat, moisture, and flame resistant, crosslinked polyethylene insulating compound.

#### Overall Jacket

Okolon-TP-CPE is a thermoplastic chlorinated polyethylene compound. This jacket has excellent resistance to moisture, ozone, oil and many chemicals.

#### Applications

Okonite-FMR Okolon TP-CPE tray cable is permitted for use on power, lighting, control, and signal circuits; indoors or outdoors; in cable trays, raceways, direct burial in the ground, or where supported in outdoor locations by a messenger wire; for Class 1 circuits as permitted by Article 725 of the NEC; and in cable trays in Class I, Division 2 hazardous locations in industrial establishments where the conditions of maintenance and supervision assure that only qualified persons will service the installation.

Cables marked TC-ER may also be used between a cable tray and the utilization equipment or device, when installed in accordance with NEC 336.10(7).

Sizes  $\leq$  4/0 AWG are listed as c(UL) Type CIC and TC and are approved for installation in Zone 2, Zone 22, Class I Div. 2, Class II Div. 2, and Class III Div. 2 locations per the CEC.

#### Specifications

**Conductors:** Uncoated soft copper per ASTM B-3. Sizes smaller than #8 are compress stranded per ASTM B-8. Sizes #8 and larger are compact stranded per ASTM B-496.

**Insulation:** X-Olene FMR meets or exceeds requirements of UL 1581 and ICEA S-73-532 (NEMA WC57) & ICEA S-95-658 (NEMA WC70) Type II insulation.

**Color Coding:** Base colors and tracers as shown on reverse of Data Sheet. For sizes #8 AWG and larger black conductors with surface printing of numbers and color designations per ICEA S-73-532 NEMA/WC57 Method 3, E-2.

**Grounding Conductor:** Where indicated, bare stranded copper per ASTM B-8 for sizes #7 AWG and smaller, compact round for sizes #8 AWG and larger per ASTM B-496 and in accordance with NEC Table 250.122.

**Assembly:** Conductors cabled in accordance with UL 1277 using fillers, as necessary, with a cable tape overall.

**Overall Jacket:** Complies with UL 1277. The Okolon-TP-CPE compound meets or exceeds the requirements of UL 1581, ICEA S-73-532 (NEMA WC57) & ICEA S-95-658 (NEMA WC70).

UL Listed as Type TC or TC-ER cable with a sunlight resistant jacket and for direct burial.

Sizes 4 AWG and larger, without a grounding conductor, are Type TC only (not ER).

#### Product Features

- For cable tray use.
- For direct burial.
- Sunlight resistant.
- Insulated conductors are UL rated XHHW-2 and VW-1.
- Flame Retardant - passes the vertical tray flame test requirements of IEEE 383-1974, 1202/FT4, UL 1277, and ICEA T-29-520 (210,000 BTU/hr.).
- UL listed for cable tray use.
- 90°C continuous rating in wet or dry locations
- 130°C emergency overload rating
- 250°C short circuit rating.
- X-Olene FMR Okolon-TP-CPE cables are quality control inspected to meet or exceed applicable industry standards.
- Resistant to moisture and most chemical atmospheres.
- Thermal stability at elevated temperatures.
- Flexible, easy to install and terminate.
- Mechanically rugged.
- High dielectric strength.
- Small diameter, lightweight.
- Minimum installation temperature of -22°F or -30°C.
- CSA C22.2 No. 239 Type CIC for sizes 4/0 and smaller.
- CSA C22.2 No. 230 Type TC for sizes 4/0 and smaller.

# X-Okolon FMR Okolon-TP-CPE

UL Type TC or TC-ER Cable and cUL Type CIC and TC

## 600 Volt Power and Control Tray Cable

Multiple Copper Conductors With or Without  
Grounding Conductor/90°C Wet or Dry Rating

**For Cable Tray Use - Sunlight Resistant - for Direct Burial**



# Product Data Section 4: Sheet 10

Catalog Number	Conductor Size AWG/kcmil	UL Type	Number of Conductors	Insulation Thickness (mils)	Grounding Conductor AWG*	Jacket Thickness (mils)	Jacket Thickness (mm)	Approx. O.D. (in.)	Approx. O.D. (mm)	Cross-Sectional Area (sq. in.) †	Approx. Net Weight lbs./1000'	Approx. Ship Weight lbs./1000'	90°C Wet or Dry NEC Ampacity (1)	75°C Wet NEC Ampacity (1)
202-36-4202	14(7X)	TC	2	30	—	45	1.14	0.38	9.6	0.12	79	90	15	15
202-36-4203		TC-ER	3		—	45	1.14	0.40	10.2	0.13	104	127	15	15
202-36-4204		TC-ER	4		—	45	1.14	0.44	11.2	0.16	126	149	15	15
202-36-4205		TC-ER	5		—	45	1.14	0.48	12.2	0.18	151	174	15	15
202-36-4207		TC-ER	7		—	45	1.14	0.52	13.2	0.22	195	218	15	14
202-36-4209		TC-ER	9		—	60	1.52	0.63	16.0	0.32	260	292	15	14
202-36-4212		TC-ER	12		—	60	1.52	0.71	18.0	0.40	332	364	12	10
202-36-4219		TC-ER	19		—	60	1.52	0.82	20.8	0.54	480	519	12	10
202-36-4237		TC-ER	37		—	80	2.03	1.14	29.0	1.03	925	1005	10	8
202-36-4402	12(7X)	TC	2	30	—	45	1.14	0.42	10.7	0.14	102	125	20	20
202-36-4403		TC-ER	3		—	45	1.14	0.44	11.2	0.16	134	157	20	20
202-36-4443		TC-ER	3		3x16	45	1.14	0.48	12.2	0.18	162	185	20	20
202-36-4404		TC-ER	4		—	45	1.14	0.48	12.2	0.19	167	190	20	20
202-36-4405		TC-ER	5		—	45	1.14	0.52	13.2	0.22	202	225	20	20
202-36-4407		TC-ER	7		—	60	1.52	0.60	15.2	0.29	281	305	20	17
202-36-4409		TC-ER	9		—	60	1.52	0.70	17.8	0.39	363	395	20	17
202-36-4412		TC-ER	12		—	60	1.52	0.78	19.8	0.49	446	485	15	12
202-36-4419		TC-ER	19		—	80	2.03	0.95	24.1	0.73	697	752	15	12
202-36-4437	TC-ER	37	—	80	2.03	1.26	32.0	1.27	1266	1266	12	10		
202-36-4502	10(7X)	TC	2	30	—	45	1.14	0.46	11.7	0.17	140	163	30	30
202-36-4503		TC-ER	3		—	45	1.14	0.49	12.4	0.20	183	206	30	30
202-36-4543		TC-ER	3		3x14	45	1.14	0.53	13.5	0.23	223	247	30	30
202-36-4504		TC-ER	4		—	60	1.52	0.57	14.5	0.26	243	267	30	28
202-36-4505		TC-ER	5		—	60	1.52	0.62	15.7	0.31	294	318	30	28
202-36-4507		TC-ER	7		—	60	1.52	0.67	17.0	0.37	384	416	28	24
202-36-4509		TC-ER	9		—	60	1.52	0.78	19.8	0.49	494	533	28	24
202-36-4512		TC-ER	12		—	80	2.03	0.92	23.4	0.68	669	724	20	17

Okonite's website, [www.okonite.com](http://www.okonite.com) contains the most up to date information.

\* **Grounds may be split**, however 3 separate grounds are required on conductor sizes 18-5 AWG.

**Equipment Grounding Conductor:** Any conductor in these cables may be permanently re-identified during installation as the equipment grounding conductor in accordance with Section 250.119.B of the NEC.

† **Cross-sectional** area for calculation of cable tray fill in accordance with Section 392.22 of the NEC.

### (1) Ampacities

Ampacities are based on 310.15(B)(16) of the National Electrical Code for conductors rated 90°C, in a multi-conductor cable, at an ambient temperature of 30°C (86°F). The 75°C column is provided for additional information.

The ampacities shown apply to open runs of cable, installation in any approved raceway, direct burial in the earth, or as aerial cable on a messenger. Derating for more than three current carrying conductors within the cable is in accordance with NEC Section 310.15(B)(3)(a).

The ampacities shown also apply to cables installed in cable tray in accordance with NEC Section 392.80.

# Product Data

## Section 4: Sheet 10

Catalog Number	Conductor Size AWG/kcmil	UL Type	Number of Conductors	Insulation Thickness (mils)	Grounding Thickness (mils)	Jacket Thickness AWG*	Jacket Thickness (mils)	Approx. O.D. (mm)	Approx. O.D. (In.)	Cross-Sectional Area (sq. In.) †	Approx. Net Weight lbs./1000'	Approx. Ship Weight lbs./1000'	90°C Wet or Dry NEC Ampacity (1)	75°C Wet NEC Ampacity (1)
112-36-4042	8(7X)	TC-ER	3	—	60	1.52	0.65	16.5	0.33	279	318	55	50	
112-36-4044		TC-ER	3	3x14	60	1.52	0.68	17.3	0.36	340	379	55	50	
112-36-4045		TC-ER	4	—	60	1.52	0.71	18.0	0.40	356	395	45	40	
112-36-4047		TC-ER	4	3x14	60	1.52	0.73	18.5	0.42	418	457	45	40	
112-36-4052	6(7X)	TC-ER	3	—	60	1.52	0.73	18.5	0.42	388	427	75	65	
112-36-4054		TC-ER	3	3x12	60	1.52	0.75	19.1	0.44	472	511	75	65	
112-36-4055		TC-ER	4	—	60	1.52	0.79	20.1	0.49	501	540	60	52	
112-36-4057		TC-ER	4	3x12	60	1.52	0.83	21.1	0.54	592	656	60	52	
112-36-4062	4(7X)	TC	3	—	60	1.52	0.82	20.8	0.53	556	620	95	85	
112-36-4064		TC-ER	3	8	60	1.52	0.82	20.8	0.53	606	670	95	85	
112-36-4065		TC	4	—	80	2.03	0.94	23.9	0.69	760	824	76	68	
112-36-4067		TC-ER	4	8	80	2.03	0.97	24.6	0.74	860	924	76	68	
112-36-4072	2(7X)	TC	3	—	80	2.03	0.98	24.9	0.75	853	917	130	115	
112-36-4074		TC-ER	3	6	80	2.03	0.98	24.9	0.75	933	997	130	115	
112-36-4075		TC	4	—	80	2.03	1.08	27.4	0.91	1108	1188	104	92	
112-36-4077		TC-ER	4	6	80	2.03	1.12	28.4	0.99	1263	1343	104	92	
112-36-4082	1(19X)	TC	3	—	80	2.03	1.09	27.7	0.93	1095	1162	145	130	
112-36-4084		TC-ER	3	6	80	2.03	1.09	27.7	0.93	1170	1237	145	130	
112-36-4085		TC	4	—	80	2.03	1.20	30.5	1.13	1405	1485	120	104	
112-36-4087		TC-ER	4	6	80	2.03	1.20	30.5	1.13	1480	1569	120	104	
112-36-4092	1/0(19X)	TC	3	—	80	2.03	1.17	29.7	1.08	1325	1405	170	150	
112-36-4094		TC-ER	3	6	80	2.03	1.17	29.7	1.08	1401	1481	170	150	
112-36-4095		TC	4	—	80	2.03	1.29	32.8	1.31	1729	1829	136	120	
112-36-4097		TC-ER	4	6	80	2.03	1.29	32.8	1.31	1803	1903	136	120	
112-36-4102	2/0(19X)	TC	3	—	80	2.03	1.26	32.0	1.25	1623	1723	195	175	
112-36-4104		TC-ER	3	6	80	2.03	1.26	32.0	1.25	1697	1797	195	175	
112-36-4105		TC	4	—	80	2.03	1.39	35.3	1.52	2102	2218	156	140	
112-36-4107		TC-ER	4	6	80	2.03	1.39	35.3	1.52	2177	2293	156	140	
112-36-4122	4/0(19X)	TC	3	—	80	2.03	1.48	37.6	—	2441	2584	260	230	
112-36-4124		TC-ER	3	4	80	2.03	1.48	37.6	—	2561	2704	260	230	
112-36-4125		TC	4	—	80	2.03	1.63	41.4	—	3181	3358	208	184	
112-36-4127		TC-ER	4	4	80	2.03	1.63	41.4	—	3300	3477	208	184	
112-36-4128	250(37X)	TC	3	—	80	2.03	1.62	41.1	—	2876	3053	290	255	
112-36-4129		TC-ER	3	4	80	2.03	1.62	41.1	—	2996	3173	290	255	
112-36-4130		TC	4	—	110	2.79	1.85	47.0	—	3875	4141	232	185	
112-36-4131		TC-ER	4	4	110	2.79	1.85	47.0	—	3994	4260	232	185	
112-36-4132	350(37X)	TC	3	—	110	2.79	1.88	47.8	—	3996	4262	350	310	
112-36-4133		TC-ER	3	3	110	2.79	1.88	47.8	—	4146	4412	350	310	
112-36-4134		TC	4	—	110	2.79	2.08	52.8	—	5232	5622	280	248	
112-36-4135		TC-ER	4	3	110	2.79	2.08	52.8	—	5383	5773	280	248	
112-36-4136	500(37X)	TC	3	—	110	2.79	2.13	54.1	—	5535	5925	430	380	
112-36-4137		TC-ER	3	2	110	2.79	2.13	54.1	—	5726	6116	430	380	
112-36-4138		TC	4	—	110	2.79	2.36	59.9	—	7224	7783	344	304	
112-36-4139		TC-ER	4	2	110	2.79	2.36	59.9	—	7413	7972	344	304	
112-36-4140	750(61X)	TC	3	—	110	2.79	2.56	65.0	—	8182	8809	535	475	
112-36-4141		TC-ER	3	1	110	2.79	2.56	65.0	—	8420	9047	535	475	
112-36-4142		TC	4	—	140	3.56	2.90	73.7	—	10904	11666	428	380	
112-36-4143		TC-ER	4	1	140	3.56	2.90	73.7	—	11143	11905	428	380	
112-36-4144	1000(61X)	TC	3	—	140	3.56	2.93	74.7	—	10853	11615	615	545	
112-36-4145		TC-ER	3	1/0	140	3.56	2.93	74.7	—	11155	11917	615	545	
112-36-4146		TC	4	—	140	3.56	3.25	82.6	—	14226	15159	492	436	
112-36-4147		TC-ER	4	1/0	140	3.56	3.25	82.6	—	14527	15460	492	436	

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UL Type TC or TC-ER Cable and cUL Type CIC and TC  
**600 Volt Power and Control Tray Cable**

Multiple Copper Conductors With or Without

Grounding Conductor/ 90°C Wet or Dry

**For Cable Tray Use - Sunlight Resistant - For Direct Burial**

### Conductor Color Coding Sequence

Conductor Number	Base Color	Tracer Color
1	Black	
2	Red	
3	Blue	
4	Orange	
5	Yellow	
6	Brown	
7	Red	Black
8	Blue	Black
9	Orange	Black
10	Yellow	Black
11	Brown	Black
12	Black	Red
13	Blue	Red
14	Orange	Red
15	Yellow	Red
16	Brown	Red
17	Black	Blue
18	Red	Blue
19	Orange	Blue
20	Yellow	Blue
21	Brown	Blue
22	Black	Orange
23	Red	Orange
24	Blue	Orange
25	Yellow	Orange
26	Brown	Orange
27	Black	Yellow
28	Red	Yellow
29	Blue	Yellow
30	Orange	Yellow
31	Brown	Yellow
32	Black	Brown
33	Red	Brown
34	Blue	Brown
35	Orange	Brown
36	Yellow	Brown
37	Black	

#### Color Coding

Sizes 14, 12 & 10 AWG:  
per ICEA Method 1, E-2  
color sequence

Sizes 8 AWG and larger:  
Surface Printing of Numbers and  
color designation per ICEA  
Method 3, E-2 color sequence.

**Special Order:** Any or all of the following conductors may be added when specifically requested by the customer to meet his specific application requirements. These conductor codings comply with UL and NEC requirements.

<u>Purpose</u>	<u>Base Color</u>	<u>Tracer Color</u>
Equipment Grounding	Uninsulated Green Green	1 or more continuous yellow stripes
Grounded	White White White White White White	Black continuous stripe Red continuous stripe Blue continuous stripe Orange continuous stripe Brown continuous stripe Numeric Printing