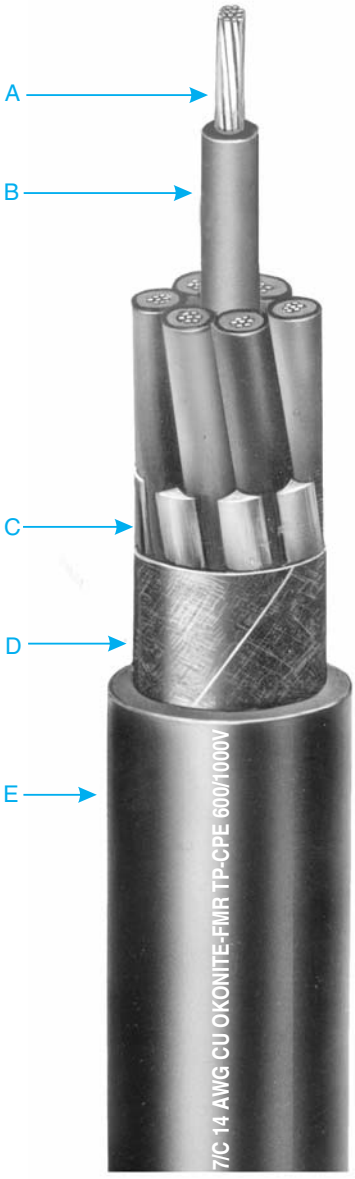
Okonite-FMR® Okolon® TP-CPE

UL Type TC/TC-ER (XHH/XHHW-2) and cUL Type CIC and TC

600/1000V 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 Stranded Conductors
B Okonite-FMR Insulation
C Fillers, as necessary
D Binder Tape
E Okolon TP-CPE Jacket — Black

Insulation

Okonite-FMR is Okonite's trade name for its heat, moisture, flame and chemical resistant, mechanically rugged ethylene-propylene insulating compound.

The properties of Okonite-FMR insulation substantially enhance the well known features of ethylene-propylene rubber insulations.

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 ≤ 4/0 AWG are listed as c(UL) Type CIC and TC and are approved for installation in Zone 1, Zone 2, 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: Okonite-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 per ICEA S-73-532 NEMA/WC57 Method 4.

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 XHH/XHHW-2, cUL rated RW75/RW90, VW-1, PR I, and -40°C.
- Flame Retardant - passes the vertical tray flame test requirements of IEEE 383-1974, IEEE 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.
- Okonite-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.

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600/1000V 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

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)*
202-10-4602	14(7X)	TC	2	30	—	45	1.14	0.38	09.6	0.12	79	90	15	15
202-10-4603		TC-ER	3		—	45	1.14	0.40	10.2	0.13	104	127	15	15
202-10-4604		TC-ER	4		—	45	1.14	0.44	11.2	0.16	126	149	15	15
202-10-4605		TC-ER	5		—	45	1.14	0.48	12.2	0.18	151	174	15	15
202-10-4607		TC-ER	7		—	45	1.14	0.52	13.2	0.22	195	218	15	14
202-10-4609		TC-ER	9		—	60	1.52	0.63	16.0	0.32	260	292	15	14
202-10-4612		TC-ER	12		—	60	1.52	0.71	18.0	0.40	332	364	12	10
202-10-4619		TC-ER	19		—	60	1.52	0.82	20.8	0.54	480	519	12	10
202-10-4637		TC-ER	37		—	80	2.03	1.14	29.0	1.03	925	1005	10	8
202-10-4702	12(7X)	TC	2	30	—	45	1.14	0.42	10.7	0.14	102	125	20	20
202-10-4703		TC-ER	3		—	45	1.14	0.44	11.2	0.16	134	157	20	20
202-10-4743		TC-ER	3		3x16	45	1.14	0.44	12.2	0.18	162	185	20	20
202-10-4704		TC-ER	4		—	45	1.14	0.48	12.2	0.19	167	190	20	20
202-10-4705		TC-ER	5		—	45	1.14	0.52	13.2	0.22	202	225	20	20
202-10-4707		TC-ER	7		—	60	1.52	0.60	15.2	0.29	281	305	20	17
202-10-4709		TC-ER	9		—	60	1.52	0.70	17.8	0.39	363	395	20	17
202-10-4712		TC-ER	12		—	60	1.52	0.78	19.8	0.49	446	485	15	12
202-10-4719		TC-ER	19		—	80	2.03	0.95	24.1	0.73	697	752	15	12
202-10-4737		TC-ER	37		—	80	2.03	1.26	32.0	1.27	1266	1266	12	10
202-10-4802	10(7X)	TC	2	30	—	45	1.14	0.46	11.7	0.17	140	163	30	30
202-10-4803		TC-ER	3		—	45	1.14	0.49	12.4	0.20	183	206	30	30
202-10-4843		TC-ER	3		3x14	45	1.14	0.49	13.5	0.23	223	247	30	30
202-10-4804		TC-ER	4		—	60	1.52	0.57	14.5	0.26	243	267	30	28
202-10-4805		TC-ER	5		—	60	1.52	0.62	15.7	0.31	294	318	30	28
202-10-4807		TC-ER	7		—	60	1.52	0.67	17.0	0.37	384	416	28	24
202-10-4809		TC-ER	9		—	60	1.52	0.78	19.8	0.49	494	533	28	24
202-10-4812		TC-ER	12		—	80	2.03	0.92	23.4	0.68	669	724	20	17

Okonite's website, www.okonite.com contains the most up to date information.

*** Grounds may be split**

Equipment Grounding Conductor: Any conductor in these cables may be permanently reidentified 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 310.16 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(C)(1).

*Current limited to 15, 20 and 30 amps per Section 240.4(D) of the NEC for #14, #12 and #10 AWG, respectively.

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)
112-10-4042	8(7X)	TC-ER	3	45	—	60	1.52	0.65	16.5	0.33	287	319	55	50
112-10-4044		TC-ER	3		3x14	60	1.52	0.65	17.3	0.36	328	360	55	50
112-10-4045		TC-ER	4		—	60	1.52	0.72	18.3	0.41	368	407	45	40
112-10-4047		TC-ER	4		3x14	60	1.52	0.72	18.8	0.43	407	446	45	40
112-10-4052	6(7X)	TC-ER	3	45	—	60	1.52	0.73	18.5	0.42	400	439	75	65
112-10-4054		TC-ER	3		3x12	60	1.52	0.73	19.1	0.44	469	508	75	65
112-10-4055		TC-ER	4		—	60	1.52	0.80	20.3	0.50	515	554	60	52
112-10-4057		TC-ER	4		3x12	60	2.03	0.80	22.4	0.61	575	630	60	52
112-10-4062	4(7X)	TC	3	45	—	60	1.52	0.83	21.1	0.54	571	626	95	85
112-10-4064		TC-ER	3		8	60	1.52	0.83	21.1	0.54	618	673	95	85
112-10-4065		TC	4		—	80	2.03	0.95	24.1	0.71	779	834	76	68
112-10-4067		TC-ER	4		8	80	2.03	0.98	24.9	0.75	865	929	76	68
112-10-4072	2(7X)	TC	3	45	—	80	2.03	0.99	25.1	0.77	872	936	130	115
112-10-4074		TC-ER	3		6	80	2.03	0.99	25.1	0.77	948	1012	130	115
112-10-4075		TC	4		—	80	2.03	1.08	27.4	0.92	1133	1200	104	92
112-10-4077		TC-ER	4		6	80	2.03	1.13	28.7	1.00	1266	1346	104	92
112-10-4082	1(19X)	TC	3	55	—	80	2.03	1.10	27.9	0.95	1098	1165	145	130
112-10-4084		TC-ER	3		6	80	2.03	1.10	27.9	0.95	1172	1236	145	130
112-10-4085		TC	4		—	80	2.03	1.21	30.7	1.15	1408	1498	116	104
112-10-4087		TC-ER	4		6	80	2.03	1.21	30.7	1.15	1483	1583	116	104
112-10-4092	1/0(19X)	TC	3	55	—	80	2.03	1.18	30.0	1.09	1328	1406	170	150
112-10-4094		TC-ER	3		6	80	2.03	1.18	30.0	1.09	1403	1483	170	150
112-10-4095		TC	4		—	80	2.03	1.30	33.0	1.33	1732	1832	136	120
112-10-4097		TC-ER	4		6	80	2.03	1.30	33.0	1.33	1806	1906	136	120
112-10-4102	2/0(19X)	TC	3	55	—	80	2.03	1.27	32.3	1.27	1626	1726	195	175
112-10-4104		TC-ER	3		6	80	2.03	1.27	32.3	1.27	1700	1800	195	175
112-10-4105		TC	4		—	80	2.03	1.40	35.6	1.54	2106	2222	156	140
112-10-4107		TC-ER	4		6	80	2.03	1.40	35.6	1.54	2180	2296	156	140
112-10-4122	4/0(19X)	TC	3	55	—	80	2.03	1.48	37.6	—	2444	2587	260	230
112-10-4124		TC-ER	3		4	80	2.03	1.48	37.6	—	2564	2707	260	230
112-10-4125		TC	4		—	80	2.03	1.64	41.7	—	3184	3361	208	184
112-10-4127		TC-ER	4		4	80	2.03	1.64	41.7	—	3303	3480	208	184
112-10-4128	250(37X)	TC	3	65	—	80	2.03	1.62	41.1	—	2874	3051	290	255
112-10-4129		TC-ER	3		4	80	2.03	1.62	41.1	—	2994	3171	290	255
112-10-4130		TC	4		—	110	2.79	1.85	47.0	—	3872	4138	232	204
112-10-4131		TC-ER	4		4	110	2.79	1.85	47.0	—	3992	4258	232	204
112-10-4132	350(37X)	TC	3	65	—	110	2.79	1.88	47.8	—	3994	4260	350	310
112-10-4133		TC-ER	3		3	110	2.79	1.88	47.8	—	4144	4410	350	310
112-10-4134		TC	4		—	110	2.79	2.08	52.8	—	5230	5620	280	248
112-10-4135		TC-ER	4		3	110	2.79	2.08	52.8	—	5380	5770	280	248
112-10-4136	500(37X)	TC	3	65	—	110	2.79	2.13	54.1	—	5532	5922	430	380
112-10-4137		TC-ER	3		2	110	2.79	2.13	54.1	—	5723	6113	430	380
112-10-4138		TC	4		—	110	2.79	2.36	59.9	—	7221	7780	344	304
112-10-4139		TC-ER	4		2	110	2.79	2.36	59.9	—	7409	7968	344	304
112-10-4140	750(61X)	TC	3	80	—	110	2.79	2.56	65.0	—	8184	8811	535	475
112-10-4141		TC-ER	3		1	110	2.79	2.56	65.0	—	8423	9050	535	475
112-10-4142		TC	4		—	140	3.56	2.90	73.7	—	10907	11669	428	380
112-10-4143		TC-ER	4		1	140	3.56	2.90	73.7	—	11146	11908	428	380
112-10-4144	1000(61X)	TC	3	80	—	140	3.56	2.94	74.7	—	10856	11618	615	545
112-10-4145		TC-ER	3		1/0	140	3.56	2.94	74.7	—	11157	11919	615	545
112-10-4146		TC	4		—	140	3.56	3.26	82.8	—	14229	15162	492	436
112-10-4147		TC-ER	4		1/0	140	3.56	3.26	82.8	—	14530	15463	492	436

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

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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 18 - 9 AWG:
per ICEA Method 1, E-2
color sequence

Sizes 8 AWG and larger:
Surface Printing of Numbers per
ICEA Method 4

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

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

THE OKONITE COMPANY
Ramsey, New Jersey 07446