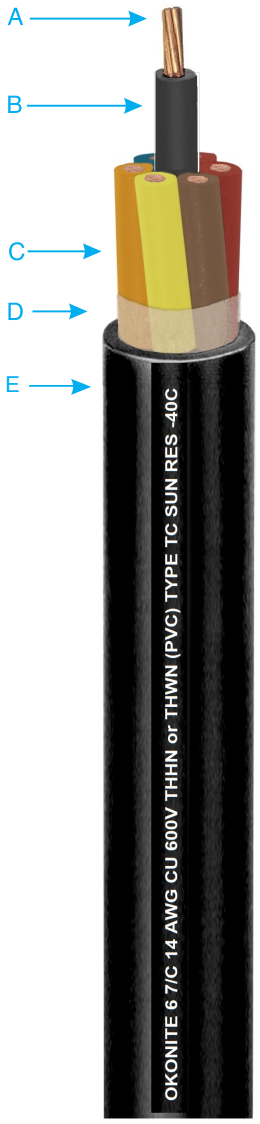
Okoseal-N Type TC Cable (THHN/THWN-2)

UL Type TC and cUL Type CIC 600V Power and Control Tray Cable

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

For Cable Tray Installations - Sunlight Resistant - Direct Burial Rated



A Uncoated Copper Conductors
B Okoseal Insulation
C Clear Nylon Covering
D Binder Tape/Rip Cord
E Black Okoseal Jacket

Insulation

Okoseal® is Okonite's trade name for one of its PVC (polyvinyl chloride) insulating compounds with excellent electrical, mechanical and flame resistant properties.

Conductor Jacket

The nylon jacket over the insulation provides excellent mechanical strength and resistance to oil, gasoline and chemicals

Cable Jacket

The Okoseal (PVC) jacket is mechanically rugged and has excellent resistance to acids and most chemicals.

Applications

Okoseal-N Type TC tray cable is suitable for use in power, lighting, control, and signal circuits, indoors or outdoors. It may be installed in cable trays, raceways, or direct buried in the ground, and may also be supported in outdoor locations by a messenger wire. The cable is permitted for Class 1 circuits as specified in NEC Article 725 and for use in cable trays within Class I, Division 2 hazardous locations in industrial establishments, where maintenance and supervision ensure that only qualified persons service the installation. Not recommended for DC operation in wet locations.

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: Okoseal insulation with clear nylon covering per UL 1581.

Color Coding: Base colors and tracers as shown on reverse of Data Sheet.

Assembly: Conductors are cabled together in accordance with UL 1277, with fillers as required and an overall binder tape.

Grounding Conductor: Where indicated, bare stranded copper in accordance with NEC Table 250.122.

Overall Jacket: Complies with UL 1277. The Okoseal compound meets or exceeds the requirements of UL 1581.

Product Feature

- UL Listed Type TC (Tray Cable), Sunlight Resistant, Direct Burial. Suitable for installation in cable tray, raceway, or direct burial, as permitted by the NEC. Rated THHN/THWN-2 conductors for use in wet or dry locations at 90°C.
- **UL 1277/IEEE Flame Tests:** Cable passes the Vertical Tray Flame Test requirements of IEEE 383 and UL1277; sizes 3/C #8 and larger also meet IEEE 1202 flame test requirements.
- **Temperature Ratings:** 90°C continuous in wet or dry locations; 130°C emergency overload; 250°C short circuit.
- **Construction Quality:** Manufactured under strict quality control to meet or exceed applicable industry standards.
- **Environmental Resistance:** Sunlight resistant; suitable for direct burial; resistant to moisture and many chemical atmospheres.
- **Performance:** High dielectric strength; thermal stability at elevated temperatures; mechanically rugged yet easy to install and terminate.
- **Design Advantages:** Small diameter and lightweight for easier handling and reduced installation cost.
- **Certifications:** CSA C22.2 No. 239 Type CIC for sizes 4/0 AWG and smaller; 1000V CSA Type CIC available for sizes 4/0 AWG and smaller.

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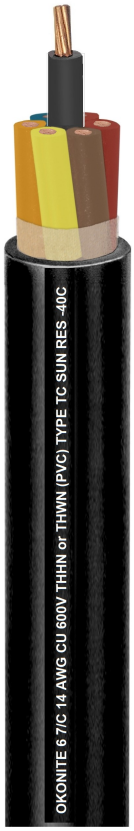
Catalog Number	Conductor Size AWG/kcmil	Number of Conductors	Insulation Thickness - mils	Jacket Thickness - mils	Jacket Thickness - mm	Approx. O.D. - Inches	Approx. O.D. - mm	Cross-Sectional Area (sq. in.)†	Approx. Net Weight lbs./1000'	Approx. Ship Weight lbs./1000'	90°C Wet or Dry NEC Ampacity (1)*	75°C Wet NEC Ampacity (1)*
203-70-3501	14(7X)	Twin	15	45	1.14	0.32	8.2	0.08	65	85	15	15
203-70-3503		3		45	1.14	0.34	8.6	0.09	80	100	15	15
203-70-3504		4		45	1.14	0.36	9.3	0.10	100	120	15	15
203-70-3505		5		45	1.14	0.39	10.0	0.12	120	140	15	15
203-70-3507		7		45	1.14	0.43	10.8	0.14	155	175	15	14
203-70-3509		9		45	1.14	0.49	12.4	0.19	200	220	15	14
203-70-3512		12		60	1.52	0.58	14.7	0.26	275	295	12	10
203-70-3519		19		60	1.52	0.67	16.9	0.35	405	425	12	10
203-70-3537		37		80	2.03	0.97	23.2	0.66	775	795	10	8
203-70-3601	12(7X)	Twin	15	45	1.14	0.36	9.1	0.10	85	105	20	20
203-70-3603		3		45	1.14	0.38	9.6	0.11	110	130	20	20
203-70-3604		4		45	1.14	0.41	10.4	0.13	140	160	20	20
203-70-3605		5		45	1.14	0.44	11.2	0.15	170	190	20	20
203-70-3607		7		45	1.14	0.48	12.2	0.18	220	240	20	17
203-70-3609		9		60	1.52	0.59	14.9	0.27	300	320	20	17
203-70-3612		12		60	1.52	0.65	16.6	0.33	390	410	15	12
203-70-3619		19		60	1.52	0.76	19.2	0.45	580	600	15	12
203-70-3637		37		80	2.03	1.09	26.4	0.85	1120	1140	12	10
203-70-3701	10(7X)	Twin	20	45	1.14	0.43	10.9	0.14	125	145	30	30
203-70-3703		3		45	1.14	0.45	11.5	0.16	165	185	30	30
203-70-3704		4		45	1.14	0.50	12.6	0.19	210	230	30	28
203-70-3705		5		60	1.52	0.57	14.5	0.26	275	295	30	28
203-70-3707		7		60	1.52	0.62	15.7	0.30	360	380	28	24
203-70-3709		9		60	1.52	0.72	18.2	0.40	460	480	28	24
203-70-3712		12		60	1.52	0.80	20.4	0.51	600	620	28	17



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

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.

Ampacities (1)

Ampacities are based on Table 310.16 of the National Electrical Code for conductors rated 90°C dry or 75°C wet, in multiple conductor cable at an ambient temperature of 30°C (86°F)

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 a the cable is in accordance with NEC 310.15(C)(1).

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

*Grounds may be split.

*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	Number of Conductors	Insulation Thickness - mils	Grounding Conductor AWG*	Jacket Thickness - mils	Jacket Thickness - mm	Approx. O.D. - Inches	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)
116-70-3103	8(7X)	3	30	—	60	1.52	0.59	15.0	0.27	253	277	55	50
116-70-3201		3		10	60	1.52	0.62	15.8	0.30	305	329	55	50
116-70-3104		4		—	60	1.52	0.65	16.5	0.33	325	364	45	40
116-70-3205		4		10	60	1.52	0.67	17.0	0.35	375	414	45	40
116-70-3123	6(7X)	3	30	—	60	1.52	0.67	17.0	0.35	360	399	75	65
116-70-3207		3		8	60	1.52	0.70	17.8	0.39	433	472	75	65
116-70-3124		4		—	60	1.52	0.73	18.5	0.42	465	504	60	52
116-70-3209		4		8	60	1.52	0.78	19.8	0.48	545	584	60	52
116-70-3301	4(7X)	3	40	—	60	1.52	0.81	20.6	0.52	549	588	95	85
116-70-3303		3		8	60	1.52	0.83	21.1	0.54	630	694	95	85
116-70-3305		4		—	80	2.03	0.94	23.9	0.69	749	813	76	68
116-70-3307		4		8	80	2.03	0.97	24.6	0.74	837	901	76	68
116-70-3311	2(7X)	3	40	—	80	2.03	0.98	24.9	0.75	842	906	130	115
116-70-3313		3		6	80	2.03	0.98	24.9	0.75	923	987	130	115
116-70-3315		4		—	80	2.03	1.07	27.2	0.90	1096	1176	104	92
116-70-3317		4		6	80	2.03	1.12	28.4	0.99	1232	1312	104	92

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Conductor Color Coding Sequence

Color Coding per ICEA Method 1, E-2

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	

Special Order: Any or all of the following conductors may be added when specifically requested by the customer to meet their specific 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

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