Okotherm® CIC P-OS Fire Resistant

600V Instrumentation Cable - TC-ER

Single & Multiple Pair or Triad Nickel Coated Copper Conductors
90°C Dry Rating
For Cable Tray Use, Sunlight Resistant

A Nickel Coated Copper
B Okotherm (Silicone) Thermoset Insulation
C Fiberglass Braid - Coded per ICEA
D Nickel Coated Copper Drain Wire
E Glass Fillers, as needed
F Aluminum-Mylar Shield Tape
G Black Okoclear TP (TPPO)

Cable Description

Nickel coated copper conductors, Okotherm® CIC fire resistant thermoset silicone insulation, with FR tape if required, color or number coded fiber glass braid, cabled conductors, nickel coated drain wire, aluminum-mylar shield tape, Okoclear®-TP (TPPO) jacket.

Conductors: Class B stranded nickel coated copper.
Insulation: Okotherm Thermoset Silicone, with FR tape if required.
Braid: Fiberglass Braid
Color Code: ICEA S-73-532, Method 7
Assembly: Pairs or triads assembled with left hand lay. Fiberglass fillers included where required to provide a round Cable.
Cable Shield: Aluminum-mylar tape overlapped to provide 100% coverage and a 7-strand nickel coated copper drain wire, same size as conductors.
Jacket: Black Okoclear-TP (TPPO).

Applicable Industry Standards:

UL 44 & 1277, NEMA WC 57 (ICEA S-73-532) & NEMA WC 70 (ICEA S-95-658), ASTM B355.

Flame Tests:

IEC 60331, UL 1277, UL 1685, IEEE 1202.

Applications

Okotherm CIC 600 volt instrumentation cables are used in systems where, in the event of a fire, circuit integrity is required in order to maintain a process or to safely shut down the process. Fire resistance is determined by compliance to the IEC 60331 circuit integrity fire test. Okotherm CIC cables maintain circuit integrity based on qualification to IEC standard 60331, for all temperatures and times up to and including 2000°F for three hours. When exposed to a fire, the Okotherm CIC insulation becomes an electrically insulating ceramic-like ash that is capable of maintaining the operating voltage. The overall shield eliminates most of the static interference from the electric field radiated by power cables and other electrical equipment.

Okotherm CIC 600 volt instrumentation cables should be considered on circuits designed for fire detection and suppression, alarms, communication, circuits requiring redundancy and personnel egress.

Product Features

- UL listed Type TC-ER per E60422.
- Sunlight resistant.
- Passes UL 1277 vertical tray flame test.
- Passes IEEE 1202-1991 vertical tray flame test.
- Conforms with “LS” limited smoke requirements of UL 1277 (3 or more Type RHH insulated conductors) for sizes 14 AWG and larger.
- 90°C continuous rating.
- 130°C emergency overload rating.
- 250°C short circuit rating.
- Individual pairs or triads are numbered and color coded for simplified hook-up.
- Good EMI shielding characteristics.
- Individual units are completely isolated for maximum noise rejection.
- Quality control inspected to meet or exceed applicable industry standards.
- Jacket resistant to moisture and most chemical atmospheres.
- Thermal stability at elevated temperatures.
- Easy to install and terminate.
- Mechanically rugged.
- Fire Resistant - Qualified to meet IEC 60331, -11 & -21, including temperature and time up to 2000°F for 3 hours, respectively.
- Fire Resistant - Qualified to meet the Hydrocarbon Pool Circuit Integrity Fire Test, utilizing the UL 1709 time-temperature curve, with minimum requirements of 65,000BTU/h-ft2 heat flux, 2000°F flame temperature, 30 minute test duration, and 15A load.

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Catalog Number	Conductor Size AWG/kcmil	Number of Pairs	Number of Triads	Jacket Thickness-mils	Nominal Cable O.D. - Inches	Cross-Sectional Area † (sq. in.)	Approx. Net Weight (lbs./1000')	Approx. Ship Weight (lbs./1000')
#16 Nickel Coated Copper Conductors, IEC Rating: 2000°F for 3 hours								
267-20-4401		1		45	0.50	0.20	122	172
267-20-5502		2		80	0.97	0.73	298	427
267-20-5504		4		80	1.02	0.81	432	432
267-20-5508		8		80	1.12	0.98	742	891
267-20-5512	16(7X)	12		80	1.44	1.63	1062	1062
267-20-5516		16		110	1.75	2.41	1473	1660
267-20-5524		24		110	2.08	3.39	2096	2727
267-20-5536		36		110	2.61	5.34	3039	3413
268-20-4401		1		60	0.57	0.25	174	236
268-20-5502		2		80	0.79	0.48	310	349
268-20-5504		4		80	1.07	0.90	564	645
268-20-5508	16(7X)	8		80	1.34	1.42	1007	1112
268-20-5512		12		80	1.64	2.12	1503	1789
268-20-5516		16		110	1.87	2.74	1985	2359
268-20-5524		24		110	2.29	4.12	2870	3454
#14 Nickel Coated Copper Conductors, IEC Rating: 2000°F for 3 hours								
267-20-4501		1		45	0.52	0.21	126	176
267-20-4802		2		80	1.00	0.78	303	383
267-20-4804		4		80	1.05	0.86	442	522
267-20-4808	14(7X)	8		80	1.35	1.43	759	865
267-20-4812		12		80	1.61	2.03	1069	1212
267-20-4816		16		110	1.88	2.77	1472	1659
267-20-4824		24		110	2.29	4.10	2095	2430
267-20-4836		36		110	2.72	5.80	2987	3458
268-20-4501		1		60	0.58	0.27	177	198
268-20-4502		2		80	0.91	0.65	352	432
268-20-4504		4		80	1.12	0.98	584	664
268-20-4508	14(7X)	8		80	1.44	1.63	1037	1180
268-20-4512		12		80	1.78	2.49	1578	1952
268-20-4516		16		110	2.01	3.17	2027	2611
268-20-4524		24		110	2.45	4.71	2922	3506

ELECTRICAL SPECIFICATIONS
Per UL Standard 44 and 2250

Conductor Resistance, nominal(1 Pr)..ohms/1000 ft.....@25°C
.....Ni. Cu
16 AWG 5.89
14 AWG 3.69
Insulation Test Voltage (spark test).....7500 Volts ac
Dielectric Test Voltage .....3000 V ac for 5 min.
Insulation Resistance Constant @60°F minimum
(natural material typical value).....4000 Megohms-1000 ft.
Loop Resistance, nominal (1 Pr).....ohms/1000 ft @25°C
....Ni.Cu
16 AWG 11.8
14 AWG.....7.4

† **Cross-sectional** area for calculation of cable tray fill in accordance with NEC Section 392.22.
Length Tolerance: Cut lengths of 1000 feet or longer are subject to a tolerance of ± 10%; less than 1000 feet ± 15%.

THE OKONITE COMPANY
Ramsey, New Jersey 07446