



Okozel-Okozel® Type P-OS

Type ITC/PLTC Thermocouple Extension Cable

Single Pair - Overall Shield - 150°C Rating

For Cable Tray Use



- A Solid Thermocouple Alloy Conductors
- B Okozel Insulation
- C Twisted Pair
- D Aluminum-Nomex-Polyester Cable Shield
- E Coated, Stranded Copper Drain Wire
- F Okozel Jacket

Insulation and Jacket

Okozel is Okonite's trade name for ETFE Fluoropolymer, a modified Ethylene Tetrafluoroethylene. Okozel is extremely rugged with excellent resistance to cut-through and abrasion. It is chemically inert. Okozel is flame-retardant and non-propagating, passes the IEEE 383 vertical tray flame test, and is rated "non-burning" under ASTM D635. It is rated for 150°C (302°F) conductor operating temperature for continuous use and retains all useful physical properties at temperatures down to -100°C (-148°F).

Specifications

Conductors: Solid alloys per ANSI MC 96.1

Insulation: Flame-retardant, radiation-resistant Okozel, a modified ETFE fluoropolymer.

Conductor Identification: Pigmented insulation on individual conductors.

Assembly: Conductors assembled with left-hand lay.

Cable Shield: Aluminum-nylon-polyester tape overlapped to provide 100% coverage, and a 7-strand coated copper drain wire, same size as conductor.

Jacket: Heavy duty, flame-retardant, radiation, oil, fuel and chemical resistant Okozel.

Cable meets or exceeds the requirements of UL 13 and UL 2250, NEMA HP-100.

Classification: UL Listed as ITC/PLTC - Instrument Tray Cable/Power Limited Tray Cable for use in accordance with Article 335 and 722 of the 2023 National Electrical Code.

The cables comply with UL 2250 for ITC and UL 13 for PLTC, CL2 and CL3.

Applications

Okonite Okozel Type P-OS (Pair-Overall Shield) Thermocouple Extension cables are recommended for use in fossil fueled generating stations where continuity of critical control circuits is of primary importance. Designed for use as instrumentation and process control cables in ITC non-classified or labeled circuits up to 150 volts and 5 amps (750VA) and in Class 2 or 3 Power-Limited circuits where shielding against external interference is required; indoors or outdoors; rated 150°C in dry locations and 75°C in wet locations; in cable trays; in raceways; supported by a messenger wire; under raised floors; for direct burial. Suitable Class I, Division 2; Class II, Division 2; or Class III, Division 1 haz-

ardous locations. Also for use as Power-Limited fire protective signaling cable (FPL) per NEC Article 760.

Okozel thermocouple extension cables are also recommended for high ambient temperature areas up to 150°C (302°F) in industrial applications or for cold weather installations in excess of -65°C (-85°F).

Product Features

- Good noise rejection.
- Low surface friction provides easier installation.
- Smaller and lighter diameter permits more cables per tray.
- 150°C continuous operating temperature.
- Cold installation temperature in excess of -65°C.
- Exceptional abrasion resistance will not cut or tear.
- Flame-retardant and non-propagating. Passes IEEE 383 and UL Vertical Tray Flame Tests.
- Low smoke emission.
- Chemically inert-unaffected by acids, bases, solvents and cleaning agents, fuels and hydraulic fluids.
- High dielectric strength.
- Low dielectric constant.
- Special designs available that are qualified for nuclear generating stations at 90°C in accordance with IEEE Standards 383-74 and 323-74.

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Product Data

Section 5: Sheet 36



Conductors: 16 AWG
Okozel Insulation: 15 mils

ASA/ISA Type	Catalog Number	Jacket Thickness (mils)	Nominal Cable O.D. - (In.)	Approx Net Weight (lbs/1000')	Approx Ship Weight (lbs/1000')
EX	284-40-1401	15	0.21	37	42
JX	284-40-2401	15	0.21	37	42
KX	284-40-3401	15	0.21	37	42
TX	284-40-4401	15	0.21	38	43

ASA/ISA COLOR CODE AND LIMITS OF ERROR										
ASA/ISA Type	Positive Wire		Negative Wire		Outer Jacket Color	Temperature Range °C	Limits of Error		Wire Size (AWG)	Nom. Loop Resistance Per 1000' @ 20°C
	Alloy	Color	Alloy	Color			Standard	Special (1)		
EX	Chromel	Purple	Constantan	Red	Purple	0 to 200°C	± 1.7°C	—	16	27.8 ohms
JX	Iron	White	Constantan	Red	Black	0 to 200°C	± 2.2°C	± 1.1°C	16	13.9 ohms
KX	Chromel	Yellow	Alumel	Red	Yellow	0 to 200°C	± 2.2°C	—	16	23.6 ohms
TX	Copper	Blue	Constantan	Red	Blue	-60 to 100°C	± 1.0°C	± 0.5°C	16	12.0 ohms

ELECTRICAL SPECIFICATIONS Per UL Standards 13 and 2250	
Insulation Test Voltage (spark test).....	5000 Volts ac
Dielectric Test Voltage.....	1500 Volts ac for 15 sec.
Insulation Resistance Constant @60°F minimum (natural material typical value).....	50,000 ohms-1000 ft.

SX available upon request.

(1) Special grade alloy conductors for JX and TX are available on special order.

Length Tolerance: Cut lengths of 1000 feet or longer are subject to a tolerance of ± 10%; less than 1000 feet ± 15%.