# C-L-X® Okoseal-N® P-OS





## **UL Type MC-HL and cUL Type ACIC-TC Instrumentation Cable**

Single Pair or Triad-Overall Shield

600 Volts 90°C Rating 600/1000V Marine Cable

For Cable Tray Use - Sunlight Resistant - For Direct Burial

## **Specifications**

**Conductors:** Bare soft annealed copper, Class B, 7-strand concentric per ASTM B-8.

**Insulation:** Flame-retardant Okoseal (PVC) per UL 83, 15 mils nominal thickness, 90°C temperature rating.

**Jacket:** Nylon per UL 83, 4 mils nominal thickness. **Conductor Identification:** Pigmented black and white in pairs; black, white and red in triads.

**Assembly:** Pairs or triads assembled with lefthand lay. Non-wicking fillers included where required to provide a round cable.

**Cable Shield:** Aluminum/Polyester tape overlapped to provide 100% coverage, and a #16 AWG stranded tinned copper drain wire.

**Inner Jacket:** Black, flame-retardant Okoseal per UL Standard 1569. A rip cord is laid longitudinally under the jacket to facilitate removal.

**C-L-X Sheath:** A close-fitting, impervious, continuously welded and corrugated, aluminum sheath meeting UL 1569 provides complete protection against moisture, liquids, and gases, has excellent mechanical strength, and provides equipment grounding through the sheath.

**Outer Jacket:** Black, flame-retardant Okoseal per UL Standard 1569.

#### **Applications**

Okonite C-L-X Single pair or triad type P-OS instrumentation cables are designed for use on Class 1 Remote-Control Signaling circuits or where a 600V cable is desired, as instrumentation, process control, or computer cable transmitting signals at levels above 100 milli-volts in circuits where shielding against external interference is required, but shielding against interference among groups is not required. For use indoors or outdoors; wet or dry locations; in cable trays; in raceways; supported by a messenger wire; for direct burial; in Classes I, II, and III, Divisions 1 and 2 hazardous locations per NEC Articles 501, 502, 503, 504 and 505; in Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 per CEC.

The overall shield eliminates most of the static interference from the electric field radiated by power cables and other electrical equipment. The C-L-X sheath provides the physical protection against mechanical damage as required in NEC Section 725-8 as well as complete protection against moisture or gases entering the cable.

For dc service in wet locations, X-Olene insulation is recommended.

These cables also comply with UL requirements for Types CL2 and CL3.

#### **Product Features**

Complete pre-packaged, factory-tested wiring system—color coded.

C-L-X enclosure permits installation in cable tray containing light and power cables without a barrier separator.

Impervious, continuous sheath excludes moisture, gases and liquids.

Excellent compression and impact resistance.

Lower installed system cost than conduit or EMT systems.

Suitable for low temperature installation to -40°C.

### Applicable Standards

- UL listed for cable tray use, direct burial and sunlight resistant.
- Vertical Tray Flame Tests.
  IEEE 383-1974, FT4/IEEE 1202,
  ICEA T-29-520 (210,000 BTU)
- American Bureau of Shipping Type approved as CWCMC Type MC-HL.
- API Standards 14F and 14FZ.
- ASTM B-8.
- OSHA Acceptable
- UL 2225 Type MC-HL
- UL 83
- UL 1309 (CWCMC) Marine Shipboard
- UL 1569
- UL certified as Marine Shipboard in accord with IEEE 1580, Marine Shipboard Cable rated 600/1000 volts.
- NEC Articles 501, 502, 503, 504 and 505 for Classes I, II and III, Divisions 1 and 2 Hazardous Locations.
- NPLF per NEC Code Article 760.
- CSA C22.2 No. 230 Type TC
- CSA C22.2 No. 239 Type ACIC
- cUL Type ACIC-TC complies with CEC Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 Hazardous Locations.



- A Bare Stranded Copper Conductor
- **B** Okoseal Insulation/Nylon Jacket
- C Twisted, Shielded Pairs/TriadsD Tinned Stranded Copper Drain Wire
- E Aluminum/Synthetic Polymer Tape
- F Rip Cord
- G Inner Black Okoseal Jacket
- H Impervious, Continuous, Corrugated Aluminum C-L-X Sheath
- J Outer Black Okoseal Jacket

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Conductors: #16 AWG; Okoseal Insulation: 15 mils: Nylon Jacket: 4 mils





### #16 AWG — Single Pair & Triad (P-OS) Type MC-HL

Catalog hur	humber of	Pairs	Triads	ket hits	cted O.D. inches	D. Inches	ess, hills Northal	adles Crosses	Met it pe	ndoo weight
▲ 564-60-3401 ▲ 564-65-3401	1	1	66 58	.35 .35	.53 .53	50 50	.64 .64	0.32 0.32	182 190	221 229

ELECTRICAL SPECIFICATIONS									
Conductor Resistance, maximumohms/1000									
@20°C	@25°C								
16 AWG	4.43								
Insulation Test Voltage (spark test)6000 Volts ac									
Dielectric Test Voltage2000 Volts	ac.								
Shield Isolation Test									
Pair to Cable Shield exceeds 100 Megohms-	1000 ft.								
Insulation Resistance Constant @60°F minimum									
(natural material typical value) 2000 Ohms-1000 ft.									
Loop Resistance, nominal (2 conductor)ohms/1000 ft									
@20°C	@25°C								
16 AWG	8.86								
Mutual Capacitance (PF/ft.)*									
#1660									
*Typical Value									

▲ Authorized Stock Item: Available from our Customer Service Centers.

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

Jackets: Optional jacket types available - consult local sales office.

Copper or bronze C-L-X available on special order.

**To order** C-L-X Type P-OS without the outer Okoseal jacket (not "HL" listed), change the sixth digit of the catalog number from 3 to 1, for example to order 1 pr. 20 AWG with a bare aluminum C-L-X, the catalog number would be 564-10-1212.

**Length Tolerance:** Cut lengths of 1000 ft. or longer are subject to a tolerance of  $+ \ -10\%$ ; less than 1000 ft.  $+ \ -15\%$ 



