



C-L-X® Okoseal-N® P-OS



Type MC-HL Armored Class 1 Instrumentation Cable

Single Pair or Triad-Overall Shield

600 Volts 90°C Rating MC-HL — 600/1000V Marine Cable

For Cable Tray Use - Sunlight Resistant - or For Direct Burial



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

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 left-hand lay. Non-wicking fillers included where required to provide a round cable.

Cable Shield: Aluminum/Polyester tape overlapped to provide 100% coverage, and a #18 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.

Classifications: UL Listed as Type MC-HL Articles 501, 502, 503, 504 and 505 of the National Electrical Code.

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 millivolts 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. Listed by American Bureau of Shipping (ABS) as CWCMC-MC-HL and by UL as marine Ship-board. Also for use as non power limited fire protective signaling cable (NPLF) per NEC Code 760.

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

- UL listed for cable tray use, direct burial and sunlight resistant.
- Passes the IEEE 383-1974 and IEEE 1202 vertical tray flame tests.
- Passes the 210,000 BTU Vertical Tray Flame Test utilizing the corner configuration and the ICEA T-29-520 Vertical Tray Flame Test.
- 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.
- C-L-X sheath exceeds equipment grounding conductor requirements of NEC Section 250-95.
- Excellent compression and impact resistance.
- Lower installed system cost than conduit or EMT systems.
- OSHA Acceptable.
- Complies with Articles 501, 502, 503, 504 and 505 for hazardous locations.
- UL 1309 (CWCMC) listed & UL classified in accord with IEEE 1580 as Marine Ship-board Cable rated 600/1000 volts.
- American Bureau of Shipping Type approved as CWCMC Type MC-HL.
- Recognized by US Coast Guard as Type MC and CWCMC.
- Suitable for low temperature installation to -40°C.
- Meets API Standards 14 F and 14FZ.

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



Product Data Section 5: Sheet 40

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

Catalog Number	Number of Pairs	Number of Triads	Inner Jacket Thickness - mils	Inner Jacket Nominal O.D. - mils	C-L-X O.D. - Inches	Outer Jacket mils	Nominal Cable O.D. - Inches	Cross-Sectional Area* Sq. In.	Net Weight Lbs./1000'	Ship Weight Lbs./1000'
▲ 564-60-3401	1		66	.35	.53	50	.64	0.32	182	221
▲ 564-65-3401		1	58	.35	.53	50	.64	0.32	190	229

ELECTRICAL SPECIFICATIONS

Conductor Resistance, maximum	ohms/1000 ft.	
	@20°C	@25°C
16 AWG	4.34	4.43
Insulation Test Voltage (spark test)	6000 Volts ac	
Dielectric Test Voltage	2000 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	8.68	8.86
Mutual Capacitance (PF/ft.)*		
#16	60	

*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%