



### C-L-X® Okoseal-N® P-OS

#### Type MC-HL Armored Class 1 Instrumentation Cable

Multiple Pairs or Triads-Overall Shield

600 Volts 90°C Rating

For Cable Tray Use-Sunlight Resistant-For Direct Burial



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

#### Specifications

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

**Insulation:** Flame-retardant Okoseal (PVC), 15 mils nominal thickness; nylon jacket, 4 mils nominal thickness; 90°C temperature ratings per UL Subject 1277.

**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 7-strand tinned copper drain wire, same size as conductor.

**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, and 503 of the National Electrical Code. These cables comply with UL requirements for CL1, CL2 and CL3.

#### Applications

Okonite C-L-X multiple 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 and Class I, Zones 1 and 2 hazardous locations per NEC Articles 501, 502, 503 and 505. Listed by American Bureau of Shipping (ABS) as CWCMC-MC-HL and by UL as Marine Shipboard. 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 725-18 as well as complete protection against moisture or gases entering the cable.

For dc service in wet locations, X-Olene insulation having an overall aluminum C-L-X armor construction is recommended.

#### Product Features

- UL Listed for cable tray use, direct burial and sunlight resistant.
- Passes the IEEE 383-1974 and IEEE 1202-1991 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.
- Individual pairs or triads are numbered and color coded for simplified hook-up.
- Impervious, continuous sheath excludes moisture, gases and liquids.
- C-L-X sheath exceeds equipment grounding conductor requirements of NEC Section 250-122.
- Excellent compression and impact resistance.
- Lower installed system cost than conduit or EMT systems.
- OSHA Acceptable.
- Complies with Articles 501, 502 & 503 for hazardous locations.
- UL listed as Type MC-HL and Marine Shipboard cable.
- American Bureau of Shipping listed as CWCMC Type MC-HL.
- Meets API Standards 14F and 14F2.
- Suitable for low temperature installation of -40°C.

# C-L-X Okoseal-N P-OS

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Multiple Pairs or Triads-Overall Shield  
600V 90°C Rating



# Product Data Section 5: Sheet 41

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

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

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

Catalog Number	Number of Pairs	Number of Triads	Inner Jacket Thickness - mils	Core O.D. Nominal -	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'
564-60-3402	2	40	0.38	0.58	50	0.69	0.37	241	321	
564-60-3404	4	40	0.47	0.71	50	0.82	0.53	326	406	
564-60-3406	6	50	0.58	0.80	50	0.91	0.65	397	477	
564-60-3408	8	50	0.66	0.89	50	1.00	0.79	457	537	
564-60-3410	10	50	0.76	1.02	50	1.13	1.00	545	625	
564-60-3412	12	50	0.80	1.06	50	1.17	1.08	592	672	
564-60-3416	16	50	0.87	1.15	50	1.26	1.25	783	873	
564-60-3420	20	50	0.98	1.29	50	1.40	1.54	911	1017	
564-60-3424	24	50	1.08	1.37	50	1.48	1.72	1020	1163	
564-60-3436	36	50	1.32	1.64	60	1.78	2.49	1417	1560	
564-60-3450	50	50	1.48	1.83	60	1.96	3.02	1860	2047	
564-65-3404	4	40	0.51	0.71	50	0.82	0.53	399	479	
564-65-3408	8	50	0.71	0.93	50	1.04	0.85	605	711	
564-65-3412	12	50	0.85	1.11	50	1.22	1.17	879	1022	
564-65-3416	16	50	0.93	1.19	50	1.30	1.33	1138	1281	
564-65-3424	24	50	1.16	1.47	50	1.58	1.96	1550	1737	
564-65-3436	36	50	1.42	1.74	60	1.87	2.75	2100	2392	

#### 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  
 Insulation Resistance Constant @60°F minimum  
 (natural material typical value) .....2000 ohms-1000 ft.  
 Loop Resistance, nominal (2 cdr.) - ohms/1000 ft @20°C .....@25°C  
 16 AWG .....8.68 . . . 8.86  
 Mutual Capacitance (PF/ft.)\*  
 #16 .....54  
 \*Typical Value

\*Cross-sectional area for calculation of cable tray fill in accordance with NEC Section 392.9.

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

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

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%