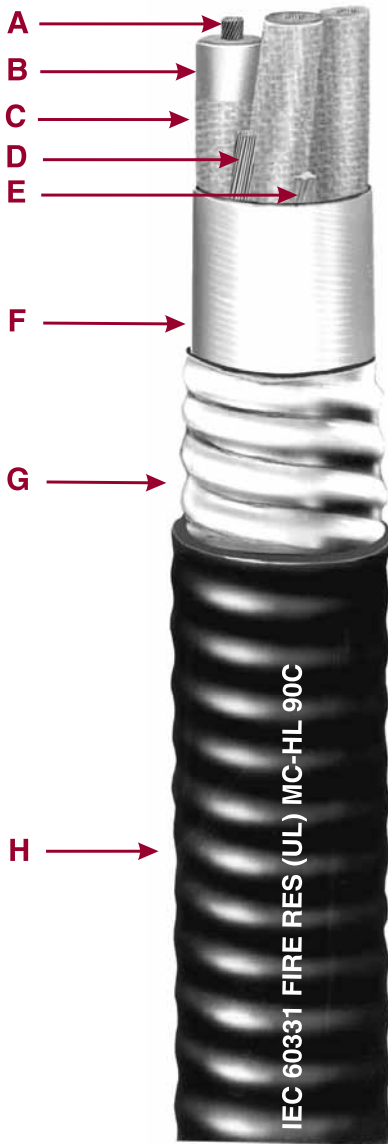




**Okotherm® CIC P-OS Fire Resistant Cable**  
**600V Instrumentation Cable—Type MC-HL C-L-X, Aluminum Sheath**  
Single & Multiple Pair or Triad - Tin or Nickel Coated Copper Conductors  
90°C Wet or Dry Rating  
For Cable Tray use, Sunlight Resistant, for Direct Burial



- A** Nickel or Tin Coated Copper Conductors
- B** Okotherm (Silicone) Thermoset Insulation
- C** Fiberglass Braid - Coded per ICEA
- D** Nickel or Tin Coated Copper Drain Wire
- E** Glass Fillers, as needed
- F** Aluminum - Mylar Shield Tape
- G** Impervious, Continuous, Corrugated, Aluminum C-L-X Sheath
- H** Black Okoseal Jacket

**Cable Description**

Tin or nickel coated copper conductors, Okotherm CIC fire resistant thermoset silicone insulation, with FR tape if required, color or number coded fiberglass braid, cabled conductors, tin or nickel coated drain wire, aluminum-mylar shield tape, aluminum CLX sheath, Okoseal (PVC) jacket.

**Conductors:** Tin or nickel coated copper

**Insulation:** Okotherm Thermoset Silicone, with FR tape if required

**Braid:** Fiber Glass 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 tin or nickel coated copper drain wire, same size as conductors.

**Armor-CLX:** Continuously Welded and Corrugated Aluminum

**Outer Jacket:** Black PVC

**Applicable Industry Standards:**

— UL 1569, 1309, & 2225 — ICEA S-73-532 (NEMA WC 57) — ASTM B-33 & B-355.

**Flame Tests:**

IEC 60331, ICEA T-29-520, 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.

Okotherm CIC CLX Type MC-HL cables with the impervious, continuous aluminum corrugated sheath are recommended as an alternative to a wire conduit system. These cables may be installed indoors or outdoors, in wet or dry locations, as open runs of cable secured to supports not more than six feet apart, in cable tray, as an aerial cable on a messenger, in any approved raceway, direct burial, or encased in concrete. They are also approved for use in Class I & II, Division 1 and 2, Class III, Division 1 and 2 and Class I, Zones 1 & 2 hazardous locations per NEC Articles 501, 502, 503, and 505. They are listed by the American Bureau of Shipping

(ABS) as CWCMC-CLXM and by UL as marine shipboard cable.

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 as Type MC-HL cable and Marine Shipboard Cable, E38916 and E137931.
- 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 ICEA T-29-520 Vertical Tray Flame Test.
- Complete pre-packaged, factory-tested wiring system.
- Individual pairs or triads are numbered and color coded for simplified hook-up.
- C-L-X cables are quality control inspected to meet or exceed applicable UL standards.
- 90°C continuous operating temperature in all types of installations.
- 130°C emergency rating.
- 250°C short circuit rating.
- Good EMI shielding characteristics.
- Impervious, continuous metallic sheath excludes moisture, gases and liquids.
- Reduced sealing fitting requirements in Class I, Division 2 or Zone 2 hazardous locations (NEC Section 501.5(E) or 505.15(C)).
- Lower installed system cost than conduit or EMT systems.
- Provides excellent grounding safety.
- Excellent compression and impact resistance.
- Continuous long lengths.
- Minimum installation temperature of -40°C or °F.
- American Bureau of Shipping listed as CWCMC Type MC.
- Conforms to applicable requirements of IEEE 1580.
- Fire Resistant - qualified to 2000°F for 3 hours per IEC 60331.
- Bare, tinned or nickel copper conductors available based on temperature and time requirements.

# Okotherm CIC P-OS Fire Resistant 600V Instrumentation Cable — Type MC-HL, C-L-X Aluminum Sheath Single, Multiple Pair or Triad Conductors- 90°C Wet for Dry Rating For Cable Tray Use - Sunlight Resistant - For Direct Burial Okotherm Insulation: 45 mils



## Product Data Section 5: Sheet 45

Catalog Number	Conductor Size (AWG)	Number of Pairs	Number of Triads	C-L-X O.D. - inches	C-L-X O.D. - mm	Jacket Thickness-mils	Nominal Cable O.D. - inches	Nominal Cable O.D. - mm	Cross-Sectional Area † (sq in)	Approx Net Weight (lbs/1000')	Approx Ship Weight (lbs/1000')
----------------	----------------------	-----------------	------------------	---------------------	-----------------	-----------------------	-----------------------------	-------------------------	--------------------------------	-------------------------------	--------------------------------

### Tin Coated Copper Conductors, IEC Rating: 750°C for 90 minutes

567-16-3301	18(7X)	1	0.53	13.5	50	0.64	16.3	0.32	152	191		
567-16-3302		2	0.89	22.6	50	1.00	25.4	0.79	261	341		
567-16-3043		4	0.89	22.6	50	1.00	25.4	0.79	327	407		
567-16-3308		8	1.11	28.2	50	1.22	31.0	1.17	521	611		
567-16-3312		12	1.34	34.0	50	1.45	36.8	1.65	706	849		
567-16-3316		16	1.51	38.4	60	1.65	41.9	2.14	913	1056		
567-16-3324		24	1.74	44.2	60	1.87	47.5	2.75	1285	1472		
567-16-3336		36	2.40	61.0	75	2.56	65.0	5.15	2014	2399		
567-16-3701		16(7X)	1	0.58	14.7	50	0.69	17.5	0.37	178	217	
567-16-3704			4	1.06	26.9	50	1.17	29.7	1.08	443	523	
567-16-3708			8	1.37	34.8	50	1.48	37.6	1.72	714	857	
567-16-3712			12	1.64	41.7	60	1.78	45.2	2.49	1011	1175	
567-16-3716			16	1.83	46.5	60	1.96	49.8	3.02	1307	1494	
567-16-3724			24	2.78	70.6	75	2.44	62.0	4.68	1969	2304	
567-16-3401			16(7X)	1	0.58	14.7	50	0.69	17.5	0.37	173	212
567-16-3402				2	0.93	23.6	50	1.04	26.4	0.85	291	371
567-16-3404	4	0.93		23.6	50	1.04	26.4	0.85	375	455		
567-16-3408	8	1.15		29.2	50	1.26	32.0	1.25	605	695		
567-16-3412	12	1.42		36.1	50	1.53	38.9	1.84	835	978		
567-16-3416	16	1.64		41.7	60	1.78	45.2	2.49	1091	1255		
567-16-3424	24	1.96		49.8	60	2.09	53.1	3.43	1562	1847		
567-16-3436	36	2.58		65.5	75	2.74	69.6	5.90	2396	2867		
567-16-3801	16(7X)	1	0.58	14.7	50	0.69	17.5	0.37	195	234		
567-16-3804		4	1.12	28.4	50	1.22	31.0	1.17	510	600		
567-16-3808		8	1.47	37.3	50	1.58	40.1	1.96	844	987		
567-16-3812		12	1.78	45.2	60	1.91	48.5	2.87	1256	1443		
567-16-3816		16	1.96	49.8	60	2.09	53.1	3.43	1560	1845		
567-16-3824		24	2.45	62.2	75	2.61	66.3	5.35	2351	2736		

### Nickel Coated Copper Conductors, IEC Rating: 2000°F for 3 hours

567-17-3301	18(7X)	1	0.58	14.7	50	0.69	17.5	0.37	175	214		
567-17-3302		2	0.97	24.6	50	1.08	27.4	0.92	309	389		
567-17-3304		4	0.97	24.6	50	1.08	27.4	0.92	416	496		
567-17-3308		8	1.29	32.8	50	1.40	35.6	1.54	711	817		
567-17-3312		12	1.51	38.4	60	1.65	41.9	2.14	1007	1150		
567-17-3316		16	1.74	44.2	60	1.87	47.5	2.75	1275	1462		
567-17-3324		24	2.01	51.1	60	2.14	54.4	3.60	1879	2171		
567-17-3336		36	2.36	59.9	75	2.52	64.0	4.99	2711	3096		
567-17-3701		16(7X)	1	0.62	15.7	50	0.73	18.5	0.42	209	289	
567-17-3704			4	1.24	31.5	50	1.35	34.3	1.43	591	697	
567-17-3708			8	1.60	40.6	60	1.73	43.9	2.35	1025	1212	
567-17-3712			12	1.60	40.6	60	1.73	43.9	2.35	1349	1536	
567-17-3716			16	2.15	54.6	60	2.28	57.9	4.08	1780	2115	
567-17-3724			24	2.80	71.1	75	2.96	75.2	6.88	2917	3388	
567-17-3401			16(7X)	1	0.62	15.7	50	0.73	18.5	0.42	198	278
567-17-3402				2	1.06	26.9	50	1.17	29.7	1.08	367	447
567-17-3404	4	1.06		26.9	50	1.17	29.7	1.08	498	578		
567-17-3408	8	1.29		32.8	50	1.40	35.6	1.54	809	915		
567-17-3412	12	1.60		40.6	60	1.73	43.9	2.35	1174	1361		
567-17-3416	16	1.87		47.5	60	2.00	50.8	3.14	1552	1844		
567-17-3424	24	2.28		57.9	75	2.44	62.0	4.68	2324	2659		
567-17-3436	36	2.75		69.9	75	2.92	74.2	6.70	3340	3811		
567-17-3801	16(7X)	1	0.62	15.7	50	0.73	18.5	0.42	230	310		
567-17-3804		4	1.34	34.0	50	1.45	36.8	1.65	685	828		
567-17-3808		8	1.74	44.2	60	1.87	47.5	2.75	1202	1389		
567-17-3812		12	2.10	53.3	60	2.23	56.6	3.91	1795	2087		
567-17-3816		16	2.40	61.0	75	2.56	65.0	5.15	2362	2747		
567-17-3824		24	2.93	74.4	75	3.10	78.7	7.55	3399	4038		

ELECTRICAL SPECIFICATIONS	
Per UL Standard 44	
Conductor Resistance, nominal(1 Pr) ..ohms/1000 ft. @25°C	
.....T.Cu. .... Ni. Cu	
18 AWG .....	7.05 ..... 9.39
16 AWG .....	4.44 ..... 5.89
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	
.....T.Cu. .... Ni. Cu	
18 AWG .....	14.1 ..... 18.8
16 AWG .....	8.9 ..... 11.8

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