



C-L-X[®] Type P-OS

Type ITC/PLTC Armored Instrumentation Cable

Multiple Pairs or Triads - Overall Shield

300 Volts - 105°C Rating

For Cable Tray Use



- A Bare Stranded Copper Conductor
- B Okoseal Insulation
- C Twisted Pairs/Triads
- D Communication Wire
- E Aluminum/Polyester Tape
- 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) per UL 13 and 2250, 15 mils nominal thickness, 105°C temperature rating.

Conductor Identification: Pigmented black and white in pairs, black, red and white in triads; white conductor numerically printed for group identification.

Communication Wire: 22 AWG, solid bare copper conductor, 12 mils nominal flame-retardant Okoseal insulation, 105°C temperature rating.

Assembly: Pairs or triads assembled with left-hand lay. Flame-retardant, 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, low temperature Okoseal per UL 13 and 2250. 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 provides complete protection against moisture, liquids, and gases, has excellent mechanical strength and provides equipment grounding through the sheath.

Outer Jacket: Black, flame-retardant, low temperature Okoseal per UL 13 and 2250.

Classifications: UL Listed as ITC/PLTC - Instrument Tray Cable/Power Limited Tray Cable for use in accordance with Article 727 and Article 725 of the National Electrical Code.

Cables comply with UL 2250 and UL 13 for PLTC, CL2 and CL3.

Applications

Okonite Type C-L-X P-OS (Pairs/triads - Overall Shield) instrumentation cables are designed for use in instrumentation, process control 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, but shielding against interference among groups is not required; indoors or outdoors; in wet or dry locations with conductor operating temperatures up to 150°C; 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 2 and Class I, Zone 2 hazardous locations. Also for use as power-limited fire protective signaling cable (FPL) per NEC Code 760. The C-L-X sheath provides physical protection against mechanical damage. It may be installed in

both exposed and concealed work, secured to supports not greater than 6 feet apart.

The overall shield eliminates most of the static interference from the electric field radiated by power cables and other electrical equipment.

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

Product Features

- Passes the UL 1581 & IEEE 383-1974 vertical tray flame tests.
- Passes the IEEE 1202-1991 vertical tray flame test (2 Pr #18 AWG and larger).
- Passes the 210,000 BTU/hr vertical tray flame test per ICEA T-29-520 and the 210,000 BTU/hr corner configuration test.
- UL listed as sunlight resistant.
- UL listed for direct burial (2 PR #20 AWG and larger).
- Complete prepackaged, factory-tested wiring system-color coded.
- C-L-X cables are quality control inspected to meet or exceed applicable UL Standards.
- 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.
- Excellent noise rejection.
- Impervious, continuous sheath excludes moisture, gases and liquids.
- C-L-X sheath exceeds equipment grounding conductor requirements of NEC Section 250.
- Excellent compression and impact resistance.
- Lower installed system cost than conduit or EMT systems.
- OSHA acceptable.
- Meets API Standards 14F and 14FZ.
- UL listed as Marine Shipboard cable.
- American Bureau of Shipping listed as CWCMC Type PLTC and CWCMC-ITC.
- Recognized by US Coast Guard as Type MC or CWCMC.
- Suitable for low temperature installation to -40°C.

C-L-X Type P-OS

Type ITC/PLTC Armored Instrumentation Cable

Multiple Pairs or Triads - Overall Shield 300V - 105°C Rating
For Cable Tray Use

Product Data

Section 5: Sheet 10



Catalog Number	Strand Size (AWG)	Number of Pairs	Number of Triads	Inner Jacket Thickness-mils	Nominal Core O.D. - Inches	C-L-X O.D. - Inches	Outer Jacket - Inches	Nominal Cable O.D. - Inches	Cross-Sectional Area † (sq in)	Approx Net Weight (lbs/1000')	Approx Ship Weight (lbs/1000')
564-10-3202	2	40	0.35	0.58	50	0.69	0.37	171	210		
564-10-3204	4	50	0.41	0.62	50	0.73	0.42	194	233		
564-10-3206	6	50	0.45	0.67	50	0.78	0.48	245	325		
564-10-3208	8	50	0.49	0.71	50	0.82	0.53	277	357		
564-10-3210	10	50	0.53	0.75	50	0.86	0.58	324	404		
564-10-3212	12	50	0.56	0.80	50	0.91	0.65	346	426		
564-10-3216	16	60	0.66	0.89	50	1.00	0.79	424	504		
564-10-3220	20	60	0.73	0.97	50	1.08	0.92	490	570		
564-10-3224	24	60	0.79	1.06	50	1.17	1.08	545	625		
564-10-3236	36	70	0.94	1.24	50	1.35	1.43	697	803		
564-10-3250	50	70	1.06	1.34	50	1.45	1.65	930	1036		
564-15-3204	4	50	0.43	0.67	50	0.78	0.48	242	322		
564-15-3208	8	50	0.52	0.75	50	0.86	0.58	329	409		
564-15-3212	12	50	0.60	0.84	50	0.95	0.71	419	499		
564-15-3216	16	60	0.70	0.93	50	1.04	0.85	518	598		
564-15-3224	24	60	0.84	1.11	50	1.22	1.17	680	760		
564-15-3236	36	70	1.00	1.29	50	1.40	1.54	936	1026		
564-10-3302	2	40	0.37	0.58	50	0.69	0.37	202	282		
564-10-3304	4	50	0.44	0.67	50	0.78	0.48	244	324		
564-10-3306	6	50	0.50	0.71	50	0.82	0.53	288	368		
564-10-3308	8	50	0.55	0.80	50	0.91	0.65	330	410		
564-10-3310	10	60	0.65	0.89	50	1.00	0.79	409	489		
564-10-3312	12	60	0.68	0.93	50	1.04	0.85	440	520		
564-10-3316	16	60	0.77	1.02	50	1.13	1.00	525	605		
564-10-3320	20	60	0.83	1.06	50	1.17	1.08	611	691		
564-10-3324	24	60	0.86	1.11	50	1.22	1.17	684	790		
564-10-3336	36	70	0.99	1.29	50	1.40	1.54	946	1052		
564-10-3350	50	70	1.15	1.47	50	1.58	1.96	1255	1398		
564-15-3304	4	50	0.49	0.71	50	0.82	0.53	285	365		
564-15-3308	8	50	0.59	0.80	50	0.91	0.65	401	481		
564-15-3312	12	60	0.72	0.97	50	1.08	0.92	543	623		
564-15-3316	16	60	0.82	1.06	50	1.17	1.08	658	738		
564-15-3324	24	70	0.97	1.24	50	1.35	1.43	918	1008		
564-15-3336	36	70	1.06	1.34	50	1.45	1.65	1231	1337		
564-10-3402	2	40	0.36	0.58	50	0.69	0.37	234	314		
564-10-3404	4	50	0.48	0.71	50	0.82	0.53	290	370		
564-10-3406	6	50	0.57	0.80	50	0.91	0.65	359	439		
564-10-3408	8	60	0.63	0.84	50	0.95	0.71	416	496		
564-10-3410	10	60	0.69	0.93	50	1.04	0.85	512	592		
564-10-3412	12	60	0.74	0.97	50	1.08	0.92	559	639		
564-10-3416	16	60	0.85	1.11	50	1.22	1.17	674	754		
564-10-3420	20	70	0.96	1.24	50	1.35	1.43	832	922		
564-10-3424	24	70	1.04	1.34	50	1.45	1.65	937	1027		
564-10-3436	36	70	1.20	1.51	60	1.65	2.14	1258	1401		
564-10-3450	50	80	1.33	1.64	60	1.78	2.49	1751	1915		
564-15-3404	4	50	0.51	0.75	50	0.86	0.58	346	426		
564-15-3408	8	60	0.67	0.89	50	1.00	0.79	529	609		
564-15-3412	12	60	0.79	1.06	50	1.17	1.08	713	793		
564-15-3416	16	70	0.92	1.19	50	1.30	1.33	904	984		
564-15-3424	24	70	1.11	1.42	50	1.53	1.84	1229	1335		
564-15-3436	36	80	1.31	1.60	60	1.73	2.35	1757	1900		

ELECTRICAL SPECIFICATIONS	
Per UL Standard 13 & 2250	
Conductor Resistance, nominal	.....ohms/1000 ft. @20°C
20 AWG	..... 10.4
18 AWG	..... 6.5
16 AWG	..... 4.1
Insulation Test Voltage (spark test)	.....5000 Volts ac
Dielectric Test Voltage	.....1500 Volts ac for 15 sec.
Shield Isolation Test	
Pair to Cable Shield	..... exceeds 100M ohms/1000 ft.
Insulation Resistance Constant @60°F, minimum	
(natural material typical value).....2,000 Megohms-1000 ft.	
Loop Resistance, nominal (2 conductor).....ohms-1000 ft @20°C	
20 AWG	..... 20.8
18 AWG	..... 13.0
16 AWG	..... 8.2
Mutual Capacitance (PF/ft.)*	
#20	..... 37
#18	..... 41
#16	..... 44
*Typical Value	

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

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, 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.

C-L-X products manufactured in the United States under license granted by Kabelmetal of Hanover, Germany.

Length Tolerance: Cut lengths of 1000 feet or longer are subject to a tolerance