



Loxarmor® Type SP-OS

Type ITC/PLTC Armored Instrumentation Cable

Multiple Shielded Pairs or Triads - Overall Shield

300 Volts - 105°C Rating

For Cable Tray Use



- A** Bare Stranded Copper Conductors
- B** Okoseal Insulation
- C** Tinned Stranded Copper Group Drain Wire
- D** Aluminum/Polyester Tape
- E** Twisted, Shielded Pairs/Triads
- F** Communication Wire
- G** Aluminum/Polyester Tape
- H** Tinned Stranded Copper Drain Wire
- J** Rip Cord
- K** Inner Black Okoseal Jacket
- L** Galvanized Steel Interlocking Loxarmor
- M** 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 Standard 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.

Group Shield: Aluminum/Polyester tape overlapped to provide 100% coverage, and a 7-strand tinned copper drain wire, two sizes smaller than the conductor. All group shields are completely isolated from each other.

Communications 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.

Loxarmor Sheath: An interlocking, galvanized steel armor provides mechanical protection against cut-through and crushing. All four sides of the steel tape are galvanized to prevent corrosion.

Outer Jacket: Black, flame-retardant, low temperature Okoseal per UL Standard 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 Loxarmor Type SP-OS (Pair/triad - Individual and Overall Shield) instrumentation cables are designed for use as instrumentation, process control, and computer cables 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 maximum shielding against exter-

nal interference is required, as well as shielding among groups, particularly where the cable may be subject to abnormally high current or voltage interference; indoors or outdoors; in wet or dry locations with conductor operating temperatures up to 105°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 hazardous locations. Also for use as power-Limited fire protective signaling cable (FPL) per NEC Code 760. The Loxarmor (interlocked steel) sheath provides the physical protection against mechanical damage as required in NEC Section 727-3. It may be installed in both exposed and concealed work, secured to supports not greater than 6 feet apart. The isolated individual shields over each pair, when properly grounded, prevent crosstalk or capacitive coupling between adjacent pairs which occurs with ac signals, particularly the pulse type.

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 13, 2250 & 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 for direct burial (2 PR #20 and larger)
- Complete pre-packaged, factory-tested wiring system-color coded.
- Loxarmor 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.
- Individual pairs or triads are completely isolated.
- Impervious. continuous sheath excludes moisture, gases and liquids.
- Lower installed system cost than conduit or EMT systems.
- Also available in aluminum.
- OSHA Acceptable.
- Suitable for low temperature installation of -40°C.

Loxarmor Type SP-OS Type ITC/PLTC Armored Instrumentation Cable

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

Okoseal Insulation: 15 mils



Product Data Section 5: Sheet 15

Catalog Number	Size AWG (Stranded)	Number of Pairs	Number of Triads	Inner Jacket Thickness - mils	Inner Jacket Nominal O.D. In.	Loxarmor Nominal O.D. (In.)	Outer Jacket mils	Nominal Cable O.D. - (In.)	Cross-Sectional Area † (sq in)	Approx Net Weight (lbs/1000')	Approx Ship Weight (lbs/1000')
261-10-5604	4	50	.44	.68	50	.79	.49	336	375		
261-10-5608	8	50	.56	.78	50	.89	.62	447	511		
261-10-5610	10	60	.66	.87	50	.98	.75	542	606		
261-10-5612	12	60	.69	.91	50	1.02	.82	583	647		
261-10-5616	16	60	.76	.98	50	1.09	.93	676	756		
261-10-5620	20	60	.82	1.04	50	1.15	1.04	773	853		
261-10-5624	24	70	.94	1.16	50	1.27	1.27	899	979		
261-10-5636	36	70	1.06	1.26	50	1.37	1.47	1124	1230		
261-10-5650	50	70	1.23	1.45	50	1.56	1.91	1411	1554		
261-15-5604	4	50	.48	.70	50	.81	.52	368	407		
261-15-5612	12	60	.77	.99	50	1.10	.95	668	748		
261-15-5616	16	60	.79	1.01	50	1.12	.98	783	863		
261-15-5624	24	70	.99	1.21	50	1.32	1.37	1065	1162		
261-15-5636	36	70	1.11	1.33	50	1.44	1.63	1346	1452		
261-10-5704	4	50	.49	.71	50	.82	.53	384	423		
261-10-5708	8	50	.61	.83	50	.94	.69	529	593		
261-10-5710	10	60	.73	.95	50	1.06	.88	648	728		
261-10-5712	12	60	.75	.97	50	1.08	.92	699	779		
261-10-5716	16	60	.83	1.05	50	1.16	1.06	819	899		
261-10-5720	20	70	.94	1.16	50	1.27	1.27	973	1079		
261-10-5724	24	70	1.04	1.26	50	1.37	1.47	1105	1211		
261-10-5736	36	70	1.19	1.41	50	1.52	1.81	1451	1550		
261-10-5750	50	80	1.42	1.64	60	1.77	2.46	1866	2030		
261-15-5704	4	50	.54	.76	50	.87	.59	429	468		
261-15-5712	12	60	.80	1.02	50	1.13	1.00	814	894		
261-15-5716	16	60	.89	1.11	50	1.22	1.17	968	1074		
261-15-5724	24	70	1.10	1.32	50	1.43	1.61	1324	1430		
261-15-5736	36	70	1.24	1.46	50	1.57	1.94	1722	1865		
261-10-5804	4	50	.54	.76	50	.87	.59	454	518		
261-10-5808	8	60	.71	.93	50	1.04	.85	671	735		
261-10-5810	10	60	.82	1.04	50	1.15	1.04	795	875		
261-10-5812	12	60	.85	1.07	50	1.18	1.09	865	945		
261-10-5816	16	70	.98	1.20	50	1.31	1.36	1056	1162		
261-10-5820	20	70	1.06	1.28	50	1.39	1.52	1231	1337		
261-10-5824	24	70	1.17	1.39	50	1.59	1.77	1409	1552		
261-10-5836	36	80	1.37	1.59	60	1.72	2.32	1908	2051		
261-10-5850	50	80	1.57	1.82	60	1.95	2.99	2588	2775		
261-15-5804	4	50	.58	.80	50	.91	.64	516	580		
261-15-5812	12	70	.97	1.19	50	1.30	1.33	1056	1136		
261-15-5816	16	70	1.02	1.24	50	1.35	1.43	1271	1377		
261-15-5824	24	80	1.27	1.49	50	1.60	2.01	759	1902		
261-15-5836	36	80	1.43	1.65	60	1.78	2.49	2367	2531		

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.
Insulation Resistance Constant @60°F minimum (natural material typical value)	2000 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 AWG	59
18 AWG	68
16 AWG	76
*Typical Value	

† Cross-sectional area for calculation of cable tray fill in accordance with NEC Section 318-8

Aluminum Loxarmor available on special order.

Length Tolerance: Cut lengths of 1000 feet or longer are subject to a tolerance of ± 10%; less than 1000 feet ± 15%.



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