



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** Tinned Stranded Copper Drain Wire
- H** Aluminum/Polyester Tape
- 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 13 and UL 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 UL 2250. A rip cord is laid longitudinally under the jacket to facilitate removal.

Loarmor 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 13 and UL 2250.

Classifications: UL Listed as ITC/PLTC - Instrument Tray Cable/Power Limited Tray Cable for use in accordance with Article 335 and Article 722 of the 2023 National Electrical Code.

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

Applications

Okonite Loarmor 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 external 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. Suitable Class I, Division 2, Class II, Division 2, or Class III, Division 1 hazardous locations. Also for use as power-limited fire protective signaling cable (FPL) per NEC Article 760. The Loarmor (interlocked steel) 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 isolated individual shields over each pair, when properly grounded, prevent cross-talk 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, UL 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.
- Complete pre-packaged, factory-tested wiring system-color coded.
- Loarmor 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.
- Lower installed system cost than conduit or EMT systems.
- Also available in aluminum.
- Suitable for low temperature installation of -40°C.

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Product Data Section 5: Sheet 15

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

Okoseal Insulation: 15 mils

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

ELECTRICAL SPECIFICATIONS Per UL Standard 13 & 2250	
Conductor Resistance, nominalohms/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 392.22.

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%.



THE OKONITE COMPANY

Ramsey, New Jersey 07446