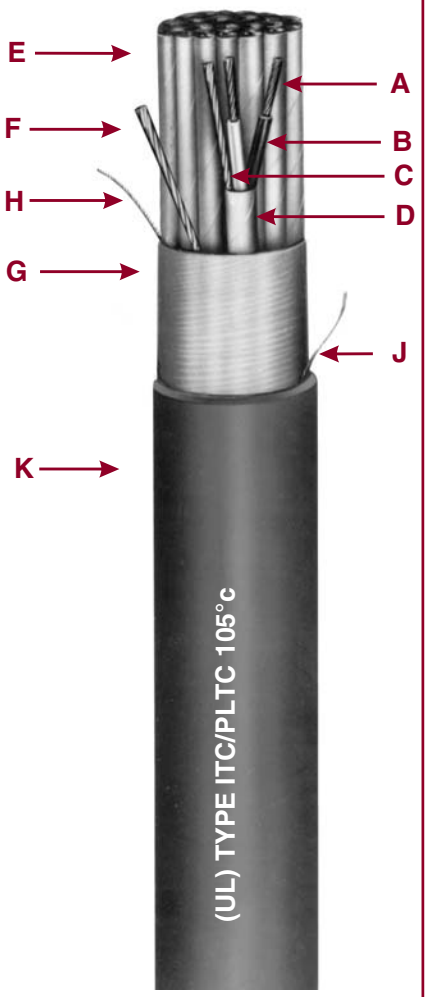
Type SP-OS

Type ITC/PLTC Instrumentation Cable

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



A Bare Stranded Copper Conductor
B Okoseal Insulation
C Tinned Stranded Copper Group Drain Wire
D Aluminum/PolyesterTape
E Twisted, Shielded Pairs/Triads
F Tinned Stranded Copper Drain Wire
G Aluminum/Polyester Tape
H Communication Wire
J Rip Cord
K 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 rating.

Assembly: Pairs or triads assembled with a 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.

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.

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® Type SP-OS (Pair/triad - Individual and Overall Shield) instrumentation cables are designed for use as 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 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 2 hazardous locations. Also for use as Power-Limited fire protective signaling cable (FPL) per NEC Article 760.

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 electrical 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 and IEEE 383-1974 vertical tray flame tests.
- Sunlight & oil resistant.
- Individual pairs or triads are completely isolated.
- 100% shield coverage for reduced electromagnetic noise pick-up.
- Good external noise rejection.
- Excellent weathering characteristics.
- OSHA Acceptable.
- Flexible, easy to handle and terminate.
- Communication wire included in each cable for voice communication during installation or instrument calibration.
- Suitable for low temperature installation of -40°C.

Type SP-OS

Type ITC/PLTC Instrumentation Cable

Multiple Shielded Pairs or Triads - Overall Shield 300V - 105°C Rating

For Cable Tray Use

Okoseal Insulation: 15 mils

Catalog Number	Strand Size (AWG)	Insulation Thickness (mils)	Number of Pairs	Number of Triads	Jacket Thickness-mils	Nominal Cable O.D. - Inches	Cross-Sectional Area † (sq in)	Approx Net Weight (lbs/1000')	Approx Ship Weight (lbs/1000')
261-10-2202	20(7X)	15	2		40	0.35	0.10	63	74
261-10-2204			4		50	0.42	0.15	103	126
261-10-2206			6		50	0.51	0.20	138	161
261-10-2208			8		50	0.53	0.25	169	193
261-10-2210			10		60	0.66	0.34	219	258
261-10-2212			12		60	0.66	0.37	248	287
261-10-2216			16		60	0.76	0.45	311	350
261-10-2220			20		60	0.82	0.53	374	413
261-10-2224			24		70	0.90	0.69	457	521
261-10-2236			36		70	1.06	0.88	632	696
261-10-2250			50		70	1.23	1.19	845	951
261-15-2204				4	50	0.48	0.18	126	149
261-15-2208				8	50	0.62	0.30	212	236
261-15-2212				12	60	0.77	0.47	314	353
261-15-2216				16	60	0.79	0.49	397	436
261-15-2224				24	70	0.99	0.77	587	651
261-15-2236				36	70	1.11	0.97	825	905
261-10-3302	18(7X)	15	2		50	0.38	0.11	89	112
▲ 261-10-3304			4		50	0.47	0.19	133	156
261-10-3306			6		50	0.57	0.25	181	205
▲ 261-10-3308			8		50	0.56	0.29	223	247
261-10-3310			10		60	0.73	0.42	289	328
▲ 261-10-3312			12		60	0.69	0.44	330	369
261-10-3316			16		60	0.83	0.54	417	456
261-10-3320			20		70	0.94	0.69	523	587
▲ 261-10-3324			24		70	0.98	0.85	614	678
▲ 261-10-3336			36		70	1.14	1.11	861	941
261-10-3350			50		80	1.42	1.58	1188	1294
261-15-3304				4	50	0.52	0.23	165	188
261-15-3308				8	60	0.68	0.41	301	340
261-15-3312				12	60	0.83	0.57	425	464
261-15-3316				16	60	0.89	0.62	543	607
261-15-3324				24	70	1.10	0.95	804	884
261-15-3336				36	70	1.24	1.21	1143	1249
▲ 261-10-4402	16(7X)	15	2		50	0.43	0.17	116	130
▲ 261-10-4404			4		50	0.51	0.23	179	203
261-10-4406			6		60	0.66	0.34	260	299
▲ 261-10-4408			8		60	0.68	0.40	323	362
261-10-4410			10		60	0.82	0.53	397	436
▲ 261-10-4412			12		60	0.81	0.57	456	520
261-10-4416			16		70	0.94	0.75	600	664
261-10-4420			20		70	1.06	0.88	729	809
▲ 261-10-4424			24		70	1.10	1.07	860	940
261-10-4436			36		80	1.37	1.47	1250	1356
261-10-4450			50		80	1.57	1.93	1687	1830
261-15-4404				4	50	0.55	0.26	227	251
▲ 261-15-4408				8	60	0.74	0.48	418	457
▲ 261-15-4412				12	70	0.93	0.74	615	679
261-15-4416				16	70	1.02	0.82	788	852
261-15-4424				24	80	1.27	1.27	1167	1273
261-15-4436				36	80	1.43	1.61	1668	1784

ELECTRICAL SPECIFICATIONS
Per UL Subject 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)..... 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 AWG 59
- 18 AWG 68
- 16 AWG 76

*Typical Value

▲ Authorized Stock Item: Available from our Customer Service Center.

† **Cross-sectional** area for calculation of cable tray fill in accordance with NEC Section 392.22

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