



Wire Armor 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** Double Faced Aluminum/Polyester Backed Tape
- F** Tinned Stranded Copper Drain Wire
- G** Rip Cord
- H** Inner Black Okoseal Jacket
- J** Galvanized Steel Served Wire Armor
- 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 Standard 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.

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 backed 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.

Wire Armor: A serving of soft annealed galvanized steel wires applied with a left-hand lay and a 90% minimum coverage.

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

The cable core complies with UL 2250 and UL 13 for PLTC, CL2 and CL3.

Applications

Okonite Single Wire Armored (SWA) Type P-OS (Pair/Triad - 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 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 105°C; in cable trays; in raceways; supported by a messenger wire; under raised floors; for direct burial. Suitable for use in 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 wire armor provides excellent longitudinal strength for use as a messenger cable or for support in vertical drops (NEC Section 300-19) and provides physical protection against mechanical damage.

For dc service in wet locations X-Olene insulation having an overall aluminum C-L-X armor construction is recommended.

Product Features

- Passes flame test for use in cable tray.
- Sunlight resistant.
- Oil resistant.
- Excellent electromagnetic shielding.
- Individual pairs or triads are numbered and color coded for simplified hook-up.
- Good Noise rejection.
- Communication wire included in each cable for voice communication during installation or instrument calibration.
- Excellent longitudinal strength.
- Excellent cut through resistance.
- Suitable for IEC60402-1 and 60092-376 applications.
- OSHA Acceptable.
- Suitable for low temperature installation of -40°C.

Wire Armored Type P-OS Type ITC/PLTC Armored Instrumentation Cable



Product Data Section 5: Sheet 12

Multiple Pairs or Triads - Overall Shield - 300V - 150°C Rating

For Cable Tray Use

Okoseal Insulation: 15 mils

Catalog Number	Size AWG/Strands	Number of Pairs	Number of Triads	Inner Jacket Thickness - mils	Inner Jacket Nominal O.D. In.	Number & SWG* Armor	Nominal Armor O.D. - Inches	Outer Jacket mils	Nominal Cable O.D. - (In.)	Cross-Sectional Area † (sq in)	Approx Net Weight (lbs/1000')	Approx Ship Weight (lbs/1000')
264-10-8204	4	40	.39	33 x 20	.46	40	.54	.23	243	267		
264-10-8208	8	50	.49	30 x 18	.59	50	.68	.36	410	449		
264-10-8210	10	50	.56	35 x 18	.65	50	.76	.45	480	519		
264-10-8212	12	50	.58	36 x 18	.68	50	.79	.49	510	549		
264-10-8216	16	60	.66	31 x 16	.79	60	.92	.66	722	786		
264-10-8220	20	60	.72	34 x 16	.84	60	.98	.75	816	880		
264-10-8224	24	60	.77	35 x 16	.90	60	1.03	.83	880	944		
264-10-8236	36	60	.87	32 x 14	1.03	60	1.16	1.06	1234	1314		
264-10-8250	50	70	1.02	20 x 12	1.23	70	1.38	1.50	1597	1713		
264-15-8204	4	50	.43	36 x 20	.50	50	.61	.29	302	326		
264-15-8212	12	50	.61	29 x 16	.74	50	.85	.57	679	743		
264-15-8216	16	60	.69	33 x 16	.82	60	.95	.71	837	901		
264-15-8224	24	60	.81	30 x 14	.97	60	1.10	.95	1182	1262		
264-15-8236	36	70	.93	34 x 14	1.09	70	1.24	1.21	1517	1633		
264-10-8304	4	50	.46	28 x 18	.56	50	.67	.35	368	407		
264-10-8308	8	50	.55	33 x 18	.64	50	.75	.44	480	519		
264-10-8310	10	60	.65	31 x 16	.77	60	.90	.64	706	770		
264-10-8312	12	60	.68	31 x 16	.81	60	.94	.69	742	806		
264-10-8316	16	60	.73	34 x 16	.85	60	.99	.77	853	917		
264-10-8320	20	60	.81	30 x 14	.97	60	1.10	.95	114	1194		
264-10-8324	24	60	.86	31 x 14	1.01	60	1.15	1.04	1204	1284		
264-10-8336	36	70	1.00	36 x 14	1.16	70	1.31	1.35	1552	1668		
264-10-8350	50	70	1.15	32 x 12	1.35	70	1.51	1.79	2195	2338		
264-15-8304	4	50	.49	30 x 18	.57	50	.68	.36	416	444		
264-15-8312	12	60	.71	33 x 16	.83	60	.96	.72	864	928		
264-15-8316	16	60	.78	36 x 16	.90	60	1.03	.83	1007	1071		
264-15-8324	24	70	.92	34 x 14	1.08	70	1.23	1.19	1496	1602		
264-15-8336	36	70	1.04	29 x 12	1.25	70	1.41	1.56	2126	2242		
264-10-8404	4	50	.51	31 x 18	.61	50	.72	.41	432	471		
264-10-8408	8	50	.62	29 x 16	.75	50	.86	.58	674	713		
264-10-8410	10	60	.73	34 x 16	.85	60	.98	.75	839	903		
264-10-8412	12	60	.76	35 x 16	.88	60	1.01	.80	900	964		
264-10-8416	16	60	.82	30 x 14	.98	60	1.11	.97	1181	1261		
264-10-8420	20	70	.93	34 x 14	1.09	70	1.24	1.21	1413	1519		
264-10-8424	24	70	1.00	36 x 14	1.16	70	1.31	1.35	1552	1668		
264-10-8436	36	70	1.11	31 x 12	1.32	70	1.47	1.70	2209	2325		
264-10-8450	50	80	1.32	38 x 12	1.53	80	1.71	2.30	2867	3054		
264-15-8404	4	50	.53	33 x 18	.63	50	.74	.43	495	534		
264-15-8412	12	60	.79	30 x 14	.95	60	1.09	.93	1212	1292		
264-15-8416	16	70	.89	33 x 14	1.05	70	1.21	1.15	1468	1574		
264-15-8424	24	70	1.04	29 x 12	1.25	70	1.40	1.54	2123	2266		
264-15-8436	36	70	1.18	33 x 12	1.39	70	1.54	1.86	2692	2835		

ELECTRICAL SPECIFICATIONS

Per UL Subject 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.
Shield Isolation Test	
Pair to Cable Shield.....	exceeds 100 M ohms/1000 ft.
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.....	37
#18.....	41
#16.....	44
*Typical Value	

* SWG - Steel Wire Gage

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

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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