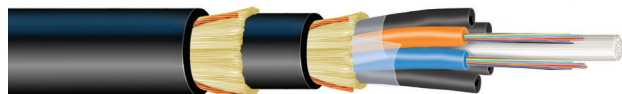




AIRGUARD® XP Fiber Optic Cable

Oil & Gas | Chemical | Low Temp | High Crush | Harsh Environment | Tray



Prysmian's AIRGUARD® XP cable will assure long term reliability of up to 288 fibers in a variety of severe conditions.

Overview

AIRGUARD® XP combines world-class mechanical protection, chemical protection, and user friendliness into a family of robust industrial optical fiber cables. AIRGUARD® XP joins Prysmian's existing brands of AIRGUARD® low voltage and medium voltage cables.

In the industrial and harsh environment, the presence of aggressive chemicals such as hydrocarbons, solvents, acids, and bases can destroy a traditional fiber cable. AIRGUARD®XP resists those harsh elements. In fact, the AIRGUARD® XP family surpasses the rigorous UL 2556 requirements for Oil & Gasoline Resistance.

AIRGUARD® XP goes head to head with interlocking armor cables in the areas of impact and crush resistance. Because interlock armor contains metallic armoring, they are stiff, heavy, and require grounding. A severe impact or crush may cause permanent deformation to the metallic armor. The AIRGUARD® XP, all-dielectric versions, overcome these un-desirable factors and can be installed in trays/ladders along with copper communications or power conducting cables, thus providing greater flexibility & user friendliness.

AIRGUARD® XP cables meet or exceed key industry standards such as ANSI/ICEA 696, CSA 22.2, UL 1277, and Telcordia GR20.

The robust all-dielectric double jacket carries listings for sunlight resistance (SUN RES) and direct burial (DIR BUR). This cable is extremely versatile and may be utilized in low temperature applications down to -50°C (-58°F) and in properly engineered self-supporting aerial applications. The dual jacket, single corrugated steel tape option is also SUN RES and DIR BUR listed and provides optimal rodent protection in direct buried applications. The single jacket all-dielectric option is best suited for duct installations.

Features and Benefits

- Suitable for tray installations
- Hydrocarbon (kerosene, gasoline, lubricating oil) resistant
- Resists chemical degradation in industrial environments
- Resistant to jet fuel & de-icing chemicals for airport applications
- Flame-retardant, black UV-resistant outer jacket
- Smaller & lighter than comparable metallic armored designs
- Available with bend-insensitive single-mode & multimode fibers
- Proven stranded loose tube cable design for long term reliability

Product Snapshot

Applications	AIRGUARD® XP cables are extremely rugged, indoor/outdoor loose tube cables providing unsurpassed performance in the most challenging applications where extreme exposures to chemicals, oils, temperature, or compressive and tensile loads are present.
Flame Rating	XPRLTM = OFNG- LS/FT4 ST1 flame and low smoke rating XPRLTMB = OFN flame rating XPRLTMD = OFCG-LS FT4 ST1 flame and low smoke rating
Fiber Count	2 to 288
Fiber Types	Single-mode (SMF, bend-insensitive) Multimode (62.5/125-OM1, 50/125-OM2, OM3 & OM4)
Performance	ANSI/ICEA S-104-696, CSA C22.2 No 230/232, UL-1277, UL-2556 4.2.8.3 "Oil Resistance" PR11, UL-2556 4.2.8.4 "Gasoline Resistance" GR11, UL 1277 & CSA 22.2 230 Direct Buried Rated: DIR BUR UL 1651 & CSA 22.2 230 UV Resistance Rated: SUN RES Telcordia GR-20, CE RoHS Compliant
Registered Supplier	TL 9000, ISO 9001, ISO 14001, and OHSAS 18001



Chemical Resistance Performance

Compound	Test Criteria
ASTM No. 2 Oil	96 hours at 100°C
Kerosene	168 hours at 50°C
MIL-T-5624N JP-4 (jet fuel)	168 hours at 50°C
MIL-H-5606 Hydraulic Fluid	168 hours at 50°C
Vegetation Killer	168 hours at 50°C
De-icing Fluid	24 hours at 50°C
Hydrogen Sulfide (H2S)	24 hours at 100°C



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Dielectric (Double Jacket) XPRLTM Series | OFNG-LS/FT4 ST1

Fiber Count	Number of Buffer Tubes	Fibers Per Unit	Diameter inches (mm)	Cable Weight lb/kft (kg/km)	Bend Radius UNDER LOAD inches (cm)	Bend Radius NO LOAD inches (cm)
2 to 72	6	12	0.60 (15.3)	159 (237)	12.0 (30.5)	6.0 (15.3)
74 to 84	7	12	0.64 (16.2)	176 (262)	12.8 (32.6)	6.4 (16.3)
86 to 96	8	12	0.67 (17.1)	198 (294)	13.4 (34.1)	6.7 (17.1)
98 to 108	9	12	0.72 (18.2)	216 (322)	14.2 (36.1)	7.1 (18.1)
110 to 120	10	12	0.74 (18.8)	238 (354)	14.8 (37.6)	7.4 (18.4)
122 to 132	11	12	0.78 (19.7)	260 (387)	15.6 (39.7)	7.8 (19.9)
134 to 144	12	12	0.83 (21.0)	294 (438)	16.6 (42.2)	8.3 (21.1)
146 to 216	12 / 6	12	0.81 (20.5)	267 (398)	16.2 (41.2)	8.1 (20.6)
218 to 264	14 / 8	12	0.90 (22.8)	333 (496)	18.0 (45.8)	9.0 (22.9)
266 to 288	15 / 9	12	0.94 (24.0)	358 (532)	18.6 (47.3)	9.3 (23.7)

Temperature Range

Shipping and Storage: -58° F to +158° F (-50° C to +70° C)
 Installation: -22° F to +140° F (-30° C to +60° C)
 Operation: -58° F to +158° F (-50° C to +70° C)

Mechanical Specifications

Maximum installation load: 1000 lbf (4500 N)
 Maximum operation load: 300 lbf (1335 N)
 Crush resistance: 4500 N
 Impact force resistance: 11.8 N*M
 Cold impact load: 5.88 N*M at -22° F (-30° C)

Note:

Single layer, 12 position = OD 21 mm
 Dual layer, 12/6 position = OD 20.5 mm

Dielectric (Double Jacket) XPRLTM SAG and TENSION

Fiber Count	NESC Light 1.5% Initial Sag			CSA Medium A 1.5% Initial Sag			CSA Heavy A 1.5% Initial Sag			PLP Attachment Hardware Part Numbers	
	Span (m)	Weather Load MRCL (N)	Installation Tension (N)	Span (m)	Weather Load MRCL (N)	Installation Tension (N)	Span (m)	Weather Load MRCL (N)	Installation Tension (N)	Dead End	Aluminum Support
2 - 72	130	4026	2514	87	4026	1700	62	4026	1215	2872007C1E1	4450102
74 to 84	120	4026	2585	83	4026	1771	60	4026	1281	2872008C1E1	4450103
86 to 96	133	4827	3194	93	4827	2247	68	4827	1646	2872009C1E1	4450103
98 to 108	123	4827	3257	88	4827	2331	66	4827	1726	2872010C1E1	4450104
110 to 120	115	4827	3332	83	4827	2411	62	4827	1811	2872011C1E1	4450104
122 to 132	107	4827	3390	79	4827	2491	60	4827	1895	2872011C1E1	4450105
134 to 144	97	4827	3479	73	4827	2603	56	4827	2011	2872012C1E1	4450106
146 to 216	87	4026	2821	64	4026	2087	49	4026	1588	2872012C1E1	4450105
218 to 264	87	4827	3541	66	4827	2687	52	4827	2118	2872014C1E1	4450106
266 to 288	82	4827	3586	63	4827	2749	50	4827	2180	2872014C1E1	4450107

Note. Cable damage may occur if installation temperature limits are exceeded; therefore, Prysmian Group recommends storing I/O cables in appropriate temperature conditions ≥ 24 hours prior to placement.

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Dielectric (Single Jacket) XPRLTMB Series | OFN

Fiber Count	# of Buffer Tubes Outer/Inner	Fibers per unit or # of units	Diameter inches (mm)	Cable Weight lb/kft (kg/km)	Bend Radius Load inches (cm)	Bend Radius No Load inches (cm)
2 to 60	5	12	0.41 (10.3)	62 (93)	8.2 (20.9)	4.1 (10.5)
62 to 72	6	12	0.44 (11.2)	73 (109)	8.8 (22.4)	4.4 (11.2)
74 to 84	7	12	0.47 (11.9)	83 (123)	9.4 (23.9)	4.7 (12.0)
86 to 96	8	12	0.51 (12.9)	95 (142)	10.2 (25.9)	5.1 (13.0)
98 to 108	9	12	0.55 (13.9)	111 (165)	11.0 (28.0)	5.5 (14.0)
110 to 120	10	12	0.58 (14.8)	125 (186)	11.6 (29.5)	5.8 (14.8)
122 to 132	11	12	0.62 (15.7)	140 (209)	12.4 (31.5)	6.2 (15.8)
134 to 216	12 / 6	12	0.65 (16.5)	154 (229)	13.0 (33.0)	6.5 (16.6)

Temperature Range

Shipping and Storage: -40° F to +158° F (-40° C to +70° C)
 Installation: +14° F to +140° F (-10° C to +60° C)
 Operation 12-72F: -40° F to +158° F (-40° C to +70° C)

Mechanical Specifications

Maximum installation load: 600 lbf (2670 N)
 Maximum operation load: 180 lbf (801 N)
 Cold impact load: 5.88 N*M at -22° F (-30° C)

AirGuard XP™ (Double Jacket and Steel Tape Armored) XPRLTMD Series | OFCG-LS / FT4 ST1

Fiber Count	# of Buffer Tubes Outer/Inner	Fibers per Tube	Diameter inches (mm)	Cable Weight lb/kft (kg/km)	Bend Radius Load inches (cm)	Bend Radius No Load inches (cm)
2 to 72	6	12	0.674 (17.1)	215 (320)	13.5 (34.2)	6.74 (17.1)
74 to 84	7	12	0.714 (18.1)	235 (350)	14.3 (36.2)	7.14 (18.1)
86 to 96	8	12	0.744 (18.9)	259 (386)	14.9 (37.8)	7.44 (18.9)
98 to 108	9	12	0.794 (20.2)	292 (434)	15.9 (40.4)	7.94 (20.2)
110 to 120	10	12	0.814 (20.7)	308 (458)	16.3 (41.4)	8.14 (20.7)
122 to 132	11	12	0.854 (21.7)	334 (497)	17.1 (43.4)	8.54 (21.7)
134 to 144	12	12	0.904 (23.0)	374 (556)	18.1 (46.0)	9.04 (23.0)
146 to 216	12/6	12	0.884 (22.5)	345 (513)	17.7 (45.0)	8.84 (22.5)
218 to 264	14/8	12	0.954 (24.2)	398 (593)	19.1 (48.4)	9.54 (24.2)
266 to 288	15/9	12	0.994 (25.2)	433 (645)	19.9 (50.4)	9.94 (25.2)

Temperature Range

Shipping and Storage: -50° F to +158° F (-40° C to +70° C)
 Installation: -22° F to +140° F (-30° C to +60° C)
 Operation 12-72F: -58° F to +158° F (-50° C to +70° C)
 Operation >72F: -40° F to +158° F (-40° C to +70° C)

Mechanical Specifications

Maximum installation load: 600 lbf (2670 N)
 Maximum operation load: 180 lbf (801 N)
 Cold impact load: 5.88 N*M at -22° F (-30° C)

Note. Cable damage may occur if installation temperature limits are exceeded; therefore, Prysmian Group recommends storing I/O cables in appropriate temperature conditions ≥ 24 hours prior to placement.

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Ordering Guide The Prysmian Group part number incorporates several significant attributes involving cable design and optical performance. The appropriate part number can be configured using the process described below

EXAMPLE: Indoor/Outdoor Loose Tube | AIRGUARD® Series, Dielectric (double Jacket) | General Purpose rated | 12 fibers per buffer tube
48 62.5/125 multimode fibers total (printed in feet)

1 LENGTH MARKINGS	2 PRODUCT FAMILY	3 CONSTRUCTION	4 FIBER GROUPING	5 FIBER TYPE	6 FIBER COUNT	7 FIBER GRADE
F	XPRLTM	BLANK	12	G6	048	M2

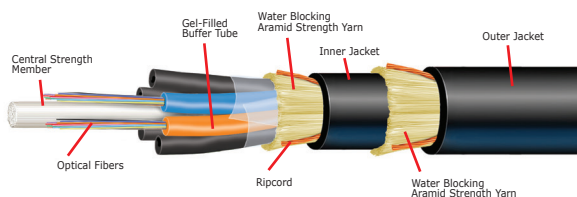
CABLE INFORMATION

1 LENGTH MARKINGS
F = Feet or M = Meters
2 PRODUCT FAMILY
XPRLTM = 2-288f AIRGUARD® XP (double jacket)
XPRLTMB = 2-216f AIRGUARD® XP (single jacket)
XPRLTMD= 2-288f AIRGUARD® XP (double jacket & steel tape armored)
3 CONSTRUCTION
(blank) = Not available with interlock armor
4 FIBER GROUPING
12 = 12f per unit or tube

FIBER INFORMATION

5 FIBER TYPE				
SINGLE-MODE				
HB = Single-Mode (ITU G.652 C & D) Low Water Peak				
ES = Draka™ Enhanced Single-Mode (ITU G.652 C & D)				
CE = Corning™ SMF28e+ Single-Mode				
B1 = Bend-Insensitive Single-Mode (ITU G.657.A1 & G.652.D)				
B2 = Bend-Insensitive Single-Mode (ITU G.657.A2 & .B2, & G.652.D)				
MULTIMODE*	Wavelength (nm)	Bandwidth (MHz)	1 GbE Dist (m)	10 GbE Dist (m)
G6 = OM1 (62.5µm)	850/1300	200/500	300/550	33/___
G5 = OM2+ BIF (50µm)	850/1300	700/500	800	150/___
G3 = OM3 BIF (50µm)	850/1300	1500/500	1000	300/___
G4 = OM4 BIF (50µm)	850/1300	3500/500	1100	550/___

* For XPRLTMD with multimode, the maximum fiber count is 72.



6 FIBER COUNT			
002 to 288 fibers			
7 FIBER GRADE			
SINGLE-MODE	Attenuation (dB/km)	Wavelength (nm)	Fiber Type
E1 = 0.40/0.40/0.30	1310/1383/1550	HB, ES, or CE	
E3 = 0.35/0.35/0.25	1310/1383/1550	HB, ES, B1, B2 or CE	
MULTIMODE	Attenuation (dB/km)	Wavelength (nm)	Fiber Type
M2 = 3.5/1.0	850/1300	OM1 (62.5µm)	
M3 = 3.0/1.0	850/1300	OM2+, OM3, OM4 (50µm)	

Other cable constructions and fiber performance grades available on request.

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