

ALTOS® Gel-Free, Low-Temperature Cables, 12-288 Fibers

CORNING

Features and Benefits

Extended operating temperature range of -50° to +70°C (-58° to +158°F)

Allows for operation at extreme low temperatures

Flexible, craft-friendly buffer tubes

Facilitate easy routing in closures

Innovative waterblocking technology

Eliminates the need for traditional flooding compound and provides efficient and craft-friendly cable preparation

Dielectric central strength member

No preferential bend and requires no bonding or grounding

Polyethylene jacket

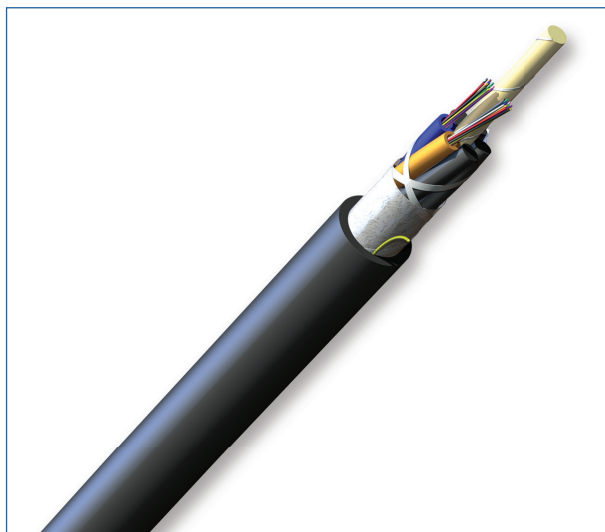
Rugged, durable and easy to strip

ALTOS® low-temperature cables are designed for extreme cold temperature environments with an extended operating range of -50° to +70°C (-58° to +158°F). Dielectric and armored jackets allow for duct, direct-buried or aerial (lashed) installations. See specification section for application selection.

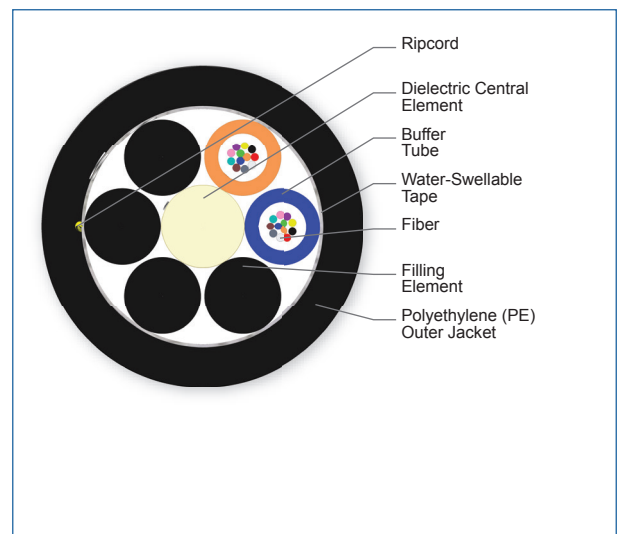
Standards

Design and Test Criteria

ANSI/ICEA S-87-640,
Telcordia GR-20, RDUP
PE-90



ALTOS® Gel-Free, Low-Temperature Dielectric
Cables, 24-Fibers

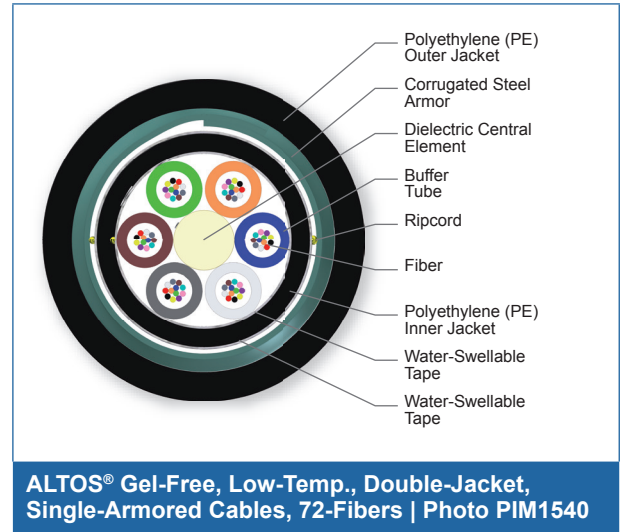
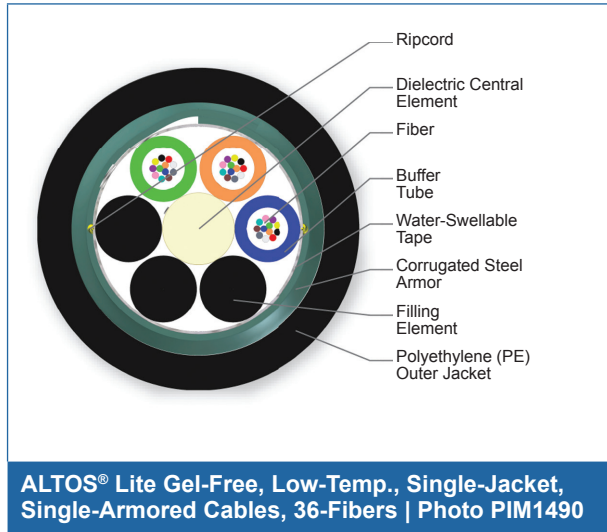


ALTOS® Gel-Free, Low-Temperature Dielectric
Cables, 24-Fibers | Photo PIM1478

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Specifications

Temperature Range	
Storage	-50 °C to 70 °C (-58 °F to 158 °F)
Installation	-30 °C to 70 °C (-22 °F to 158 °F)
Operation	-50 °C to 70 °C (-58 °F to 158 °F)

* Note: Corning recommends storing cable in a proper temperature environment prior to installation to allow the cable temperature to meet installation temperature range specifications for best installation results.

Mechanical Characteristics Cable						
Max. Tensile Strength, Long-Term			200 lbf (890 N)			
Max. Tensile Strength, Short-Term			2700 N (600 lbf)			
Fiber Count	Number of Tube Positions	Number of Active Tubes	Weight	Nominal Outer Diameter	Min. Bend Radius Installation	Min. Bend Radius Operation
24	6	2	73 kg/km (49 lb/1000 ft)	10.5 mm (0.41 in)	158 mm (6.2 in)	105 mm (4.1 in)
ALTOS® Gel-Free, Low-Temperature, All-Dielectric Cables, 12-288 Fibers Designed for Duct and Aerial Applications						
12 - 72	6	1 - 6	73 kg/km (49 lb/1000 ft)	10.5 mm (0.41 in)	158 mm (6.2 in)	105 mm (4.1 in)
96	8	8	98 kg/km (66 lb/1000 ft)	12.2 mm (0.48 in)	183 mm (7.2 in)	122 mm (4.8 in)

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Fiber Count	Number of Tube Positions	Number of Active Tubes	Weight	Nominal Outer Diameter	Min. Bend Radius Installation	Min. Bend Radius Operation
144	12	12	162 kg/km (109 lb/1000 ft)	15.8 mm (0.62 in)	237 mm (9.3 in)	158 mm (6.2 in)
192 - 216	18	16 - 18	147 kg/km (99 lb/1000 ft)	16 mm (0.63 in)	240 mm (9.4 in)	160 mm (6.3 in)
288	24	24	196 kg/km (131 lb/1000 ft)	18.2 mm (0.72 in)	273 mm (10.7 in)	182 mm (7.2 in)

ALTOS® Gel-Free, Low-Temperature, Single-Jacket/Single-Armored, 12-288 Fibers Designed for Direct-Buried and Aerial Applications

12 - 72	6	1 - 6	129 kg/km (87 lb/1000 ft)	12.1 mm (0.48 in)	121 mm (4.8 in)	182 mm (7.1 in)
96	8	8	162 kg/km (109 lb/1000 ft)	13.8 mm (0.54 in)	138 mm (5.4 in)	207 mm (8.1 in)
144	12	12	245 kg/km (166 lb/1000 ft)	17.5 mm (0.69 in)	175 mm (6.9 in)	263 mm (10.3 in)
192 - 216	18	16 - 18	233 kg/km (156 lb/1000 ft)	17.7 mm (0.7 in)	177 mm (7 in)	266 mm (10.5 in)
288	24	24	293 kg/km (196 lb/1000 ft)	20 mm (0.79 in)	200 mm (7.9 in)	300 mm (11.8 in)

ALTOS® Gel-Free, Low-Temperature, Double-Jacket/Single-Armored, 12-288 Fibers Designed for Direct-Buried Applications

12 - 72	6	1 - 6	172 kg/km (115 lb/1000 ft)	14.3 mm (0.56 in)	215 mm (8.4 in)	143 mm (5.6 in)
96	8	8	209 kg/km (140 lb/1000 ft)	16 mm (0.63 in)	240 mm (9.4 in)	160 mm (6.3 in)
144	12	12	303 kg/km (203 lb/1000 ft)	19.7 mm (0.78 in)	296 mm (11.6 in)	197 mm (7.8 in)
192 - 216	18	16 - 18	289 kg/km (194 lb/1000 ft)	19.9 mm (0.78 in)	299 mm (11.8 in)	199 mm (7.8 in)
288	24	24	355 kg/km (238 lb/1000 ft)	22.2 mm (0.87 in)	333 mm (13.1 in)	222 mm (8.7 in)

Chemical Characteristics

RoHS

Free of hazardous substances according to RoHS 2011/65/EU

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Transmission Performance

Multimode				
Fiber Core Diameter (μm)	62.5	50	50	50
Fiber Category	OM1	OM2	OM3	OM4
Fiber Code	K	T	T	T
Performance Option Code	30	31	80	90
Wavelengths (nm)	850/1300	850/1300	850/1300	850/1300
Maximum Attenuation (dB/km)	3.4/1.0	3.0/1.0	3.0/1.0	3.0/1.0
Serial 1 Gigabit Ethernet (m)	300/550	750/500	1000/600	1100/600
Serial 10 Gigabit Ethernet (m)	33/-	150/-	300/-	550/-
Min. Overfilled Launch (OFL) Bandwidth (MHz*km)	200/500	700/500	1500/500	3500/500
Minimum Effective Modal Bandwidth (EMB) (MHz*km)	220/-	950/-	2000/-	4700/-

Single-mode					
Fiber Name	SMF-28e+® LL	SMF-28® Ultra fiber**	Single-mode (OS2)	Single-mode (OS2)	LEAF® fiber
Fiber Category	G.652.D	G.652.D/G.657.A1	G.652.D	G.652.D	G.655
Fiber Code	L	Z	E	E	F
Performance Option Code	22	22	00	01	01
Wavelengths (nm)	1310/1383/1550	1310/1383/1550	1310/1383/1550	1310/1383/1550	1310/1383/1550
Maximum Attenuation (dB/km)	0.34/0.34/0.22	0.34/0.34/0.22	0.35/0.35/0.25	0.4/0.4/0.3	-/-/0.25
Typical Attenuation* (dB/km)	0.32/0.32/0.18	0.32/0.32/0.18	-	-	-/-/0.19
Fiber Name	SMF-28® ULL	TXF™ fiber			
Fiber Category	G.652	G.654.E			
Fiber Code	P	D			
Performance Option Code	19	01			
Wavelengths (nm)	1310/1383/1550	1310/1383/1550			
Maximum Attenuation (dB/km)	0.33/-/0.19	-/-/0.20			
Typical Attenuation* (dB/km)	0.31/-/0.17	-/-/0.18			

* For more information on typical attenuation please see the Corning whitepaper at http://csmedia.corning.com/opcomm//Resource_Documents/whitepapers_rl/LAN-1863-AEN.pdf

** SMF-28® Ultra fiber delivers up to 10x better macrobend loss performance compared to the G.652.D standard and up to 33 percent better macrobend loss performance than the G.657.A1 standard for 10mm radii bends.

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Ordering Information | Note: Contact Customer Care at 1-800-743-2675 for other options.

				U		-			1			F	2	0
1	2	3	4	5	6	7	8	9	10					

1 Select fiber count.
Standard offerings:
012-288 (Increments of 12)

2 Select fiber code.
K = 62.5 µm multimode (OM1)
T = 50 µm multimode (OM2/OM3/OM4)
E = Single-mode (G.652.D)
L = Single-mode (G.652.D) SMF-28e+® LL
Z = Single-mode (G.652.D/G.657.A1) SMF-28® Ultra
P = Single-mode (G.652) SMF-28® ULL
F = Single-mode (G.655) LEAF®
D = TXF™ Single-mode (G.654.E)

3 Defines cable type.
U = ALTOS® Loose Tube Cable with 2.5 mm buffer tubes

4 Select jacket.
4 = Dielectric
C = Single-jacket, single-armored
5 = Double-jacket, single-armored
See Note 1.

5 Select fiber placement.
T = 12 fibers/buffer tube (standard)
6 = 6 fibers/buffer tube
See Note 2.

6 Select length markings.
3 = Markings in meters
4 = Markings in feet (standard)

7 Defines tensile strength.
1 = 2700 N/600 lbf (standard)

8 Select performance option code.
30 = 62.5 µm multimode (OM1)
31 = 50 µm multimode (OM2)
80 = 50 µm multimode (OM3)
90 = 50 µm multimode (OM4)
01 = Single-mode (OS2) (Max. attenuation 0.4/0.4/0.3 dB/km)
00 = Single-mode (OS2) (Max. attenuation 0.35/0.35/0.25 dB/km)
22 = Single-mode (OS2) (Max. attenuation 0.34/0.34/0.22 dB/km)
19 = Single-mode (Ultra Low-Loss) (Max. attenuation 0.33/-/0.19 dB/km)
01 = Single-mode (TXF) (Max. attenuation -/-/0.20 dB/km)
01 = Single-mode NZDSF* (Max. attenuation -/-/0.25 dB/km)
*Non-Zero Dispersion-Shifted Single-mode Fiber

9 Defines cable type.
F = ALTOS® Gel-Free Low-Temperature Cable

10 Defines special requirements.
20 = No special requirements

1) See specifications section for application.

2) Cable outer diameter may change. Example: 48 F cable with 6 fibers per tube will require 8 active buffer and have an OD like a standard 96 F cable.



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