

# ALTOS® Low-Temperature, Loose Tube, Gel-Free Cable



Corning ALTOS® gel-free, 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 jackets allow for duct or aerial (lashed) installation.

## Features and Benefits

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

Allows for operation at extreme low temperatures

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**Flexible, craft-friendly buffer tubes**

Facilitate easy routing in closures

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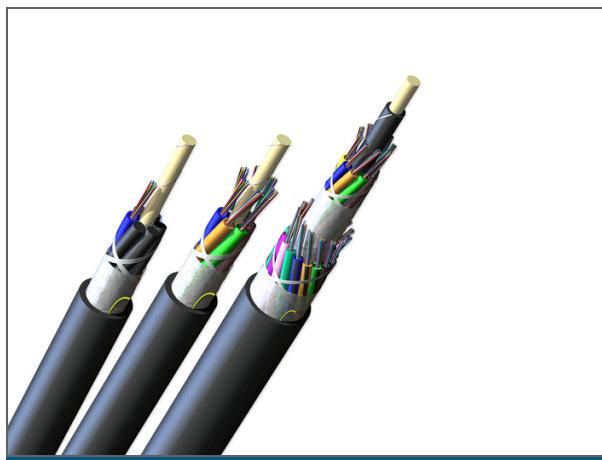
**Gel-free waterblocking technology**

Craft-friendly cable preparation

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**Polyethylene jacket**

Rugged, durable and easy to strip (while providing superior protection against UV radiation, fungus, abrasion and other environmental factors)



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Standards	
RoHS	Free of hazardous substances according to RoHS 2011/65/EU
Approvals and Listings	USDA Rural Development Programs
Common Installations	Outdoor duct and aerial
Design and Test Criteria	Telcordia GR-20, ICEA-640

## Specifications

General Specifications	
Environment	Outdoor
Product Type	Dielectric
Cable Type	Loose Tube

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

Design Characteristics Cable				
Fiber Count	Fibers per Tube	Number of Tube Positions	Number of Active Tubes	Buffer Tube Diameter
12 - 72	12	6	1 - 6	2.5 mm (0.1 in)
96	12	8	8	2.5 mm (0.1 in)
144	12	12	12	2.5 mm (0.1 in)
192 - 216	12	18	16 - 18	2.5 mm (0.1 in)
288	12	24	24	2.5 mm (0.1 in)

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## Transmission Performance

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

## Transmission Performance

Single-mode			
Performance Option Code	22	00	01
Fiber Category	G.652.D/G.657.A1	G.652.D	G.652.D
Fiber Name	SMF-28® Ultra fiber	Single-mode (OS2)	Single-mode (OS2)
Wavelengths	1310 nm / 1383 nm / 1550 nm	1310 nm / 1383 nm / 1550 nm	1310 nm / 1383 nm / 1550 nm
Fiber Code	Z	E	E
Maximum Attenuation	0.34 dB/km / 0.34 dB/km / 0.22 dB/km	0.35 dB/km / 0.35 dB/km / 0.25 dB/km	0.4 dB/km / 0.4 dB/km / 0.3 dB/km

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- 1** Select fiber count.  
Standard offerings:  
012-288 (increments of 12)w<sup>1</sup>ha
- 2** K = 62.5 μm multimode (OM1)  
T = 50 μm multimode (OM2/OM3/OM4)  
E = Single-mode (G.652.D)  
Z = Single-mode (G.652.D/G.657.A1) SMF-28® Ultra fiber  
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** Defines outer jacket.  
4 = Dielectric
- 5** Select fiber placement.  
T = 12 fibers/buffer tube (standard)  
6 = 6 fibers/buffer tube  
*See Note 1.*
- 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

<sup>1</sup>) 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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