

# ALTOS® Gel-Free, Triple-Jacket, Double-Armored Cables, 12-216 Fibers

CORNING

## Features and Benefits

### Three jacket layers and two steel tape armor layers

Provide superior rodent resistance for direct-buried applications

### Flexible, craft-friendly buffer tubes

Facilitate easy routing in closures

### Totally gel-free cable design with innovative water-blocking technology

Makes fiber access simple and clean

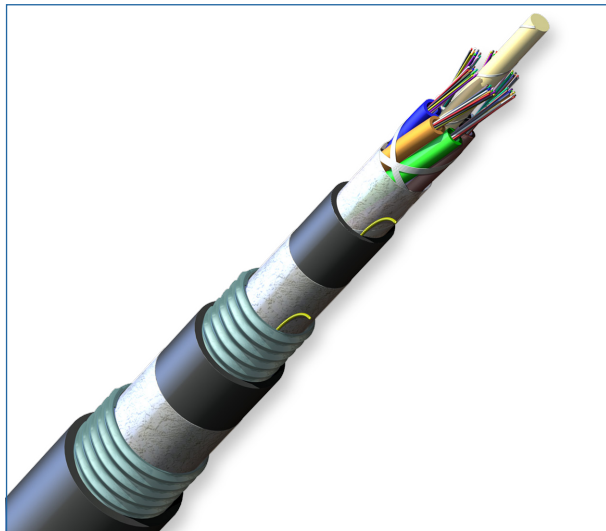
### Medium-density polyethylene jacket

Makes cable rugged and durable while being flexible and easy to strip

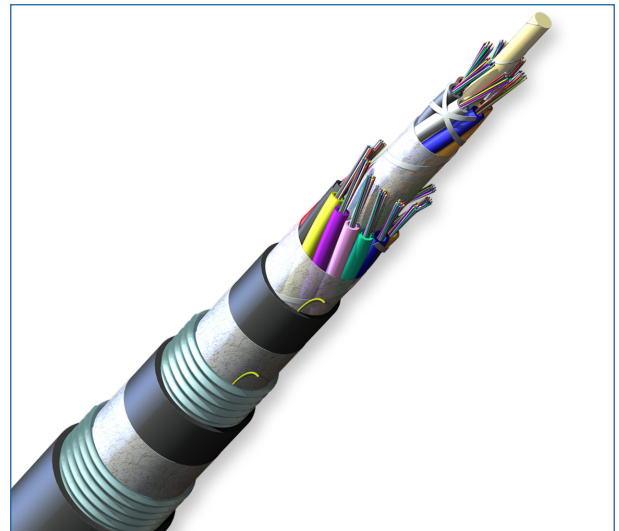
Corning ALTOS® gel-free triple-jacket, double-armored cables are rugged, armored cables designed for direct-buried installations. The loose tube design provides stable performance over a wide temperature range and is compatible with any telecommunications-grade optical fiber.

## Standards

Design and Test Criteria    ANSI/ICEA S-87-640  
                                          Telcordia GR-20  
                                          RDUP PE-90



ALTOS Gel-Free Triple-Jacket, Double-Armored Cables, 72 Fibers | Photo PIM0573

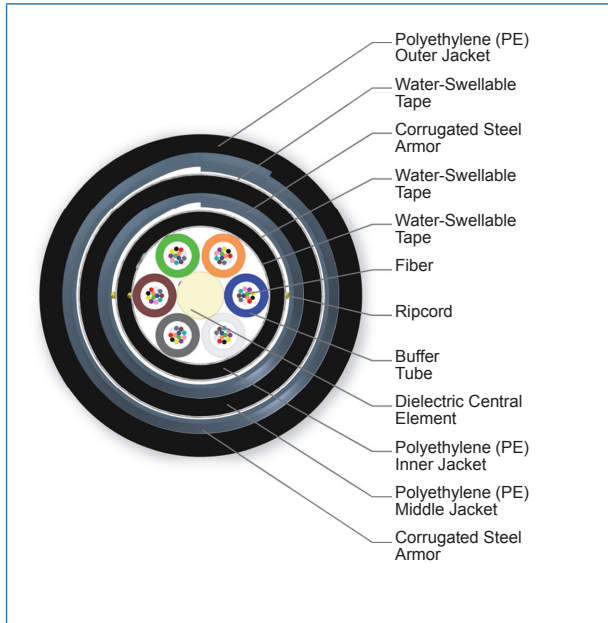


ALTOS Gel-Free Triple-Jacket, Double-Armored Cables, 216 Fibers | Photo PIM0577

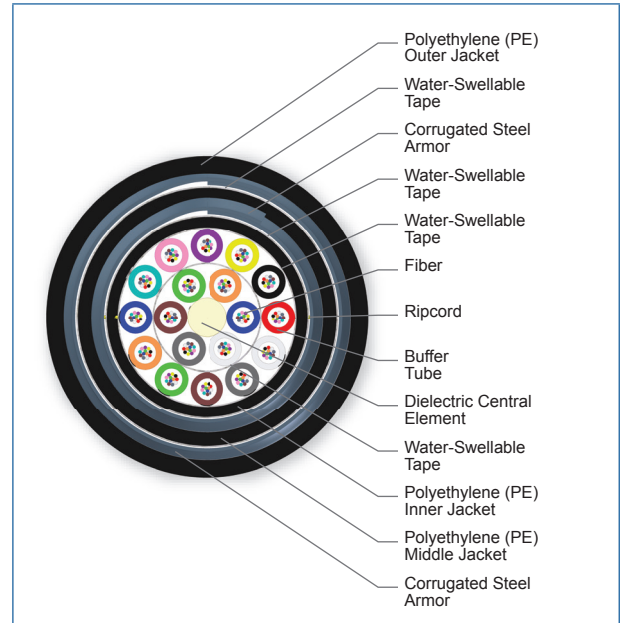
CORNING

# ALTOS® Gel-Free, Triple-Jacket, Double-Armored Cables, 12-216 Fibers

CORNING



**ALTOS Gel-Free Triple-Jacket, Double-Armored Cables, 72 Fibers** | Photo PIM1472



**ALTOS Gel-Free Triple-Jacket, Double-Armored Cables, 216 Fibers** | Photo PIM1476

## Specifications

Temperature Range	
Storage	-40 °C to 70 °C (-40 °F to 158 °F)
Installation	-30 °C to 70 °C (-22 °F to 158 °F)
Operation	-40 °C to 70 °C (-40 °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.

Max. Tensile Strength, Short-Term	2700 N (600 lbf)
Max. Tensile Strength, Long-Term	890 N (200 lbf)

Mechanical Characteristics Cable								
Fiber Count	Product Type	Maximum Fibers per Tube	Number of Tube Positions	Number of Active Tubes	Weight	Nominal Outer Diameter	Min. Bend Radius Installation	Min. Bend Radius Operation
12 - 72	Armored	12	6	1 - 6	310 kg/km (208 lb/1000 ft)	18.3 mm (0.72 in)	275 mm (10.8 in)	183 mm (7.2 in)
96	Armored	12	8	8	361 kg/km (242 lb/1000 ft)	20 mm (0.79 in)	300 mm (11.8 in)	200 mm (7.9 in)

CORNING

# ALTOS® Gel-Free, Triple-Jacket, Double-Armored Cables, 12-216 Fibers

CORNING

## Mechanical Characteristics Cable

Fiber Count	Product Type	Maximum Fibers per Tube	Number of Tube Positions	Number of Active Tubes	Weight	Nominal Outer Diameter	Min. Bend Radius Installation	Min. Bend Radius Operation
144	Armored	12	12	12	487 kg/km (327 lb/1000 ft)	23.8 mm (0.94 in)	357 mm (14.1 in)	238 mm (9.4 in)
192 - 216	Armored	12	18	16 - 18	473 kg/km (317 lb/1000 ft)	24 mm (0.94 in)	360 mm (14.2 in)	240 mm (9.4 in)

## Chemical Characteristics

RoHS	Free of hazardous substances according to RoHS 2002/95/EG
------	-----------------------------------------------------------

## 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/-

# ALTOS® Gel-Free, Triple-Jacket, Double-Armored Cables, 12-216 Fibers

CORNING

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

\* Typical attenuation values match the attenuation values listed in the optical fiber specifications. See [www.corning.com/opticalfiber](http://www.corning.com/opticalfiber) for Corning optical fiber specifications. Better attenuation performance options are available for some fiber and cable types. Contact Customer Care for additional fiber options.

\*\* SMF-28® Ultra and ClearCurve® XB fiber deliver 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.

# ALTOS® Gel-Free, Triple-Jacket, Double-Armored Cables, 12-216 Fibers

CORNING

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

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	U	6	-	<input type="text"/>	<input type="text"/>	1	<input type="text"/>	<input type="text"/>	D	2	0
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>					

**1** Select fiber count.

Standard offerings:  
012-216 (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) SMF-28e+® fiber  
L = Single-mode (G.652.D) SMF-28e+® LL fiber  
Z = Single-mode (G.652.D/ G.657.A1) SMF-28® Ultra fiber  
H = Single-mode (G.652.D/ G.657.A1) ClearCurve® XB fiber  
P = Single-mode (G.652) SMF-28® ULL fiber  
F = Single-mode (G.655) LEAF® fiber

**3** Defines cable type.

U = ALTOS® Loose Tube Cable with 2.5 mm buffer tubes

**4** Defines outer jacket.

6 = Triple-jacket, double-armored

**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 NZDSF\* (Max. attenuation -/-/0.25 dB/km)  
*\*Non-Zero Dispersion-Shifted Single-mode Fiber*

**9** Defines cable type.

D = Gel-free cable

**10** Defines special manufacturing code.

20 = No special requirements

1) 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.



Corning Optical Communications LLC • PO Box 489 • Hickory, NC 28603-0489 USA

800-743-2675 • FAX: 828-325-5060 • International: +1-828-901-5000 • [www.corning.com/opcomm](http://www.corning.com/opcomm)

A complete listing of the trademarks of Corning Optical Communications is available at [www.corning.com/opcomm/trademarks](http://www.corning.com/opcomm/trademarks). Corning Optical Communications is ISO 9001 certified. © 2014 Corning Optical Communications. All rights reserved.

CORNING