

FREEDM® One Unitized, Tight-Buffered Cables, Plenum



Features and Benefits

Waterblocking technology

Outside Plant (OSP) applications

Small diameter and bend radius

Easy installation in space-constrained areas

Color-coded fibers

Quick and easy identification

All-dielectric cable construction

Requires no grounding or bonding

UV-resistant, flame-retardant jacket

Rugged, durable and easy to strip

Standards

Listings

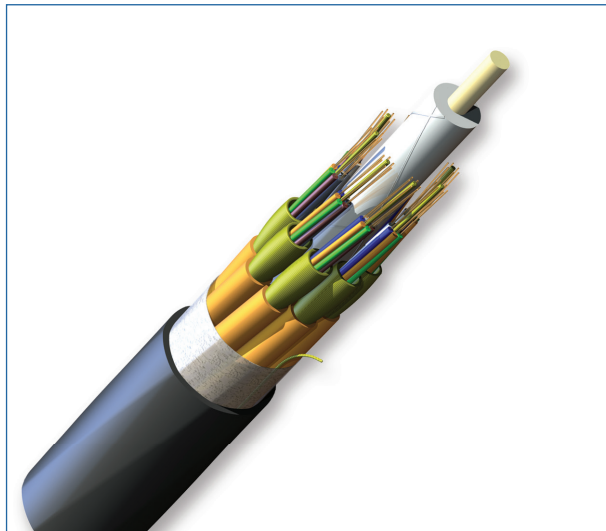
National Electrical Code® (NEC®) OFNP, FT-6

Design and Test Criteria

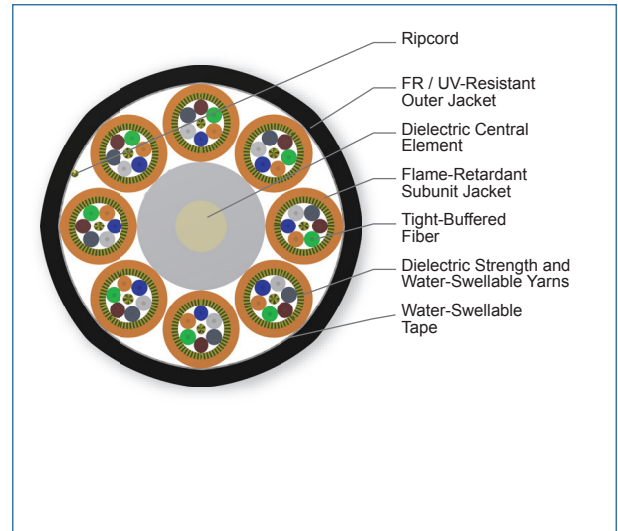
NFPA 262 and CSA FT-6 (for plenum, riser and general building applications); ICEA S-104-696

Corning FREEDM® One unitized plenum cables are flame-retardant, UV-resistant, indoor/outdoor cables designed for aerial and duct applications with no need for a transition splice when entering the building. Available in fiber counts up to 144 fibers, the tight-buffered construction facilitates easy termination for high-fiber-count applications in the local area network (LAN) and eliminates the need for fan-out kits. The design features TIA-598 color-coded 900 µm buffered fibers for easy identification, consistent stripping and direct termination

Available in 50 µm, 62.5 µm, single-mode and hybrid versions, the cable design meets ICEA S-104-696 test criteria and is also OFNP and FT-6 listed for plenum, riser and general purpose use. The small diameter and bend radius of the cable allow for easy installation in space-constrained areas while the innovative waterblocking technology is ideal for OSP applications. The all-dielectric cable construction requires no grounding or bonding, and the UV-resistant, flame-retardant jacket is rugged, durable and easy to strip. This cable is also available with interlocking armor for special applications requiring additional mechanical durability.



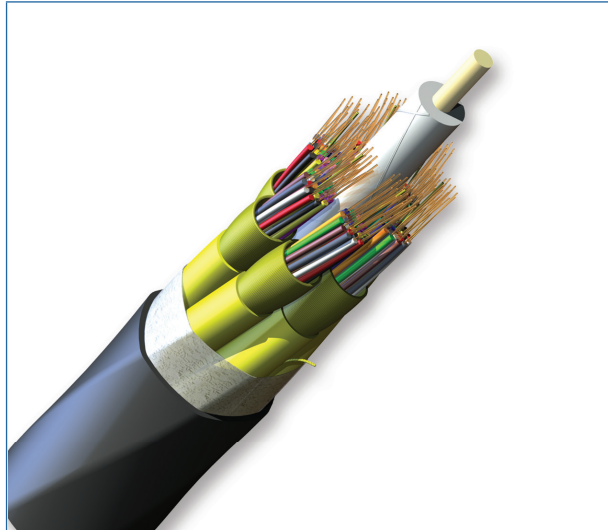
FREEDM One Unitized, Tight-Buffered Plenum Cables, 48 Fibers



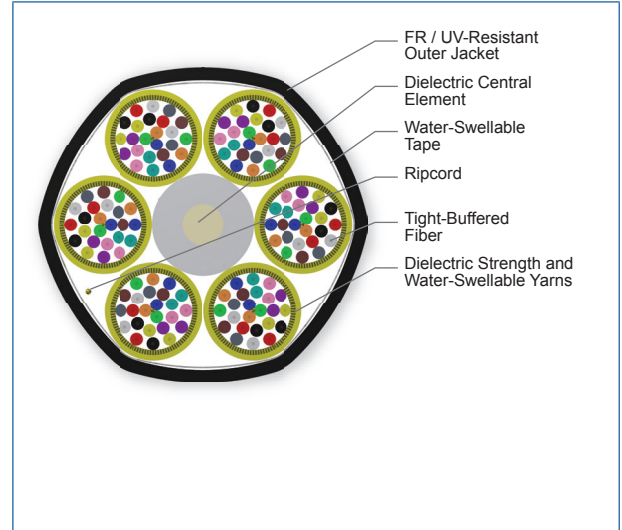
FREEDM One Unitized, Tight-Buffered Plenum Cables, 48 Fibers

FREEDM® One Unitized, Tight-Buffered Cables, Plenum

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FREEDM One Unitized, Tight-Buffered Plenum Cables, 144 Fibers



FREEDM One Unitized, Tight-Buffered Plenum Cables, 144 Fibers

Specifications

Temperature Range	
Storage	-40 °C to 70 °C (-40 °F to 158 °F)
Installation	0 °C to 60 °C (32 °F to 140 °F)
Operation	-40 °C to 70 °C (-40 °F to 158 °F)

* Note: Corning recommends storing indoor/outdoor 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, Short-Term	2700 N (600 lbf)
Max. Tensile Strength, Long-Term	810 N (180 lbf)

Fiber Count	Nominal Outer Diameter	Min. Bend Radius Installation	Min. Bend Radius Operation	Weight	Number of Fibers per Subunit	Subunit Diameter
36	17.0 mm (0.67 in)	255 mm (10.0 in)	170 mm (6.7 in)	258.48 kg/km (173 lb/1000 ft)	6	4.40 mm (0.17 in)
48	19.6 mm (0.77 in)	294 mm (11.6 in)	196 mm (7.7 in)	355.82 kg/km (239.1 lb/1000 ft)	6	4.40 mm (0.17 in)
72	20.0 mm (0.79 in)	300 mm (11.8 in)	200 mm (7.9 in)	349.8 kg/km (235.1 lb/1000 ft)	12	5.55 mm (0.22 in)

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Fiber Count	Nominal Outer Diameter	Min. Bend Radius Installation	Min. Bend Radius Operation	Weight	Number of Fibers per Subunit	Subunit Diameter
96	18.5 mm (0.73 in)	277.5 mm (10.9 in)	185 mm (7.3 in)	305.2 kg/km (205.1 lb/1000 ft)	24	7.00 mm (0.27 in)
144	23.5 mm (0.93 in)	352.5 mm (14.3 in)	235 mm (9.3 in)	482.3 kg/km (324.07 lb/1000 ft)	24	7.00 mm (0.27 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	50
Fiber Category	OM1	OM2	OM3	OM4	OM4 Extended Distance
Fiber Code	K	T	T	T	T
Performance Option Code	30	31	80	90	91
Wavelengths (nm)	850/1300	850/1300	850/1300	850/1300	850/1300
Maximum Attenuation (dB/km)	3.4/1.0	2.8/1.0	2.8/1.0	2.8/1.0	2.8/1.0
Serial 1 Gigabit Ethernet (m)	300/550	750/600	1000/600	1000/600	1100/600
Serial 10 Gigabit Ethernet (m)	33/-	150/-	300/-	550/-	600/-
Min. Overfilled Launch (OFL) Bandwidth (MHz*km)	200/500	700/500	1500/500	3500/500	3500/500
Minimum Effective Modal Bandwidth (EMB) (MHz*km)	220/-	950/-	2000/-	4700/-	5350/-

* 50 µm multimode fiber (OM3/OM4/OM4+) meets 0.75 ns optical skew when used in all Corning Plug and Play™/EDGE™ systems solutions.

* 50 µm multimode fiber (OM4) T90 10 Gigabit Ethernet distance assumes 1.0 dB maximum total connector/splice loss.

* 50 µm multimode fiber (OM4) T91 10 Gigabit Ethernet Distance assumes 0.7 dB maximum total connector/splice loss.

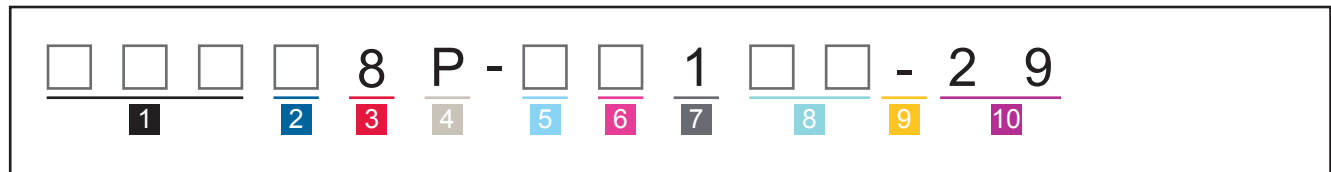
FREEDM[®] One Unitized, Tight-Buffered Cables, Plenum



Single-mode		
Fiber Name	SMF-28e [®] fiber	SMF-28 [®] Ultra fiber
Fiber Category	G.652.D	G.652.D/G.657.A1
Fiber Code	E	Z
Performance Option Code	31	31
Wavelengths (nm)	1310/1383/1550	1310/1383/1550
Maximum Attenuation (dB/km)	0.65/0.65/0.50	0.65/0.65/0.50

* Improved attenuation and bandwidth options available.
 * Bend-insensitive single-mode fibers available on request.
 * Contact a Corning Customer Care Representative for additional information.

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



1 Select fiber count.
 Standard offerings:
 036 048 072
 096 144

2 Select fiber code.
 K = 62.5 μm multimode (OM1)
 T = 50 μm multimode (OM2/OM3/OM4/OM4+)
 E = Single-mode (OS2) SMF-28e[®] fiber
 Z = Single-mode (OS2) SMF28[®] Ultra fiber

3 Defines cable type.
 8 = FREEDM One cable

4 Defines outer jacket.
 P = Indoor/outdoor plenum

5 Select fiber placement.
 6 = 6-fiber subunits for 36 and 48 fibers
 T = 12-fiber subunits for 72 fibers
 Y = 24-fiber subunits for 96 and 144 fibers

6 Select length markings.
 3 = Markings in ft for 72, 96 and 144 fibers
 1 = Markings in ft (standard) for 36 and 48 fibers

7 Defines tensile strength.
 1 = See specifications

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)
 91 = 50 μm multimode (OM4+)
 31 = Single-mode (OS2)
 (Max. attenuation .65 / .65 / 0.5 dB/km)

9 Defines cable type.
 - = FREEDM One cable

10 Defines special requirements.
 29 = No special requirements.

Note: This cable is available in 12 different jacket colors – blue, orange, green, brown, slate, white, red, black, yellow, violet, rose and aqua. The colored jacket allows for easy visual identification of the cables while still providing all of the required environmental protection of an indoor/outdoor cable jacket. Black is the standard jacket color using the part numbers shown here. Contact Customer Care at 1-800-743-2675 to order other color options.

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The CORNING logo is a blue square with the word "CORNING" in white, uppercase, sans-serif font centered inside.

Notes



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