FREEDM® Loose Tube, Indoor/Outdoor, Gel-Free Cables, Riser

Features and Benefits

Gel-free waterblocking technology
Craft-friendly cable preparation

Loose tube design
Mechanical ruggedness and environmental durability

Color-coded tubes and fibers
Quick and easy identification

All-dielectric cable construction
Requires no grounding or bonding

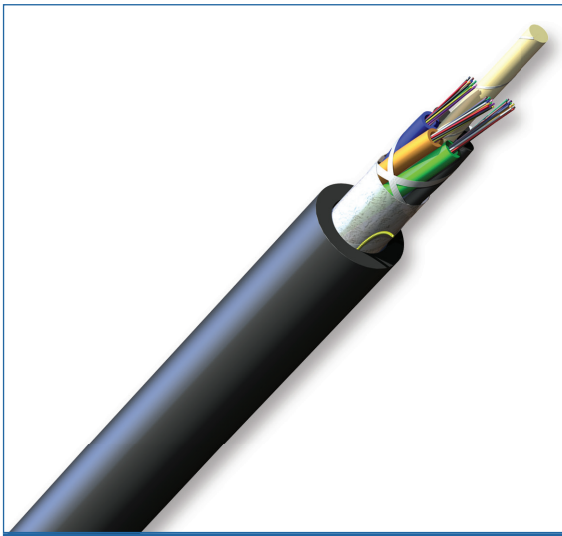
Common installations
Outdoor lashed aerial and duct; indoor vertical riser and general purpose horizontal according to National Electrical Code (NEC) Article 770

Standards

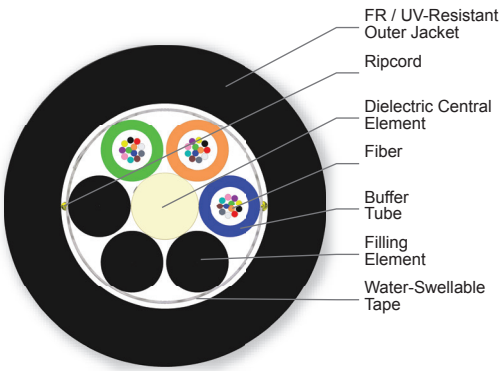
Listings	National Electrical Code® (NEC®) OFNR
Design and Test Criteria	ANSI/ICEA S-104-696, CSA OFN FT-4

Corning FREEDM® loose tube gel-free riser cables are flame-retardant, indoor/outdoor, riser-rated cables designed for interbuilding and intrabuilding backbones in aerial, duct and riser applications. These cables are protected against water penetration by innovative waterblocking materials that swell to absorb water. Waterblocking without the use of messy gels provides more efficient and craft-friendly cable preparation. It also makes cable access easier and simplifies the use of buffer tube fan-out kits.

The buffer tubes and fibers in each tube are color coded for quick, easy identification. The SZ-stranded, loose tube design isolates fibers from installation and environmental rigors and allows for easy mid-span access. The cable design is also National Electrical Code® (NEC®) listed (OFNR and FT-4). The all-dielectric cable construction requires no grounding or bonding, and the UV-resistant, flame-retardant jacket is rugged, durable and easy to strip.



FREEDM Loose Tube Gel-Free Cables, 36 Fibers | Photo PIM0791



FREEDM Loose Tube Gel-Free Cables, 36 Fibers | Photo PIM1691

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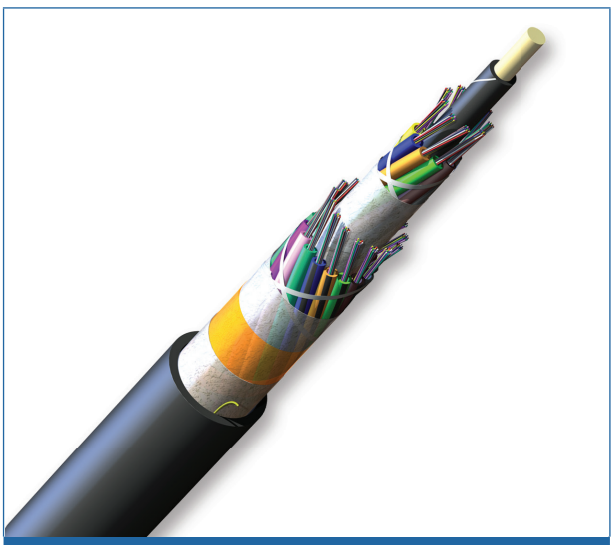
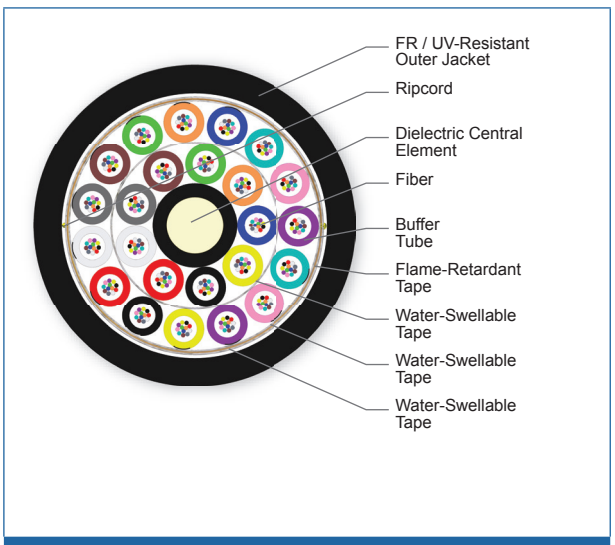


FREEDM Loose Tube Gel-Free Cables, 288 Fibers
| Photo PIM0799



FREEDM Loose Tube Gel-Free Cables, 288 Fibers
| Photo PIM1699

Specifications

Temperature Range	
Storage	-40 °C to 70 °C (-40 °F to 158 °F)
Installation	-10 °C to 60 °C (14 °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	Buffer Tube Diameter	Nominal Outer Diameter	Min. Bend Radius Installation	Min. Bend Radius Operation	Weight
12 - 72	2.5 mm (0.1 in)	13 mm (0.51 in)	195 mm (7.6 in)	130 mm (5.1 in)	146 kg/km (98 lb/1000 ft)
96	2.5 mm (0.1 in)	13.9 mm (0.55 in)	208.5 mm (8.2 in)	139 mm (5.5 in)	162 kg/km (109 lb/1000 ft)
144	2.5 mm (0.1 in)	17.8 mm (0.7 in)	267 mm (10.5 in)	178 mm (7 in)	251 kg/km (168 lb/1000 ft)

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Fiber Count	Buffer Tube Diameter	Nominal Outer Diameter	Min. Bend Radius Installation	Min. Bend Radius Operation	Weight
192 - 216	2.5 mm (0.1 in)	17.7 mm (0.7 in)	265.5 mm (10.4 in)	177 mm (6.9 in)	225 kg/km (151 lb/1000 ft)
224 - 288	2.5 mm (0.1 in)	19.9 mm (0.78 in)	298.5 mm (11.7 in)	199 mm (7.8 in)	283 kg/km (190 lb/1000 ft)

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	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	3.0/1.0	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	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.*

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Single-mode		
Fiber Name	Single-mode (OS2)	SMF-28® Ultra fiber
Fiber Category	G.652.D	G.657.A1
Fiber Code	E	Z
Performance Option Code	01	01
Wavelengths (nm)	1310/1383/1550	1310/1383/1550
Maximum Attenuation (dB/km)	0.4/0.4/0.3	0.4/0.4/0.3
Typical Attenuation* (dB/km)	-	0.33/0.33/0.19

** 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*

Notes: 1) *Improved attenuation and bandwidth options available.*
2) *Bend-insensitive single-mode fibers available on request.*
3) *50 µm multimode fiber macrobend loss ≤ 0.2 dB at 850 nm for two turns around 7.5 mm radius mandrel.*
4) *Contact a Corning Customer Care Representative for additional information.*

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

□ □ □ □ U F - T 4 1 □ □ D 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/OM4+)
E = Single-mode (OS2) SMF-28e+®
Z = Single-mode (OS2) SMF-28® Ultra fiber

3 Defines cable type.
U = Loose tube cable

4 Defines outer jacket.
F = Indoor/outdoor riser

5 Defines fiber placement.
T = 12 fibers/buffer tube (standard)

6 Defines length markings.
4 = Markings in ft (standard)

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+)
01 = Single-mode (OS2)
(Max. attenuation 0.4/0.4/0.3 dB/km)

9 Defines cable type.
D = Gel-free cable

10 Defines special requirements.
20 = 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. Black is the standard jacket color using the part number configurator above. Contact Customer Care at 1-800-743-2675 to order other color options.

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Notes

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