FREEDM® Loose Tube, Indoor/Outdoor, Gel-Free, Interlocking Armored Cables, Plenum

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 construction
Requires no grounding or bonding

Flexible interlocking armor
Up to seven times the crush protection compared to non-armored cables

Common installations
Outdoor aerial and duct; indoor vertical riser and general purpose horizontal according to NEC Article 770

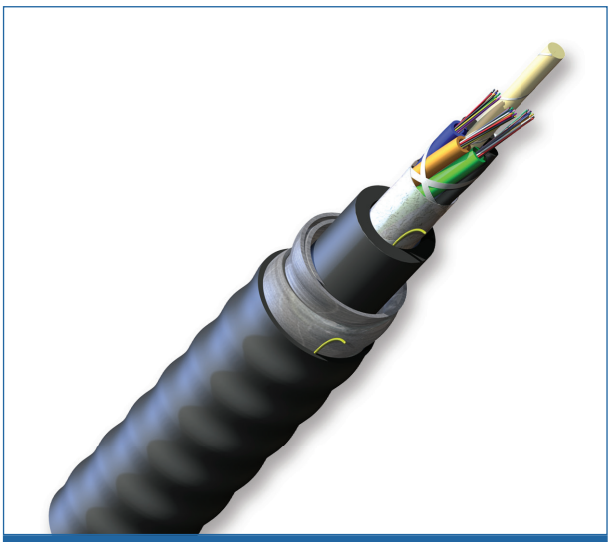
Standards

Listings	National Electrical Code® (NEC®) OFNP
Design and Test Criteria	ANSI/ICEA S-104-696, CSA FT-6

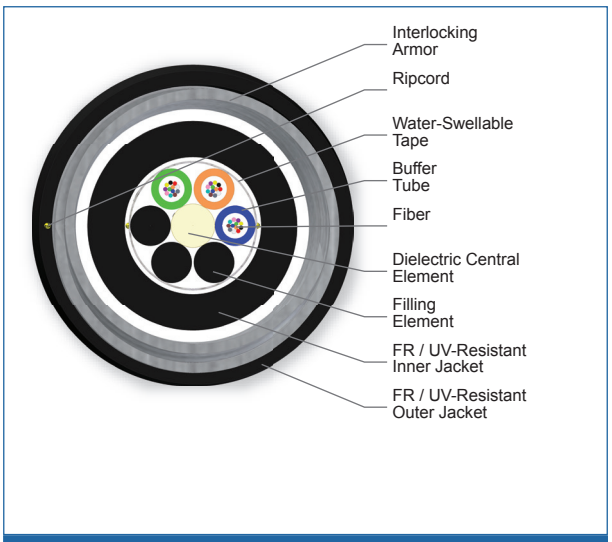
Corning FREEDM® loose tube gel-free interlocking armored cables are flame-retardant, indoor/outdoor, plenum-rated cables for interbuilding and intrabuilding backbones in aerial, duct and riser applications. Encased in a spirally wrapped, aluminum interlocking armor for ruggedness and superior crush resistance, these cables are ideal for industrial and heavy traffic areas and installations requiring extra protection for optical cables and for high-fiber-count trunking applications in areas with limited conduit or vault space. The plenum rating precludes the need for a transition splice when entering the building.

These cables are available in fiber counts up to 72 fibers and are protected against water penetration by innovative waterblocking materials. These materials swell to absorb water without the use of messy gels to provide more efficient and craft-friendly cable preparation, making cable access easier and simplifying 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, environmental rigors and allows for easy mid-span access. Available in 50 µm, 62.5 µm, single-mode and hybrid versions, the cable design is NEC listed.

The armored design allows for easy one-step installation which reduces overall installation costs. The UV-resistant, flame-retardant jacket is rugged and easy to strip.



FREEDM Loose Tube Interlocking Armored Cables, 36 Fibers | Photo PIM0808



FREEDM Loose Tube Interlocking Armored Cables, 36 Fibers | Photo PIM1708

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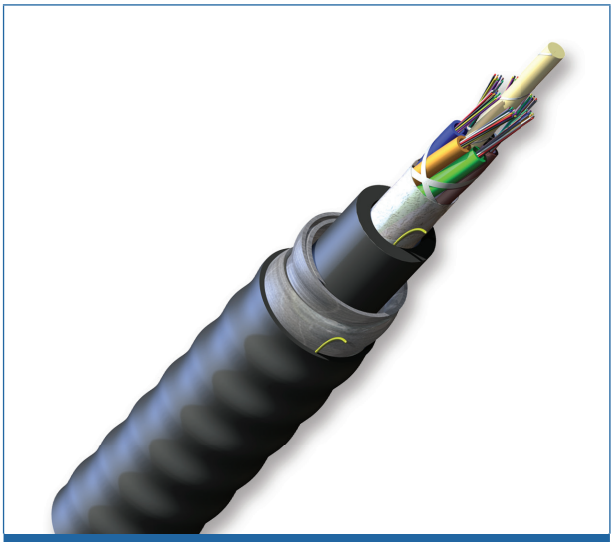
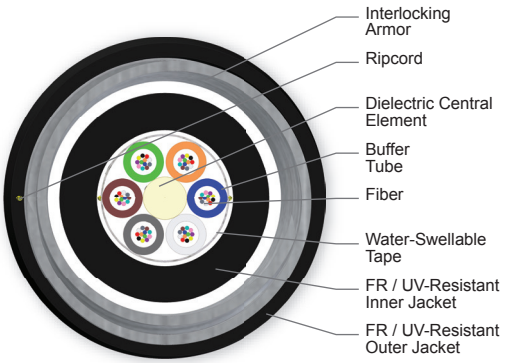


FREEDM Loose Tube, Interlocking Armored Cables, 72 Fibers



FREEDM Loose Tube, Interlocking Armored Cables, 72 Fibers | Photo PIM1711

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 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							
Fiber Count	Buffer Tube Diameter	Min. Bend Radius Installation	Min. Bend Radius Operation	Max. Tensile Strength, Short-Term	Max. Tensile Strength, Long-Term	Nominal Outer Diameter	Weight
12	3.0 mm (0.12 in)	299 mm (11.8 in)	199 mm (7.8 in)	1350 N (300 lbf)	400 N (90 lbf)	14.3 mm (0.56 in)	192.4 kg/km (129.3 lb/1000 ft)
24 - 60	3.0 mm (0.12 in)	299 mm (11.8 in)	199 mm (7.8 in)	2700 N (600 lbf)	810 N (180 lbf)	17.3 mm (0.68 in)	257 kg/km (172.6 lb/1000 ft)
72	3.0 mm (0.12 in)	299 mm (11.8 in)	199 mm (7.8 in)	2700 N (600 lbf)	810 N (180 lbf)	18.8 mm (0.74 in)	284 kg/km (190.8 lb/1000 ft)

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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) meets 0.75 ns optical skew when used in all Corning Plug & 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.*

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

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

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

1	2	3	4	5	6	7	8	9	10
☐☐☐	☐	☐	P	T	4	1	☐☐	D	A 3

1 Select fiber count.
Standard offerings: 012-072
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 Select cable type.
Loose tube
S = ≤ 12 fibers
W = > 12 fibers

4 Defines outer jacket.
P = Indoor/outdoor plenum

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

6 Defines length markings.
4 = Markings in feet (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 manufacturing code.
A3 = Interlocking armor with plenum-rated outer jacket

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