

FREEDM® Ribbon, Indoor/Outdoor, Gel-Filled Cables, Riser

CORNING

Features and Benefits

Precise fiber and ribbon geometries

Excellent mass splicing yields

Waterblocked cable

Enables use of cables for outdoor applications

12-fiber ribbons with ribbon IDs

Easy identification

UV-resistant, flame-retardant jacket

Rugged, durable and easy to strip

Available in preconnectorized assemblies

Easy field installation and reduced labor costs

Common installations

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

Corning FREEDM® ribbon riser cables are lightweight cables designed for indoor/outdoor installations such as campus backbones in aerial, duct and riser applications. A UV-resistant, flame-retardant jacket allows added flexibility in placing this cable outdoors, whether it is an aerial, duct or direct-buried application, or indoor general horizontal or riser applications.

The cable consists of a ribbon stack of 12-fiber ribbons within a gel-filled central buffer tube. With easily accessible individual 250 µm colored fibers, the ribbons have readily identifiable ribbon ID numbers and fiber colors. The precise fiber and ribbon geometries result in excellent mass splicing yields. Surrounding the tube are dielectric strength members that provide tensile strength and innovative waterblocking tapes that reduce cable weight and preparation time. This design is also compatible with standard ribbon cable procedures and hardware for easy field installation and reduced labor costs.

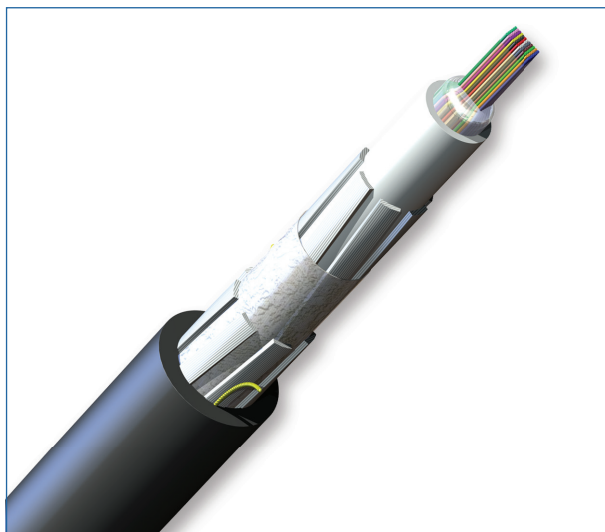
Standards

Listings

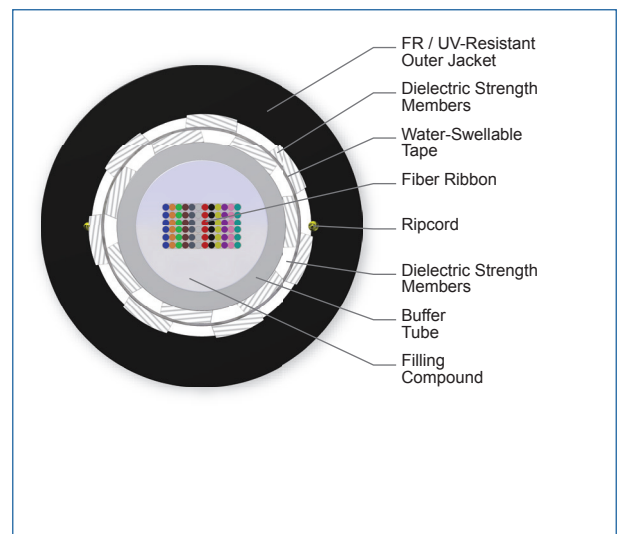
National Electrical Code®
(NEC®) OFNR, FT-4

Design and Test Criteria

ANSI/ICEA S-104-696, CSA
OFN FT-4



FREEDM Ribbon Riser Cables, 72 Fibers
| Photo PIM0834

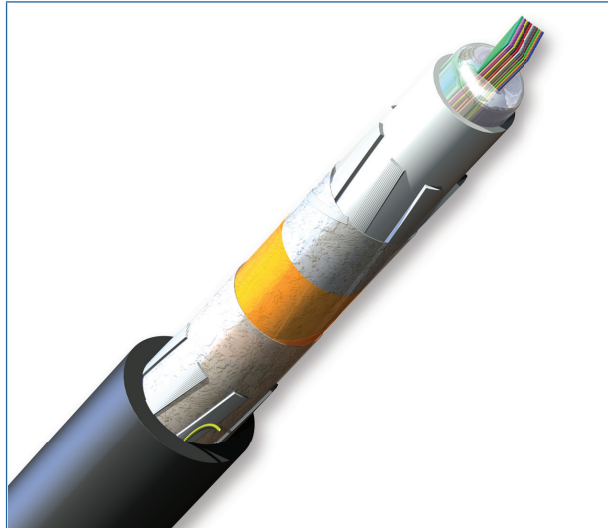


FREEDM Ribbon Riser Cables, 72 Fibers
| Photo PIM1734

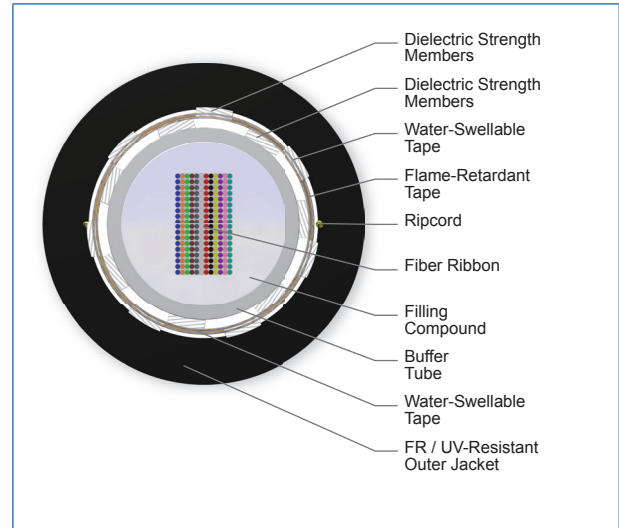
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FREEDM Ribbon Riser Cables, 216 Fibers
| Photo PIM0837



FREEDM Ribbon Riser Cables, 216 Fibers

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 | 600 N (135 lbf) |

| Fiber Count | Buffer Tube Diameter | Nominal Outer Diameter | Min. Bend Radius Installation | Max. Tensile Strength, Short-Term | Max. Tensile Strength, Long-Term | Weight | Min. Bend Radius Operation |
|-------------|----------------------|------------------------|-------------------------------|-----------------------------------|----------------------------------|----------------------------|----------------------------|
| 12 - 48 | 5.6 mm (0.22 in) | 12.0 mm (0.47 in) | 180 mm (7.1 in) | 2700 N (600 lbf) | 600 N (135 lbf) | 141 kg/km (94 lb/1000 ft) | 120 mm (4.7 in) |
| 72 - 96 | 6.7 mm (0.26 in) | 12.7 mm (0.50 in) | 191 mm (7.5 in) | 2700 N (600 lbf) | 600 N (135 lbf) | 157 kg/km (105 lb/1000 ft) | 127 mm (5 in) |

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| Fiber Count | Buffer Tube Diameter | Nominal Outer Diameter | Min. Bend Radius Installation | Max. Tensile Strength, Short-Term | Max. Tensile Strength, Long-Term | Weight | Min. Bend Radius Operation |
|-------------|----------------------|------------------------|-------------------------------|-----------------------------------|----------------------------------|----------------------------|----------------------------|
| 144 | 7.8 mm (0.31 in) | 13.6 mm (0.54 in) | 204 mm (8.0 in) | 2700 N (600 lbf) | 600 N (135 lbf) | 175 kg/km (118 lb/1000 ft) | 136 mm (5.4 in) |
| 216 | 10.5 mm (0.41 in) | 17.6 mm (0.69 in) | 264 mm (10.4 in) | 2700 N (600 lbf) | 600 N (135 lbf) | 286 kg/km (192 lb/1000 ft) | 176 mm (6.9 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 | 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.

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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 |

* 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.

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"/> | C | F | - | <input type="text"/> | <input type="text"/> | <input type="text"/> | - | <input type="text"/> | <input type="text"/> |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | |

1 Select fiber count.

Standard offerings:

012 036 072 144
024 048 096 216

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.

C = FREEDM Ribbon cable

4 Defines outer jacket.

F = Indoor/outdoor riser

5 Defines fiber placement.

1 = 12 fibers/ribbon

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.

- = Gel-filled cable

10 Defines special manufacturing code.

20 = Standard

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



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