

# FREEDM® Ribbon Riser Cables

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## Features and Benefits

### Precise fiber and ribbon geometries

Excellent mass splicing yields

### Waterblocked cable

Enables use of cables for outdoor applications

### Ribbon ID numbers and fiber colors

Easily identifiable

### UV-resistant, flame-retardant jacket

Rugged, durable and easy to strip

## Standards

### Approval and Listings

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

### Common Installations

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

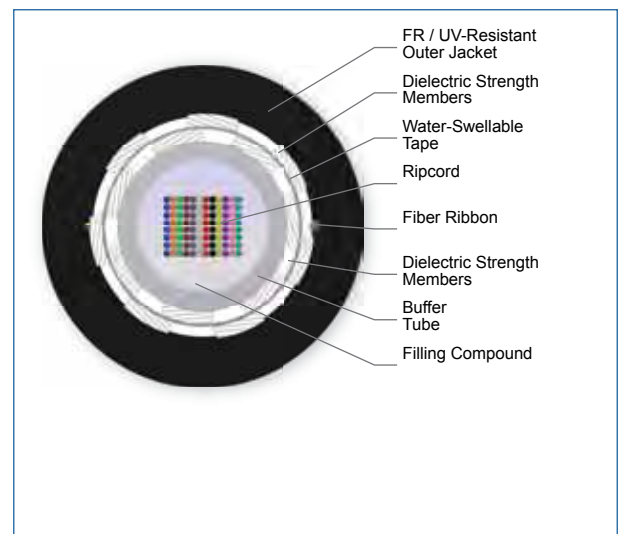
### Design and Test Criteria

ANSI/ICEA S-104-696

Corning Cable Systems 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 preparation time and weight. This design is also compatible with standard ribbon cable procedures and hardware for easy field installation and reduced labor costs.



FREEDM® Ribbon Riser Cables, 96-Fibers



FREEDM® Ribbon Riser Cables, 96-Fibers

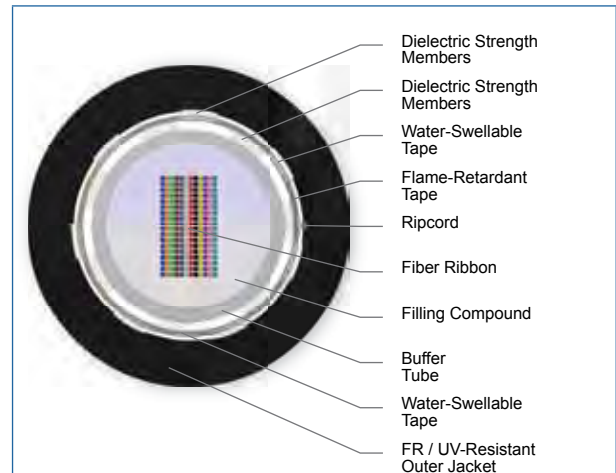
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FREEDM® Ribbon Riser Cables, 216-Fibers



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)

\* Corning Cable Systems 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 Strengths, Short-Term	2700 N (600 lbf)
Max. Tensile Strengths, Long-Term	600 N (135 lbf)

Fiber Count	Product Type	Nominal Outer Diameter	Min. Bend Radius Installation	Min. Bend Radius Operation	Weight
12 - 48	Dielectric	11.6 mm (0.46 in)	174 mm (6.9 in)	116 mm (4.6 in)	162 kg/km (109 lb/1000 ft)
72 - 96	Dielectric	12.7 mm (0.51 in)	191 mm (7.5 in)	127 mm (5 in)	174 kg/km (117 lb/1000 ft)

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Fiber Count	Product Type	Nominal Outer Diameter	Min. Bend Radius Installation	Min. Bend Radius Operation	Weight
144	Dielectric	14.9 mm (0.59 in)	224 mm (8.8 in)	149 mm (5.9 in)	262 kg/km (176 lb/1000 ft)
216	Dielectric	17.6 mm (0.69 in)	264 mm (10.4 in)	176 mm (6.9 in)	300 kg/km (202 lb/1000 ft)

## Chemical Characteristics

RoHS	Free of hazardous substances according to RoHS 2002/95/EG
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## Transmission Performance

Fiber Type Fiber Core Diameter (μm)	Multimode 62.5	Multimode 50	Multimode 50	Multimode 50	Multimode 50	Single-mode 8.2
Fiber Category	OM1	OM2	OM3	OM4	OM4 Extended Distance	OS2
Fiber Code	K	T	T	T	T	E
Performance Option Code	30	31	80	90	91	01
Wavelengths (nm)	850 / 1300	850 / 1300	850 / 1300	850 / 1300	850 / 1300	1310 / 1383 / 1550
Maximum Attenuation (dB/km)	3.4 / 1.0	3.0 / 1.0	3.0 / 1.0	3.0 / 1.0	3.0 / 1.0	0.4 / 0.4 / 0.3
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 / -	
Serial 1 Gigabit Ethernet (m)	300 / 550	750 / 600	1000 / 600	1100 / 600	1100 / 600	5000 / - / -
Serial 10 Gigabit Ethernet (m)	33 / -	150 / -	300 / -	550 / -	600 / -	10000 / - / 40000

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

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Ordering Information | Contact Customer Care at 1-800-743-2671 for other options.

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	C	F	-	1	4	1	<input type="text"/>	<input type="text"/>	-	2	0
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®

**3** Defines cable type.

C = FREEDM® Ribbon Cable

**4** Defines outer jacket.

F = Indoor/outdoor riser

**5** Defines fiber placement.

1 = 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 .4 / .3 dB/km)

**9** Defines cable type.

- = FREEDM® Ribbon Cable

**10** Defines special manufacturing code.

20 = Standard

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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