

FREEDM® UltraRibbon™ Gel-Filled Cable, Riser

648 F, 50 µm multimode (OM4)

CORNING

Corning FREEDM® UltraRibbon™ riser cables provide the ultimate solution for indoor/outdoor high-fiber-count applications. The smallest and lightest in the industry, these cables are designed to maximize the use of critical duct space with excellent installation results. The UV-resistant, flame-retardant jacket allows this cable to be installed outdoors or in indoor general purpose horizontal and riser applications. FREEDM UltraRibbon riser cables employ a single buffer tube containing a stack of 24- and 36-fiber ribbons that are easily separated by hand into two or three 12-fiber ribbons respectively. This cable is also available with interlocking armor for additional mechanical durability.

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

504-864 fibers in a compact design

Maximizes use of critical duct space

Common installations

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

Standards

Listings

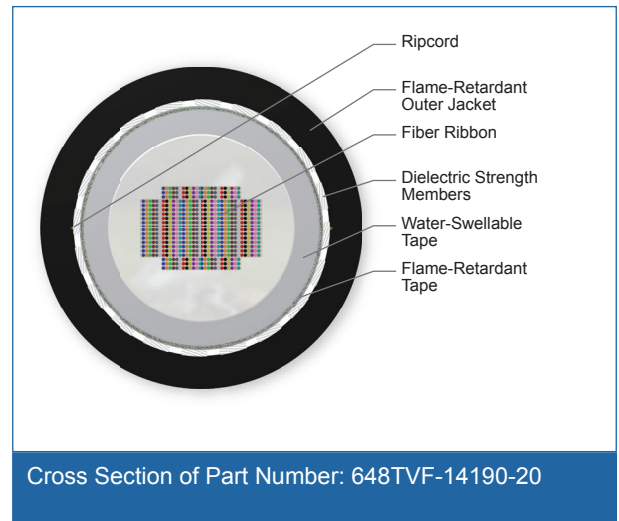
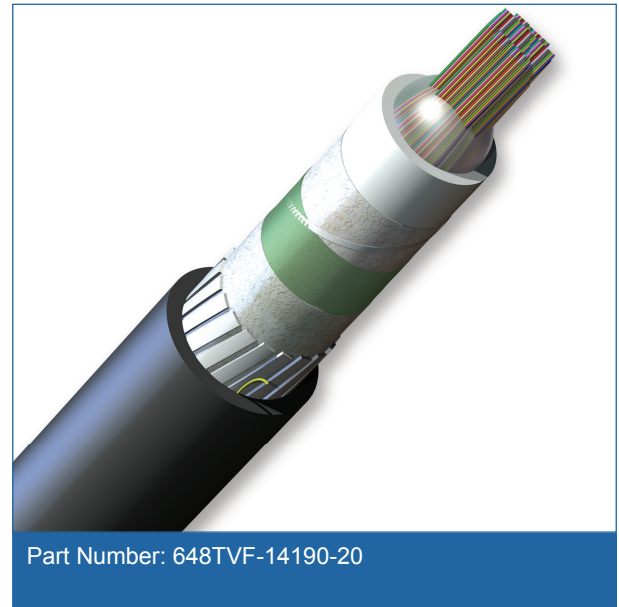
National Electrical Code® (NEC®) OFNR

Design Criteria

CSA OFN FT-4

Test Criteria

ANSI/ICEA S-104-696, Telcordia GR-409 and GR-20



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Specifications

General Specifications	
Environment	Indoor/Outdoor
Application	Aerial, Direct Buried, Duct, General Purpose Horizontal, (Vertical Riser)
Cable Type	Ribbon
Product Type	Dielectric
Flame Rating	Riser (OFNR)
Fiber Category	50 µm MM (OM4)

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)

Cable Design	
Fiber Count	648
Ribbons per Tube	6 and 14
Fibers per Ribbon	24 and 36
Fiber Coloring	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua
Buffer Tube Color	Natural
Buffer Tube Diameter	17.9 mm (0.7 in)
Tensile Strength Elements and/or Armoring - Layer 1	Dielectric strength members
Tape	Water-Swellable
Tape, Layer 2	Flame-retardant tape
Tape, Layer 3	Water-Swellable
Number of Ripcords	2
Outer Jacket Material	Flame-Retardant, UV-Resistant
Outer Jacket Color	Black

Mechanical Characteristics Cable	
Max. Tensile Strength, Short-Term	2700 N (600 lbf)
Max. Tensile Strength, Long-Term	890 N (200 lbf)
Nominal Outer Diameter	25.4 mm (1.0 in)

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Mechanical Characteristics Cable

Min. Bend Radius Installation	381 mm (15 in)
Min. Bend Radius Operation	254 mm (10 in)
Weight	569 kg/km (382 lb/1000 ft)

Chemical Characteristics

RoHS	Free of hazardous substances according to RoHS 2011/65/EU
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Fiber Specifications

Optical Characteristics (cabled)

Fiber Core Diameter	50 µm
Fiber Category	OM4
Fiber Code	T
Performance Option Code	90
Wavelengths	850 nm / 1300 nm
Maximum Attenuation	3.0 dB/km / 1.0 dB/km
Serial 1 Gigabit Ethernet	1100 m / 600 m
Serial 10 Gigabit Ethernet	550 m / -
Min. Overfilled Launch (OFL) Bandwidth	3500 MHz*km / 500 MHz*km
Minimum Effective Modal Bandwidth (EMB)	4700 MHz*km / -

* Assumes 1.0 dB maximum total connector/splice loss.

* Meets 0.75 ns optical skew when used in all Corning Plug and Play™/EDGE™ systems solutions.

Notes: 1) 50 µm multimode fiber macrobend loss ≤ 0.2 dB at 850 nm for two turns around 7.5 mm radius mandrel.

2) Improved attenuation and bandwidth options available.

3) Bend-insensitive single-mode fibers available on request.

4) Contact a Corning Customer Care Representative for additional information.

Ordering Information

Part Number	648TVF-14190-20
Product Description	FREEDM® UltraRibbon™ Gel-Filled Cable, Riser, 648 F, 50 µm multimode (OM4)

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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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