FREEDM® Loose Tube, Gel-Free, Interlocking Armored Cable, Riser

216 F, 50 µm multimode (OM4)

CORNING

Corning FREEDM® loose tube gel-free interlocking armored cables are flame-retardant, indoor/outdoor, riser-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 riser rating precludes the need for a transition splice when entering the building.

These cables are protected against water penetration by innovative waterblocking tapes and yarns that swell to absorb water without the use of messy gels to provide more efficient and craft-friendly cable preparation. This waterblocking technology 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, environmental rigors and allows for easy mid-span access. The cable design is also National Electrical Code® (NEC®) listed (OFCR and FT-4).

The flexible, interlocking armored design offers over seven times the crush protection compared to unarmored cables (as characterized to ICEA-696) and allows easy one-step installation which reduces the overall installation costs. The UV-resistant, flame-retardant jacket is rugged and easy to strip.

Note: This cable is available in 12 different jacket colors – blue, orange, green, brown, slate, white, red, black, yellow, violet, rose and aqua. The colored jacket allows for easy visual identification of the cables while still providing all of the required environmental protection of an indoor/outdoor cable jacket. Black is the standard jacket color using the part numbers shown here. Contact Customer Care at 1-800-743-2675 to order other color options.

Part Number: 216TUF-T4190DA1

Cross Section of Part Number: 216TUF-T4190DA1

Labels: Interlocking Armor, Ripcord, FR / UV-Resistant Inner Jacket, Water-Swellable Tape, Buffer Tube, Fiber, Dielectric Central Element, Flame-Retardant Tape, Water-Swellable Tape, Water-Swellable Tape, FR / UV-Resistant Outer Jacket

Features and Benefits

Gel-free waterblocking technology
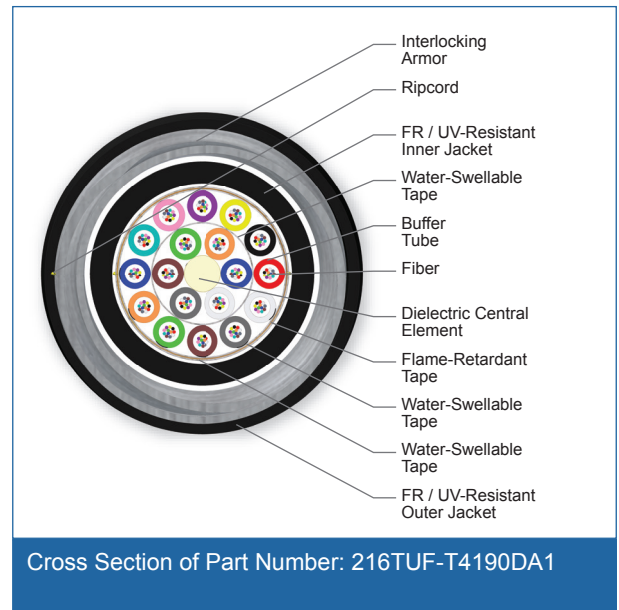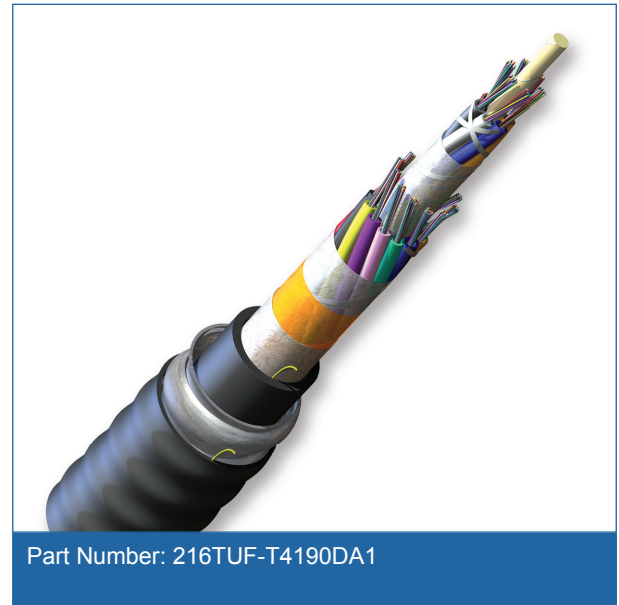Craft-friendly cable preparation

Loose tube design
Mechanical ruggedness and environmental durability

Color-coded tubes and fibers
Quick and easy identification

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

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Features and Benefits

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

Standards

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

Specifications

General Specifications	
Environment	Indoor/Outdoor Cables
Application	Aerial, Direct Buried, Duct, General Purpose Horizontal, (Vertical Riser)
Cable Type	Loose Tube
Product Type	Interlocking armor
Flame Rating	Riser (OFCR)
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	
Central Element	Dielectric
Fiber Count	216
Fiber Coloring	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua
Fibers per Tube	12
Number of Tube Positions	18

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Cable Design

Number of Active Tubes	18
Buffer Tube Color Coding, Layer 1	Blue, Orange, Green, Brown, Slate, White
Buffer Tube Diameter	2.5 mm (0.1 in)
Tape	Water-swellable
Buffer Tube Color Coding, Layer 2	Red, Black, Yellow, Violet, Rose, Aqua, Blue*, Orange*, Green*, Brown*, Slate*, White*
Tape, Layer 2	Water-swellable
Tape, Layer 3	Flame-retardant tape
Tape, Layer 4	Water-swellable
Number of Ripcords	2
Inner Jacket Material	Flame-Retardant, UV-Resistant
Tensile Strength Elements and/or Armoring - Layer 1	Interlocking armor
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	810 N (180 lbf)
Min. Bend Radius Installation	383 mm (15.1 in)
Min. Bend Radius Operation	255 mm (10 in)
Nominal Outer Diameter	24.9 mm (0.98 in)
Weight	413 kg/km (277.5 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	216TUF-T4190DA1
Product Description	FREEDM® Loose Tube, Gel-Free, Interlocking Armored Cable, Riser, 216 F, 50 µm multimode (OM4)

RoHS COMPLIANT

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