

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

24 F, 50 µm multimode (OM3)

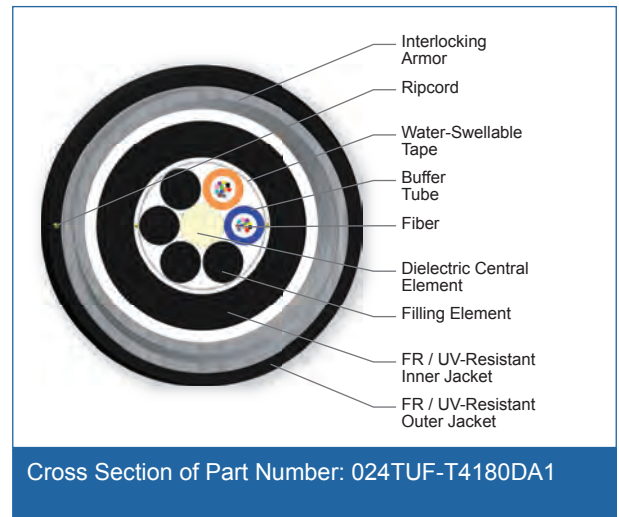
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Corning Cable Systems FREEDM® Loose Tube Gel-Free Interlocking Armored Cables are flame-retardant, indoor/outdoor, riser-rated cables designed for interbuilding and intrabuilding backbones in aerial, duct and riser applications. Encased in a spirally 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 midspan 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.

This cable is available in 12 different jacket colors - blue, orange, green, brown, slate, white, red, black, yellow, purple, 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 standard part numbers shown here. Contact Customer Care at 1-800-743-2675 to order other color options.



## Features and Benefits

### Flexible, interlocking armor design

Seven times crush protection compared to unarmored cables

### Gel-free waterblocking technology

Craft-friendly cable preparation

### Color-coded tubes and fibers

Quick and easy identification

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## Features and Benefits

**UV-resistant, flame-retardant jacket**  
Rugged, durable and easy to strip

## Standards

<b>Approval and Listings</b>	National Electrical Code® (NEC®) OFCR, CSA OFC FT-4
<b>Common Installations</b>	Outdoor lashed aerial and duct; indoor vertical riser and general purpose horizontal according to National Electrical Code® (NEC) Article 770
<b>Design and Test Criteria</b>	ANSI/ICEA S-104-696

## 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 (OM3)

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	24

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## Cable Design

Fiber Coloring	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua
Fibers per Tube	12
Number of Tube Positions	6
Number of Active Tubes	2
Buffer Tube Color Coding	Blue, Orange
Buffer Tube Diameter	2.5 mm (0.1 in)
Number of Filling Elements	4
Tape	Water-swellaable
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 Strengths, Short-Term	2700 N (600 lbf)
Max. Tensile Strengths, Long-Term	810 N (180 lbf)
Weight	306 kg/km (206 lb/1000 ft)
Nominal Inner Cable Diameter	12.9 mm (0.51 in)
Nominal Outer Diameter	19.9 mm (0.76 in)
Min. Bend Radius Installation	299 mm (11.8 in)
Min. Bend Radius Operation	199 mm (7.8 in)

## Chemical Characteristics

RoHS	Free of hazardous substances according to RoHS 2002/95/EG
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## Fiber Specifications

Optical Characteristics (cabled)	
Fiber Type	Multimode
Fiber Core Diameter	50 µm
Fiber Category	OM3
Fiber Code	T
Performance Option Code	80
Wavelengths	850 nm / 1300 nm
Maximum Attenuation	3.0 dB/km / 1.0 dB/km
Min. Overfilled Launch (OFL) Bandwidth	1500 MHz*km / 500 MHz*km
Minimum Effective Modal Bandwidth (EMB)	2000 MHz*km / -
Serial 1 Gigabit Ethernet	1000 m / 600 m
Serial 10 Gigabit Ethernet	300 m / -

\* Meets 0.75 ns optical skew when used in all Corning Cable Systems Plug & Play™/Pretium 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 Cable Systems Customer Care Representative for additional information.

## Ordering Information

Part Number	024TUF-T4180DA1
Product Description	FREEDM® Loose Tube, Gel-Free, Interlocking Armored Cable, Riser, 24 F, 50 µm multimode (OM3)



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