

# FREEDM<sup>®</sup> Loose Tube, Gel-Free Cable, Plenum

24 F, 50  $\mu\text{m}$  multimode (OM3)

CORNING

Corning FREEDM<sup>®</sup> loose tube gel-free plenum cables are flame-retardant, indoor/outdoor, plenum-rated cables suitable for installation in interbuilding and intrabuilding backbones in aerial, duct and riser or plenum applications. The loose tube design offers mechanical ruggedness and environmental durability while the all-dielectric cable construction requires no grounding or bonding. The water-swallowable yarn eliminates the need for gel-filling compound and allows more efficient and craft-friendly cable preparation. The 250  $\mu\text{m}$  color-coded fibers allow quick and easy identification during installation.

The flexible, flame-retardant outer jacket is UV-resistant and enables direct exposure to sunlight. Interlocking armor is available for special applications requiring additional mechanical durability. The plenum rating of this cable eliminates the need to transition splice when entering the building and minimizes routing restrictions once inside the building. Meeting the requirements of the National Electrical Code<sup>®</sup> (NEC<sup>®</sup>) Article 770, the cables are also OFNP and FT-6 listed.

*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.*

## Features and Benefits

### Gel-free waterblocking technology

Craft-friendly cable preparation

### Loose tube design

Stable performance and compatibility with all common fiber types

### Color-coded fibers

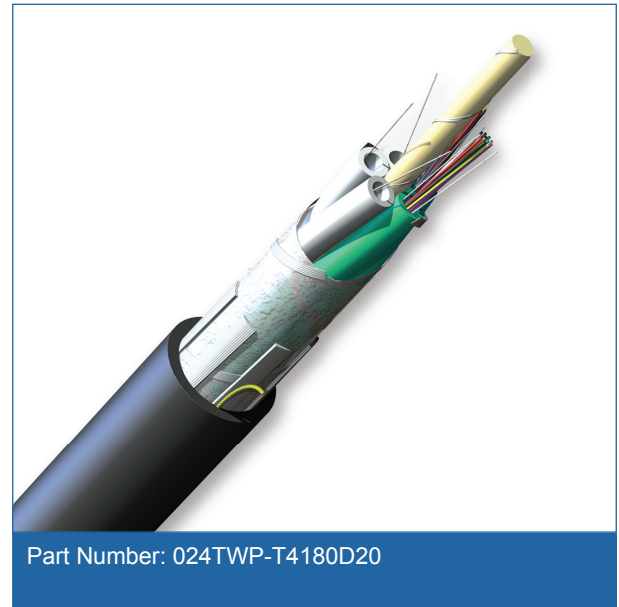
Quick and easy identification

### All-dielectric construction

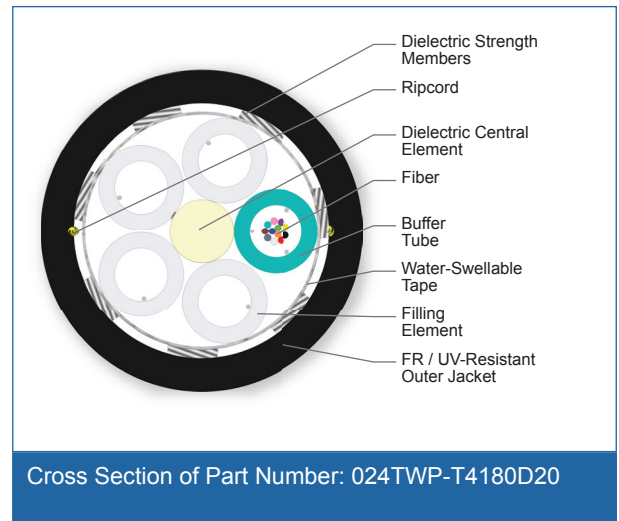
Requires no grounding or bonding

### Common installations

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



Part Number: 024TWP-T4180D20



Cross Section of Part Number: 024TWP-T4180D20

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## Standards

<b>Listings</b>	National Electrical Code <sup>®</sup> (NEC <sup>®</sup> ) OFNP
<b>Design Criteria</b>	CSA FT-6
<b>Test Criteria</b>	ANSI/ICEA S-104-696; NFPA 262 (for plenum, riser and general building appli- cations)

## Specifications

General Specifications	
Environment	Indoor/Outdoor Cables
Application	Aerial, Direct Buried, Duct, General Purpose Horizontal, (Vertical Riser, Plenum)
Cable Type	Loose Tube
Product Type	Dielectric
Flame Rating	Plenum (OFCP)
Fiber Category	50 µm MM (OM3)

Temperature Range	
Storage	-40 °C to 70 °C (-40 °F to 158 °F)
Installation	0 °C to 60 °C (32 °F to 140 °F)
Operation	-40 °C to 70 °C (-40 °F to 158 °F)

Cable Design	
Central Element	Dielectric
Fiber Count	24
Fiber Coloring	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua
Fibers per Tube	12
Number of Tube Positions	5
Number of Active Tubes	2
Buffer Tube Color Coding	Aqua
Number of Filling Elements	3
Tape	Water-swellaable

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## Cable Design

Tensile Strength Elements and/or Armoring - Layer 1	Dielectric strength members
Number of Ripcords	2
Outer Jacket Material	Flame-Retardant, UV-Resistant
Outer Jacket Color	Black
Buffer Tube Diameter	3.0 mm (0.1 in)

## Mechanical Characteristics Cable

Weight	127 kg/km (85 lb/1000 ft)
Max. Tensile Strength, Short-Term	2700 N (600 lbf)
Max. Tensile Strength, Long-Term	810 N (180 lbf)
Min. Bend Radius Installation	171 mm (6.7 in)
Min. Bend Radius Operation	114 mm (4.5 in)
Nominal Outer Diameter	11.4 mm (0.45 in)

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

\* 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.

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## Ordering Information

Part Number	024TWP-T4180D20
Product Description	FREEDM <sup>®</sup> Loose Tube, Gel-Free Cable, Plenum, 24 F, 50 $\mu$ m multimode (OM3)
EAN Code	4056418176062



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