

# FREEDM® One Tight-Buffered Cable, Riser

12 F, 50 µm multimode (OM4)

CORNING

Corning Cable Systems FREEDM® One Cables are flame-retardant, UV-resistant, indoor/outdoor cables designed for aerial, duct and direct-buried applications with no need for a transition splice when entering the building. The tight-buffered construction facilitates easier termination for low-fiber-count applications in the local area network (LAN) and eliminates need for fan-out kits. The design features TIA-598 color-coded 900 µm TBII® Buffered Fibers for easy identification, consistent stripping and direct termination. The small diameter and bend radius of the cable allow for easy installation in space-constrained areas while the innovative waterblocking technology is ideal for OSP applications. The all-dielectric cable construction requires no grounding or bonding and the UV-resistant, flame-retardant jacket is rugged, durable 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

### Waterblocking technology

OSP (outdoor) applications

### Small diameter and bend-radius

Easy installation in space-constrained areas

### Color-coded fibers

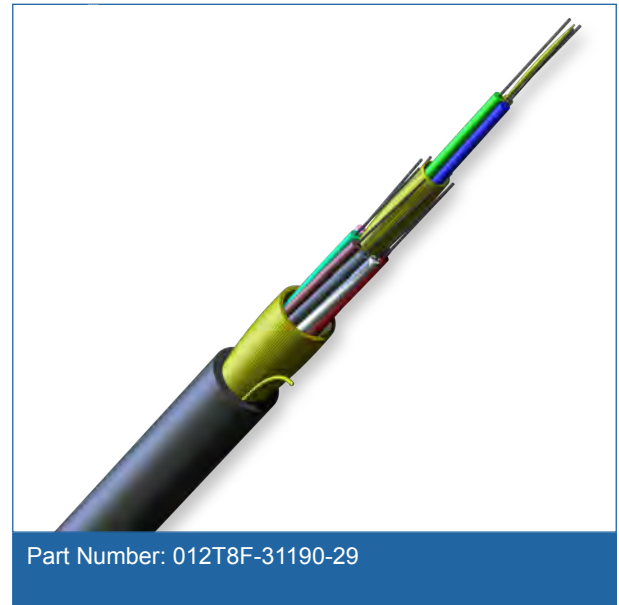
Quick and easy identification

### All-dielectric construction

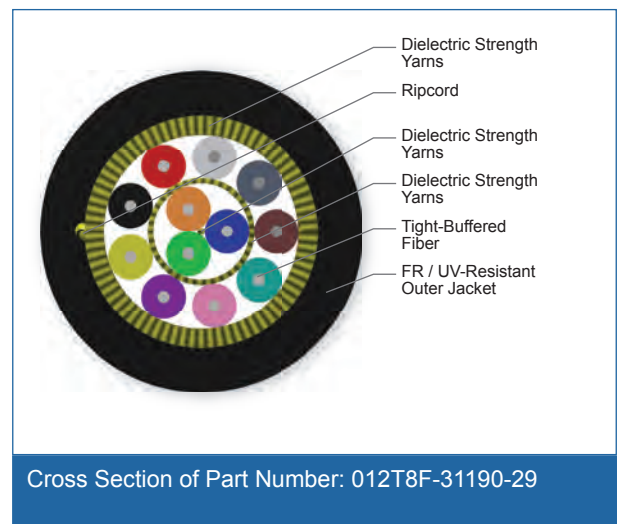
Requires no grounding or bonding

### UV-resistant, flame-retardant jacket

Rugged, durable and easy to strip



Part Number: 012T8F-31190-29



Cross Section of Part Number: 012T8F-31190-29

## Standards

### Approval and Listings

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

### Design and Test Criteria

ICEA S-104-696

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## Specifications

### General Specifications

|                |                                                                           |
|----------------|---------------------------------------------------------------------------|
| Environment    | Indoor/Outdoor Cables                                                     |
| Application    | Aerial, Direct Buried, Duct, General Purpose Horizontal, (Vertical Riser) |
| Cable Type     | Tight-Buffered                                                            |
| 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

|                                                     |                                                                                  |
|-----------------------------------------------------|----------------------------------------------------------------------------------|
| Central Element                                     | Dielectric                                                                       |
| Fiber Count                                         | 12                                                                               |
| Tight Buffer Color                                  | Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua |
| Tensile Strength Elements and/or Armoring - Layer 1 | Water-swellable strength members                                                 |
| Number of Ripcords                                  | 1                                                                                |
| Outer Jacket Material                               | Flame-Retardant, UV-Resistant                                                    |
| Outer Jacket Color                                  | Black                                                                            |

### Mechanical Characteristics Cable

|                                    |                          |
|------------------------------------|--------------------------|
| Weight                             | 36 kg/km (24 lb/1000 ft) |
| Nominal Outer Diameter             | 6.5 mm (.26 in)          |
| Min. Bend Radius Installation      | 98 mm (3.8 in)           |
| Min. Bend Radius Operation         | 33 mm (1.3 in)           |
| Max. Tensile Strengths, Short-Term | 675 N (150 lbf)          |
| Max. Tensile Strengths, Long-Term  | 200 N (45 lbf)           |

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## Chemical Characteristics

|      |                                                           |
|------|-----------------------------------------------------------|
| RoHS | Free of hazardous substances according to RoHS 2002/95/EG |
|------|-----------------------------------------------------------|

## Fiber Specifications

### Optical Characteristics (cabled)

|                                         |                          |
|-----------------------------------------|--------------------------|
| Fiber Type                              | Multimode                |
| Fiber Core Diameter                     | 50 µm                    |
| Fiber Category                          | OM4                      |
| Fiber Code                              | T                        |
| Performance Option Code                 | 90                       |
| Wavelengths                             | 850 nm / 1300 nm         |
| Maximum Attenuation                     | 2.8 dB/km / 1 dB/km      |
| Min. Overfilled Launch (OFL) Bandwidth  | 3500 MHz*km / 500 MHz*km |
| Minimum Effective Modal Bandwidth (EMB) | 4700 MHz*km / -          |
| Serial 1 Gigabit Ethernet               | 1100 m / 600 m           |
| Serial 10 Gigabit Ethernet              | 550 m / -                |

\* Assumes 1.0 dB maximum total connector/splice loss.

\* 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  $\leq 0.2$  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         | 012T8F-31190-29                                                      |
| Product Description | FREEDM® One Tight-Buffered Cable, Riser, 12 F, 50 µm multimode (OM4) |



Corning Cable Systems LLC • PO Box 489 • Hickory, NC 28603-0489 USA

800-743-2675 • FAX: 828-325-5060 • International: +1-828-901-5000 • [www.corning.com/cablesystems](http://www.corning.com/cablesystems)

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