

# Opti-Core™ Fiber Optic Indoor/Outdoor All-Dielectric Cable with Tight Buffered Fibers - Americas

## technical information

Panduit® Opti-Core® Indoor/Outdoor All-Dielectric Cable with tight buffered fibers are an integral part of the Panduit end-to-end fiber optic solution, designed to support today's data needs while meeting tomorrow's ever-advancing network requirements. This cable provides water blocking technology, high density, and easy installation in transitional aerial and duct applications and entrance facilities, and the 900µm tight-buffered fibers provides easy connectorization. The tight-buffered fibers surrounded by aramid yarn strength members combine usability indoors and out. Cables with greater than 24 fibers feature a sub-unit design that simplifies fiber identification, provides easy access and routing of the fibers. It also increases cable durability with a dielectric central strength member. Opti-Core® Fiber Optic Indoor/Outdoor Riser (OFNR) and Plenum (OFNP) Rated All-Dielectric Cable with tight buffered fibers are tested in accordance with Telcordia GR-20, Issue 2, GR-409 and with relevant EIA/TIA-455 series FOTPs for fiber optic cable. All multimode and singlemode cable is available in 2, 4, 6, 8, 12, and 24-fiber counts as a "non-subunitized" design and in 36, 48, 72, and 96-fiber counts (144 for Riser) as a "sub-unitized" design. All Opti-Core® fiber cable is RoHS compliant.



## application

These cables provide an effective solution for inter-building and building transition applications utilizing field installable connectors. This cable is available in both riser rated and plenum rated version for deployment in any inside plant fire-code application. The UV-resistant outer jacket, coupled with dry water-blocking technology, address environmental concerns for outdoor use.

## standards

|                     |                    |
|---------------------|--------------------|
| TIA/EIA-568         | ANSI/ICEA S-83-596 |
| ANSI/ICEA S-104-696 | CSA 22.2           |
| UL-1666             | Telcordia GR-409   |
| NFPA 262            | Telcordia GR-20    |
| ROHS Compliant      |                    |

## construction

| 900um Tight buffered PVC |   |           |                             |                             |
|--------------------------|---|-----------|-----------------------------|-----------------------------|
| <b>Fiber color code</b>  | 1 Blue                                      | 7 Red     | 13 Blue with Black tracer   | 19 Red with Black tracer    |
|                          | 2 Orange                                    | 8 Black   | 14 Orange with Black tracer | 20 Black with White tracer  |
|                          | 3 Green                                     | 9 Yellow  | 15 Green with Black tracer  | 21 Yellow with Black tracer |
|                          | 4 Brown                                     | 10 Violet | 16 Brown with Black tracer  | 22 Violet with Black tracer |
|                          | 5 Slate                                     | 11 Rose   | 17 Slate with Black tracer  | 23 Rose with Black tracer   |
|                          | 6 White                                     | 12 Aqua   | 18 White with Black tracer  | 24 Aqua with Black tracer   |
| <b>Water blocking</b>    | Aramid yarns with water blocking capability |           |                             |                             |
| <b>Inner sheath</b>      | PVC   |           |                             |                             |
| <b>Outer sheath</b>      | PVC   |           |                             |                             |

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## mechanical properties

|  |     |  |
|--|-----|--|
| <b>Tensile strength (Installation)</b> | E1  | Riser:<br>2 to 12-fibers: 100 lbs (12 fiber is rated for 150 lbs.)<br>18 to 24-fibers: 300 lbs.<br>36 to 144-fibers (sub-unitized): 600 lbs.<br><br>Plenum:<br>2 to 8-fibers: 100 lbs.<br>12 to 24-fibers: 150 lbs.<br>36 to 48-fibers (sub-unitized): 400 lbs.<br>72 to 96-fibers (sub-unitized): 600 lbs.  |
| <b>Tensile strength (long-term)</b>    | E1  | Riser:<br>2 to 12-fibers: 30 lbs.<br>18 to 24-fibers: 90 lbs.<br>24 to 144-fibers (sub-unitized): 180 lbs.<br><br>Plenum:<br>2 to 8-fibers: 30 lbs.<br>12 to 24-fibers: 45 lbs.<br>36 to 48-fibers (sub-unitized): 120 lbs.<br>72 to 96-fibers (sub-unitized): 180 lbs.  |
| <b>Compressive strength (crush)</b>    | E3  | 125 PSI  |
| <b>Impact</b>                          | E4  | Per FOTP 25  |
| <b>Torsion</b>                         | E7  | Per FOTP 85  |
| <b>Kink</b>                            | E10 | Per FOTP 104   |
| <b>Temperature range</b>               | F1  | Shipping/Storage: (Riser) -40 °F to +176 °F ( -40 °C to +80 °C )<br>(Plenum) -40 °F to +176 °F ( -40 °C to +80 °C )<br>Installation: (Riser) +14 °F to +140 °F ( -10 °C to +60 °C )<br>(Plenum) +32 °F to +140 °F ( 0 °C to +60 °C )<br>Operation: (Riser) -40 °F to +176 °F (-40 °C to +80 °C )<br>(Plenum) -40 °F to +176 °F (-40 °C to +80 °C ) |
| <b>Water penetration</b>               | F5B | No water on free end   |

## physical properties-riser

| Fiber Count | Cable O.D. Inches (mm) | Long-Term Bend Radius Inches (cm) | Installation Bend Radius Inches (cm) | Cable Weight Lb./kft. (kg/km) |
|-------------|------------------------|-----------------------------------|--------------------------------------|-------------------------------|
| 2           | 0.19 (4.8)             | 1.9 (4.9)                         | 3.8 (9.7)                            | 15 (22)                       |
| 4           | 0.22 (5.6)             | 2.2 (5.6)                         | 4.4 (11.2)                           | 19 (28)                       |
| 6           | 0.24 (6.0)             | 2.4 (6.1)                         | 4.8 (12.2)                           | 21 (31)                       |
| 8           | 0.25 (6.2)             | 2.5 (6.4)                         | 5.0 (12.7)                           | 23 (34)                       |
| 12          | 0.28 (7.0)             | 2.8 (7.2)                         | 5.6 (14.3)                           | 30 (45)                       |
| 24          | 0.32 (8.1)             | 5.6 (14.3)                        | 6.4 (16.3)                           | 43 (64)                       |
| 36          | 0.66 (16.8)            | 6.6 (16.8)                        | 13.2 (33.6)                          | 103 (153)                     |
| 48          | 0.66 (16.8)            | 6.6 (16.8)                        | 13.2 (33.6)                          | 140 (209)                     |
| 72          | 0.80 (20.3)            | 8.0 (20.4)                        | 16.0 (40.7)                          | 208 (309)                     |
| 96          | 0.95 (24.2)            | 9.5 (24.2)                        | 19.0 (48.3)                          | 296 (441)                     |
| 144         | 1.02 (25.9)            | 10.2 (25.9)                       | 20.4 (51.9)                          | 347 (516)                     |

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## physical properties - plenum

| Fiber Count | Cable O.D. Inches (mm) | Long-Term Bend Radius Inches (cm) | Installation Bend Radius Inches (cm) | Cable Weight Lb./kft. (kg/km) |
|-------------|------------------------|-----------------------------------|--------------------------------------|-------------------------------|
| 2           | 0.18 (4.5)             | 1.8 (4.6)                         | 3.6 (9.2)                            | 9 (13)                        |
| 4           | 0.18 (4.6)             | 1.8 (4.6)                         | 3.6 (9.2)                            | 14 (21)                       |
| 6           | 0.20 (5.0)             | 2.0 (5.1)                         | 4.0 (10.2)                           | 15 (22)                       |
| 8           | 0.20 (5.2)             | 2.0 (5.1)                         | 4.0 (10.2)                           | 18 (27)                       |
| 12          | 0.24 (6.1)             | 2.4 (6.1)                         | 4.8 (12.2)                           | 22 (33)                       |
| 24          | 0.30 (7.6)             | 4.1 (10.5)                        | 8.2 (20.9)                           | 42 (62)                       |
| 36          | 0.54 (13.9)            | 5.4 (13.8)                        | 10.8 (27.5)                          | 132 (196)                     |
| 48          | 0.55 (13.9)            | 5.5 (14.0)                        | 11.0 (28.0)                          | 140 (209)                     |
| 72          | 0.65 (16.6)            | 6.5 (16.6)                        | 13.0 (33.1)                          | 210 (312)                     |
| 96          | 0.84 (21.3)            | 8.4 (21.4)                        | 16.8 (42.7)                          | 345 (514)                     |

## ordering information

Example: FSKR512- Fiber, Indoor/Outdoor Tight Buffered Unarmored, Riser Rated, OM2, 12-Fiber

|                  |          |          |          |          |          |          |          |
|------------------|----------|----------|----------|----------|----------|----------|----------|
| <b>Character</b> | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> |
| <b>Example</b>   | <b>F</b> | <b>S</b> | <b>K</b> | <b>R</b> | <b>5</b> | <b>1</b> | <b>2</b> |

### 1 and 2 – Fiber Product

FS = Fiber- OM1, OM2, OS1  
FO = Fiber- OM3, OM4

### 3 – Cable Construction

K - Indoor/Outdoor  
Tight Buffered Unarmored

### 4 – Flame Rating

R - Riser  
P - Plenum

### 5 – Fiber Type

9 = OS1/OS2 9/125µm  
6 = OM1 62.5/125µm  
5 = OM2 50/125µm  
X = OM3 10G 50/125µm  
Z = OM4 10G 50/125µm

### 6 and 7 – Fiber Count

02 = 2-Fiber  
04 = 4-Fiber  
06 = 6-Fiber  
08 = 8-Fiber  
12 = 12-Fiber  
24 = 24-Fiber  
36 = 36-Fiber  
48 = 48-Fiber  
72 = 72-Fiber  
96 = 96-Fiber  
1A = 144-Fiber

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FBDS06--WW-ENG  
2/2014