OptiCore™ Dielectric Conduited Fiber Cable

**Technical Information**

Opti-Core® Dielectric Conduited Fiber (DCF) Cable is 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 fiber cable is used within buildings to provide high-density connectivity and ease of installation. Rugged conduit extruded over cable outer jacket eliminates the need for additional channel protection and provides a smaller crush resistant pathway for improved design flexibility and lower installed cost. All-dielectric construction eliminates the need for grounding and bonding, thereby reducing installation time and cost. All Opti-Core® Dielectric Conduited Fiber (DCF) fiber types include OM1 and OM2 multimode, OS1/OS2 singlemode and are available in 2, 4, 8, and 12 fiber counts.

**Application**

Designed for use in horizontal installations and backbones within buildings to provide high-density connectivity and ease of installation. Rugged, durable, with crush resistance six times greater than unarmored cable, the need to route through conduit is eliminated.

**Construction**

- **Cable type:** Dielectric conduited fiber cable
- **Cable jacket ratings:** Riser, Low Smoke Zero Halogen
- **Fiber types:**
  - Singlemode: OS1/OS2 9/125μm
  - Multimode: OM1 62.5/125μm
  - OM2 50/125μm
- **Fiber count:** 2, 4, 8, 12
- **Conduit rating:** C(UL)/UL listed riser UL 2024
- **Conduit color:** Black

**Physical Properties**

- **Conduit outside diameter (OD):** 10.0mm +/- 0.5mm
- **Bend radius, minimum (installation):** 20 x Conduit OD
- **Cable tensile strength (installation):** 1320N
- **Cable compressive load:** 600 N/cm
- **Cable flex:** 500 cycles
- **Conduit inner diameter (OD):** 6mm
- **Bend radius, minimum (installed):** 10 x Conduit OD
- **Cable tensile strength (installed):** 396N
- **Cable impact resistance, maximum:** 5.88 N-m
- **12-fiber conduit and cable weight:** 68.2448 kg/km

**Optical Properties**

- **Fiber attenuation:**
  - Multimode: OM1 <= 3.0 dB/km @ 850nm
  - OM1 <= 0.7 dB/km @ 1300nm
  - OM2 <= 2.5 dB/km @ 850nm
  - OM2 <= 0.8 dB/km @ 1300nm
  - Singlemode: OS1/OS2 <= 0.34 dB/km @ 1310nm
  - OS1/OS2 <= 0.31 dB/km @ 1383nm
  - OS1/OS2 <= 0.22 dB/km @ 1550nm

**Environmental Properties**

- **Operating temperature:** -20°C to +70°C
- **Installation temperature:** -10°C to +60°C
- **Storage and shipping temperature:** -40°C to +70°C

**Standards**

- **Dual-Rated LSZH Inner Cable**
  - **NEC article 770:** NEC compliance
  - **UL 1666:** North American flame test
  - **OFNR-LS (UL) OFN-LS (UL):** North American fire safety listing
  - **RoHS 2002/95/EC:** Compliant
  - **ICEA-S-83-596:** Compliant
  - **NES-713:** Toxicity index of inner cable/conduit
  - **MIL-PRF-85045F:** Compliant
  - **IEC-60332-3C:** Test on electric and optical fibre cables under fire conditions – Part 3
  - **IEC 60754-2:** Acid gas generation of inner jacket
  - **IEC 61034-2:** Measurement of smoke density of cables burning under defined conditions – Part 2
  - **GR-409:** Horizontal backbone cable
  - **TIA/EIA-568-C.1:** Compliant
  - **ICEA-S-596:** Compliant
  - **TIA-598-B:** Compliant

- **Conduit**
  - **NEC article 770:** NEC compliance
  - **UL 2024:** North American flame test
  - **C(UL)/UL listed riser UL 2024:** North American fire safety listing
  - **RoHS 2002/95/EC:** Compliant
  - **ICEA-S-83-596:** Compliant
  - **NES-713:** Toxicity index of inner cable/conduit
  - **MIL-PRF-85045F:** Compliant
  - **EN 50389, Euroclass C:** Limited contribution to fire. Non-combustibility test, gross calorific potential test, single burning item test, ignitability test, radiant panel test

[www.panduit.com](http://www.panduit.com)
### OptiCore™ Dielectric Conduited Fiber Cable

#### Part Number

<table>
<thead>
<tr>
<th>Character</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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</thead>
<tbody>
<tr>
<td>Example</td>
<td>F</td>
<td>S</td>
<td>P</td>
<td>D</td>
<td>5</td>
<td>1</td>
<td>2</td>
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</tbody>
</table>

1 and 2 – Fiber Product  
FS = Fiber  
3 – Cable Construction  
P = Dielectric conduited distribution (indoor)  
4 – Flame/Smoke Rating  
D = Riser, Low Smoke Zero Halogen  
5 – Fiber Type  
6 = OM1 62.5/125μm  
5 = OM2 50/125μm  
9 = OS1/OS2 9/125μm  
6 and 7 – Fiber Count  
02 = 2-fiber  
04 = 4-fiber  
08 = 8-fiber  
12 = 12-fiber

#### Dielectric Conduited Fiber Cable

- **Cable Outer Jacket**
- **Aramid Strength Members**
- **Dielectric Conduit**
- **Optical Fiber**
- **Buffer**

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