Opti-Core® Dielectric Conduited Fiber Cable

PANDUIT®

SPECIFICATION SHEET

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) are Riser rated (OFNR) and compliant with Low Smoke Zero Halogen (LSZH) specifications. 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 62.5/125um OM2 50/125um
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

Opti-Core® Dielectric Conduited Fiber Cable

part number

Character	1	2	3	4	5	6	7	8	9	10	11	12
Example	F	S	P	D	5	1	2	–	0	5	0	M

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

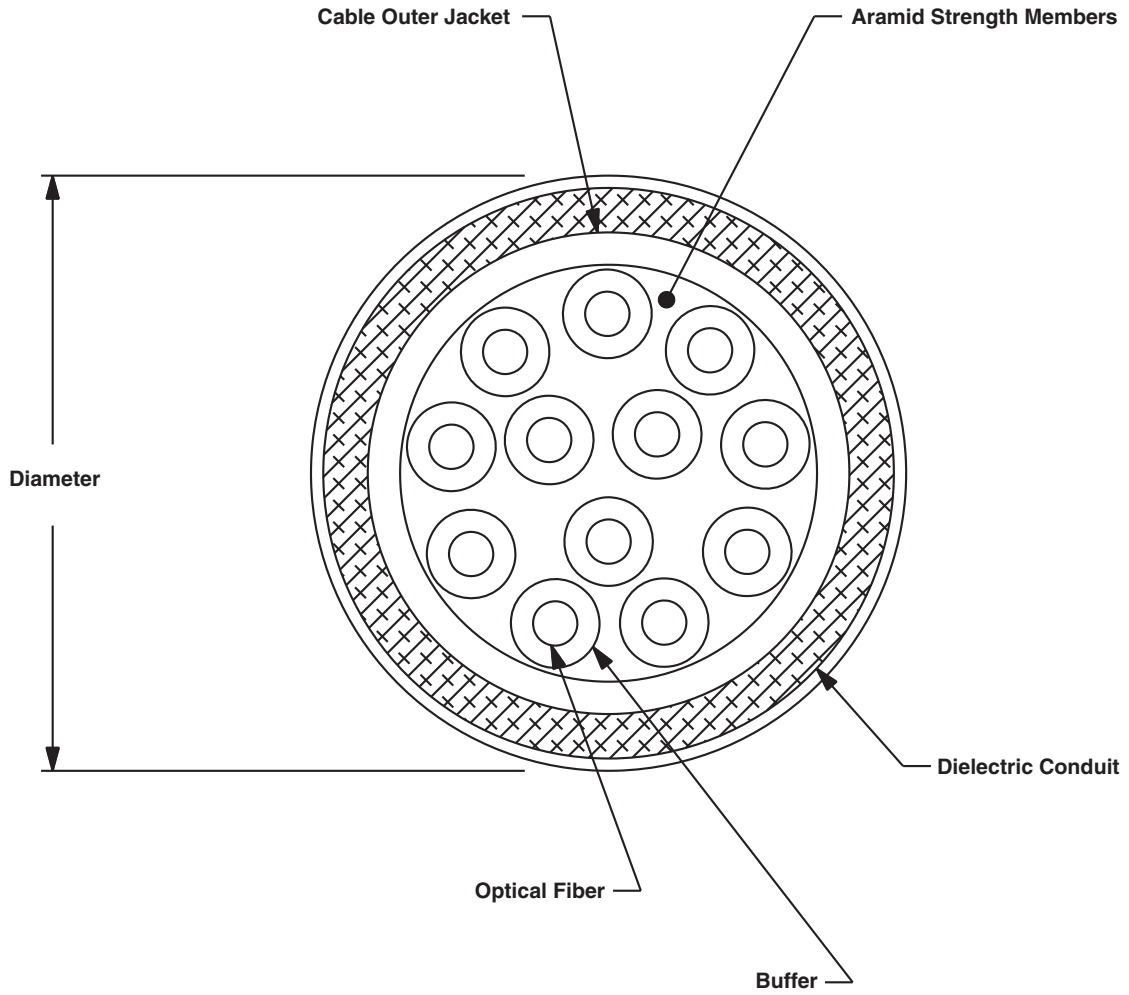
5 – Fiber Type
6 = OM1 62.5/125µm
5 = OM2 50/125µm
9 = OS1/OS2 9/125µm

6 and 7 – Fiber Count
02 = 2-fiber
04 = 4-fiber
08 = 8-fiber
12 = 12-fiber

8 – Length
Blank = Length made-to-order
Dash (–) = Fixed Length Reel

9, 10, 11, and 12 – Reel Length
050M - 50 meter reel

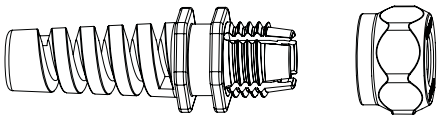
Dielectric Conduited Fiber Cable

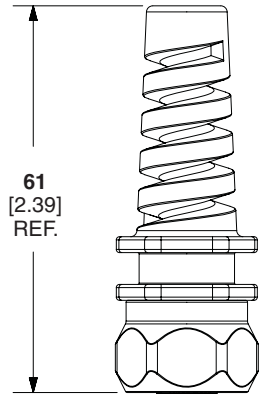


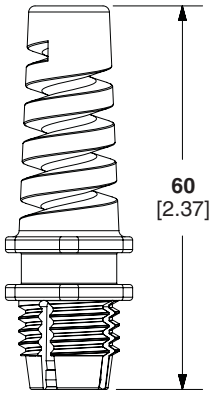
Opti-Core® Dielectric Conduited Fiber Cable

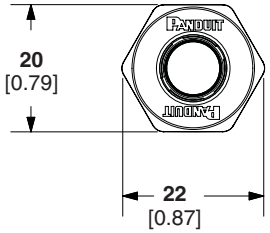
DCF Fiber Strain Relief

The DCF Fiber Strain Relief (FCCSR10BL) is used with the DCF (Dielectric Conduited Fiber Cable) to control the bend radius at the transition of fiber distribution or breakout cables where they exit an armored conduit. The armored conduit fiber cable will be typically installed inside a zone enclosure or at a machine center panel. Installing the DCF Fiber Strain Relief with the DCF fiber cables can prevent any possible reliability issues related to bend radius.









Dimensions are in inches. [Dimensions in brackets are metric].

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