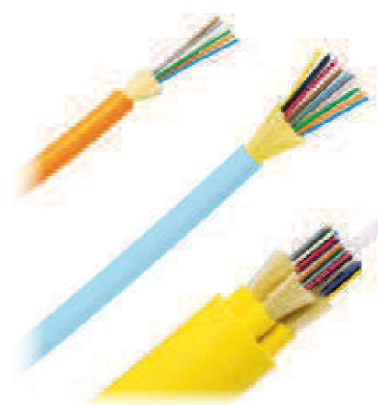


Opti-Core™ Fibre Optic Indoor Distribution Cable – EMEA - Class B2c and Cca



technical information

Opti-Core™ Fibre Optic Indoor Cable is an integral part of the Panduit end-to-end fibre optic solution, designed to support today's data needs while meeting tomorrow's ever-advancing network requirements. These fibre optic indoor cables are used within buildings to provide high-density connectivity and ease of installation. Applications include intra-building backbones, routing between telecommunications rooms and connectorised cables that require Low Smoke Zero Halogen (LSZH) ratings. Opti-Core™ 10 GbE Fibre Optic Indoor Cable features the highest quality OM3 and OM4 laser optimised fibre to support 10 Gb/s applications while maintaining compatibility with existing 50µm multimode systems. Standard singlemode and multimode indoor cable is available in fibre counts from 4 to 72 fibres. Larger distribution cable features a 6 fibre per sub-unit design that simplifies fibre identification, provides easy access and routing of the fibres and increases cable durability with a dielectric central strength member.



application

For indoor use in intra-building backbone and horizontal installations.

standards

ISO 11801 2nd edition
EEN 187 000
EN 50173-1

IEC 60794-2-20
EuroClass B2caS1D1A1 and CcaS1AD1A1

construction

Central strength member	4-24-fibre -None
Tight Buffer	PBT
Water blocking	None
Wrapping	4-24-fibre- None
Sheath	LSZH/LSHF-FR/FRNC according to EN50290-2-27

fire ratings

IIEC 60332-1-2
IEC 60332-3-24
IEC 60754-2
IEC 61034

Opti-Core™ Fibre Optic Indoor Distribution Cable – EMEA

mechanical properties

Tensile strength (Long Term)	4-8 fibre: 560 N 12-16 fibre: 680 N 24 fibre: 800 N
Tensile strength (Installation)	4-8 fibre: 1000 N 12-16 fibre: 1200 N 24 fibre: 1500 N
Max Installation load	4-24-fibre: 1000 N-1500 N depending on fibre count
Compressive strength (crush)	3000 N/ 100 mm
Impact	20 J
Torsion	5 cycles ±1 turn
Kink	Pass
Temperature range	Installation: -20°C to +70°C Operation: -20°C to +70°C Storage: -40°C to +70°C (2-24-fibre)

physical properties

Fibre Count	Cable O.D. (mm)	Installation Bend Radius (mm)	Long Term Bend Radius (mm)	Cable Weight (kg/km)
4	5.7 mm	100 mm	50 mm	26 kg/km
6	6.1 mm	100 mm	50 mm	30 kg/km
8	6.8 mm	100 mm	50 mm	35 kg/km
12	7.2 mm	130 mm	75 mm	45 kg/km
24	8.6 mm	230 mm	115 mm	65 kg/km

Opti-Core™ Fibre Optic Indoor Distribution Cable – EMEA

fibre colour code 2-24 fibres

1 Red	13 Red w/ mark every 70 mm
2 Green	14 Green w/ mark every 70 mm
3 Blue	15 Blue w/ mark every 70 mm
4 Yellow	16 Yellow w/ mark every 70 mm
5 White	17 White w/ mark every 70 mm
6 Grey	18 Grey w/ mark every 70 mm
7 Brown	19 Brown w/ mark every 70 mm
8 Violet	20 Violet w/ mark every 70 mm
9 Turquoise	21 Turquoise w/ mark every 70 mm
10 Black	22 White w/ mark every 35 mm
11 Orange	23 Orange w/ mark every 70 mm
12 Pink	24 Pink w/ mark every 70 mm

ordering information

*Example: FADC912-24 - Indoor distribution stranded tube fiber, EuroClass rated, OS2, 12-fiber, CcaS1AD1A1

Character	1	2	3	4	5	6	7	8	9	10
Example	F	A	D	C	9	1	2	-	2	4

1 and 2 – Fibre Product

FA = Fibre

3 – Cable Construction

D- Indoor Distribution Central Tube (up to 12 fiber)

I- Interconnect zipcord cable (only 2 fibre)

4 – Flame Rating

C = EuroClass Rated

5 – Fibre Type

9 = OS2 9/125µm

5 = OM2 50/125µm

6 = OM1 62.5/125µm

X = OM3 10 GbE 50/125µm

Z = OM4 10 GbE 50/125µm

6 and 7 – Fibre Count

04 = 4-fibre

12 = 12-fibre

06 = 6-fibre

24 = 24-fibre

08 = 8-fibre

8 – Dash

9 and 10 – EuroClass Code

14- B2caS1AD1A1

24- CcaS1AD1A1

WORLDWIDE SUBSIDIARIES AND SALES OFFICES

PANDUIT US/CANADA
Phone: 800.777.3300

PANDUIT EUROPE LTD.
London, UK
EMEA-CustomerService@
panduit.com
Phone: 44.20.8601.7200

PANDUIT SINGAPORE PTE. LTD.
Republic of Singapore
cs-ap@panduit.com
Phone: 65.6305.7575

PANDUIT JAPAN
Tokyo, Japan
cs-japan@panduit.com
Phone: 81.3.6863.6000

PANDUIT LATIN AMERICA
Guadalajara, Mexico
cs-la@panduit.com
Phone: 52.33.3777.6000

PANDUIT AUSTRALIA PTY. LTD.
Victoria, Australia
cs-aus@panduit.com
Phone: 61.3.9794.9020

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F

OM4 MULTIMODE OPTICAL FIBER

(Americas, Asia Pacific, EMEA)

Technical Information

Panduit® OM4 Multimode Fiber is designed to enable robust and reliable channels for 1 Mb/s through 100 Gb/s applications that include:

- LAN Riser cabling and Fiber to the Desk (FTTD) applications
- Data Center Ethernet backbones and Storage Area Networks
- High-Speed Computing switch fabrics

Panduit® Laser-Optimized OM4 fibers extend the application of multimode fiber to support transmission at 10 Gb/s (at extended reach) and future speeds such as 40 and 100 Gb/s. When using low cost 850 nm Vertical Cavity Surface Emitting Laser (VCSEL) transceivers, these fibers support a wide variety of current application including 10 Gigabit Ethernet, 8 Gigabit Fibre Channel, and 40 Gigabit InfiniBand.

Panduit® OM4 Fiber extends the system cost benefits of Panduit® OM3 Fibers to ultra long building backbones and medium length campus backbones. The patented MCVD fiber manufacturing process provides this extraordinary performance by producing a fiber with nearly zero differential mode delay (DMD) and 5000 MHz km of EMB, more than 2.5 x the IEEE requirements for 10 Gb/s 300 meter support. Panduit® OM4 fibers exceed the specification requirements of EMBc and the more discriminating DMD mask methods for verifying Effective Modal Bandwidth.

When deployed in loss-optimized QuickNet™ cabling systems, Panduit® OM4 Fiber can provide extended reach beyond the rated length, as well as the ability to deploy more connectivity with greater headroom.

Panduit's industry-standard 50/125µm OM4 supports legacy applications like Ethernet, Token Ring, Fiber Distributed Data Interface (FDDI) and Fast Ethernet. Panduit® OM4 also provides support up to 1040 meters for short wave Gigabit Ethernet (1000BASE-SX) applications. These fibers also extend the reach beyond stated standards-based reach for 2.5 Gb/s, 5.0 Gb/s and 10.0 Gb/s parallel applications (InfiniBand and higher speed Ethernet)

Geometry

Dimension	Value
Core Diameter:	50.0µm ± 2.5µm
Core Non-Circularity:	≤5%
Cladding Diameter:	125µm ± 1µm
Cladding Non-Circularity:	≤1%
Core-Cladding Concentricity:	≤1.0µm
Coating Diameter:	245µm ±10µm
Coating-Cladding Concentricity:	≤8µm

Attenuation

Wavelength	Value
850nm:	2.3dB/km
1300nm:	0.6dB/km
1300nm thru 1380nm:	≤1.0dB/km

Optical Characteristics

<i>Property</i>	<i>Value</i>
Point Discontinuity:	≤0.08dB
Numerical Aperture:	0.200 ± 0.015
Group Index of Refraction – 850nm:	1.483
Group Index of Refraction – 1300nm:	1.479
Macrobend Attenuation – 100 turns around a 75mm mandrel:	≤0.5dB/km

Mechanical Properties

<i>Property</i>	<i>Value</i>
Proof Test:	100 kpsi (0.7 GN/m ²)
Coating Strip Force:	0.7lbs (3.0 N)

Environmental Properties

<i>Test</i>	<i>Value</i>
Operating Temperature:	-60°C to + 85°C
Temperature Dependence – 850nm (-60°C to + 85°C):	≤0.10dB/km
Temperature Dependence – 1300nm (-60°C to + 85°C):	≤0.10dB/km
Temperature – Humidity Cycling – 850nm (-10°C to + 85°C, >90% RH):	≤0.10dB/km
Temperature – Humidity Cycling – 1300nm (-10°C to + 85°C, >90% RH):	≤0.10dB/km

Transmission Properties

<i>Condition</i>	<i>Value</i>
850nm OFL Launch:	3500 MHz-km
850nm EMB Launch:	5000 MHz-km
1300nm OFL launch:	500 MHz-km

Application Reach

<i>Ethernet Data Rate</i>	<i>Standard</i>	<i>Transceiver Type</i>	<i>Wavelength</i>	<i>Reach</i>
1 Gb/s	IEEE 802.3z	1GBASE-SX	850nm	Up to 1040m
1 Gb/s	IEEE 802.3z	1GBASE-LX	1310nm	Up to 600m
10 Gb/s	IEEE 802.3ae	10GBASE-SR/SW	850nm	Up to 550m
10 Gb/s	IEEE 802.3ae	10GBASE-LX4	CWDM (1310nm)	Up to 300m
10 Gb/s	IEEE 802.3ae	10GBASE-LX	1310nm	Up to 300m
10 Gb/s	IEEE 802.3ae	10GBASE-LRM	1310nm	Up to 220m
<i>Fibre Channel Data Rate</i>	<i>Standard</i>	<i>Transceiver Type</i>	<i>Wavelength</i>	<i>Reach</i>
4 Gb/s	ANSI FC	400 MSE-SN-I	850nm	Up to 400m
8 Gb/s	ANSI FC	800 MSE-SN-I	850nm	Up to 190m
16 Gb/s	ANSI FC	1600 MSE-SN-I	850nm	Up to 125m
10 Gb/s	ANSI 10 GFC	1200 MSE-SN-I	850nm	Up to 500m