

SPECIALTY OPTICAL FIBER

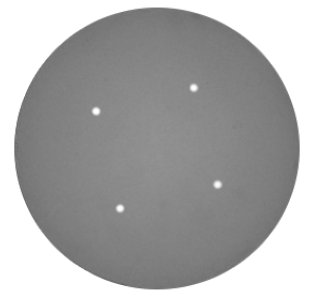
IXF-MC-4-SM-1060

Multicore fiber

The IXF-MC family of multicore fibers includes both passive and active fibers with 4, 7 and 12 cores. Multicore fibers are used in a large variety of sensing applications for temperature, strain, or shape sensing. Multicore fibers have photosensitive cores, allowing Fiber Bragg Gratings (FBG) to be inscribed to the cores.

Fan-in and fan-out can be manufactured directly on the multicore fiber either on a single side to inject (collect) the light to (from) the multicore fiber, or as a fan-in & fan-out pair.

Custom developments of passive, active, or spun multicore fibers are possible.



Benefits & Features

- 4-core passive fiber
- Uncoupled cores
- Singlemode operation from 980 nm to 1600 nm
- Photosensitive cores for FBG inscription
- Fan-in & fan-out available
- Matching erbium doped 4-core fiber available
- Custom designs possible

Applications

- Space division multiplexing (SDM)
- Shape sensing
- Temperature and strain sensing
- Coherent beam combining

Related Products

- IXF-MC-4-EDF-FGC-980 (erbium doped 4-core fiber)

Parameters

Core number	4
Core Position Shape	Square
Core spacing (μm)	44.2 ± 0.6
Cutoff wavelength (nm)	< 970
Attenuation @980 nm (dB/km)	< 2.5
Attenuation @1550 nm (dB/km)	< 1.0
Core diameter (μm)	3.4 ± 0.2
Mode field diameter @980 nm (μm)	4.0 ± 0.3
Mode field diameter @1550 nm (μm)	6.5 ± 0.5
Numerical aperture	0.21 ± 0.01
Cladding diameter (μm)	125 ± 3
Coating diameter (μm)	245 ± 15
Proof test level (kpsi)	100

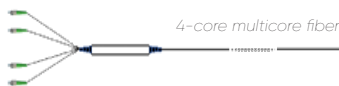
Design parameters

Operating wavelength (nm)	> 980
Coating material	Dual acrylate
Operating temperature range (°C)	-40 to +85

Fan-in / Fan-out (optional)

Design wavelength (nm)	1550	
Fiber type	SMF28	Hi 1060 Flex
Insertion loss @1550 nm (dB), per fan-in	< 1.5	< 2.0
PDL @1550 nm (dB), per fan-in	< 0.1	
Crosstalk @1550 nm (dB)	> 60	
Fiber length (m)	1.0	
Connector type	FC, SC, LC. Angle or flat-polished	

Multicore fiber with a single fan-in/out



Multicore fiber with a pair of fan-in and fan-out



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