

## SPECIALTY OPTICAL FIBER

# IXF-MC-7-SM-1550

## Multicore fiber

The IXF-MC family of multicore fibers includes both passive and active fibers with 2, 4, 7 and 12 cores. Multicore fibers are used in a large variety of applications such as Space Division Multiplexing (SDM) and sensing (temperature, strain, or shape sensing). Passive 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 IXF-MC-7-SM-1550 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

- 7-core passive fiber
- Uncoupled cores
- Singlemode operation at 1550 nm
- Photosensitive cores for FBG inscription
- Fan-in & fan-out available
- Custom designs possible

### Applications

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

- IXF-MC-4-SM-1060
- IXF-MC-12-PAS-6

### Parameters

Core number	7
Core Position Shape	Hexagon & center
Core spacing ( $\mu\text{m}$ )	$35 \pm 0.5$
Cutoff wavelength (nm)	1300 - 1520
Mode field diameter @1550 nm ( $\mu\text{m}$ )	$6 \pm 0.5$
Numerical aperture	$0.21 \pm 0.02$
Cladding diameter ( $\mu\text{m}$ )	$125 \pm 1$
Coating diameter ( $\mu\text{m}$ )	$245 \pm 15$
Proof test level (kpsi)	100

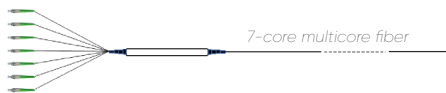
### Design parameters

Operating wavelength (nm)	1500 - 1650
Coating material	Dual acrylate
Operating temperature range ( $^{\circ}\text{C}$ )	-40 to +85

### Fan-in / Fan-out (optional)

Design wavelength (nm)	1550
Fiber type	SMF28
Insertion loss @1550 nm (dB), per fan-in	< 1.5
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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