

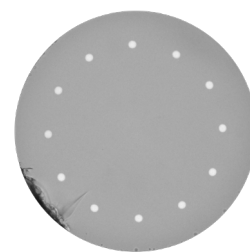
## SPECIALTY OPTICAL FIBER

# IXF-2CF-MC-12-PAS-6

## 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.

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



### Benefits & Features

- 12-core passive fiber
- Double clad, low-index acrylate coating
- Uncoupled cores
- Singlemode operation at 1550 nm
- Matching Er/Yb doped 12-core fiber available
- Matching passive single-clad 12-core fiber available
- Custom designs possible

### Applications

- Space division multiplexing (SDM)
- Multicore fiber amplifier

### Related Products

- IXF-2CF-MC-12-EY-6
- IXF-MC-12-PAS-6

### Related Publications

- [E. Pincemin et al., "12-Core Erbium/Ytterbium-Doped Fiber Amplifier for 200G/400G Long-Haul, Metro-Regional, DCI Transmission Applications with ROADMs," 2021 European Conference on Optical Communication \(ECOC\), Bordeaux, France, 2021, pp. 1-4, doi: 10.1109/ECOC52684.2021.9606073](#)
- [G. Mélin et al., "Power Efficient All-Fiberized 12-Core Erbium/Ytterbium Doped Optical Amplifier," 2020 Optical Fiber Communications Conference and Exhibition \(OFC\), San Diego, CA, USA, 2020, pp. 1-3](#)

### Parameters

|  |                 |
|--|-----------------|
| Core number                                    | 12              |
| Core spacing ( $\mu\text{m}$ )                 | $35 \pm 0.5$    |
| Core diameter ( $\mu\text{m}$ )                | $6 \pm 0.5$     |
| Mode field diameter @1550 nm ( $\mu\text{m}$ ) | $6.5 \pm 0.5$   |
| Core numerical aperture                        | $0.19 \pm 0.02$ |
| Cladding numerical aperture                    | $\geq 0.46$     |
| Multimode background losses (dB/km)            | $< 25$          |
| Cladding diameter ( $\mu\text{m}$ )            | $187.5 \pm 2.5$ |
| Cladding shape                                 | Round           |
| Coating diameter ( $\mu\text{m}$ )             | $355 \pm 15$    |
| Proof test level (kpsi)                        | 50              |

### Design parameters

|  |                         |
|--|-------------------------|
| Coating material                                   | Low-index dual acrylate |
| Operating temperature range ( $^{\circ}\text{C}$ ) | -40 to +85              |

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