Very Large Mode Area Fibers

IXF-VLMA-40-220-PM-YB

The development of this new Polarisation Maintening (PM) Ytterbium doped Very Large Mode area (VLMA) fiber was driven by customer's demand for an easy to integrate double-clad fiber in the continuously growing ultrafast fiber laser market. The combination of robust single mode behavior in an all-solid glass form factor with 750 µm² fundamental mode area makes this fiber an ideal tool for high-end industrial fiber laser manufacturers. Photonics Bretagne proprietary manufacturing process (patent pending) enables preferential fiber coiling and automatic amplifier output polarization orientation. Complementary matching GRIN fiber is available for all-fibre monolithic integration with standard LMA 10-125 PM pump combiners.

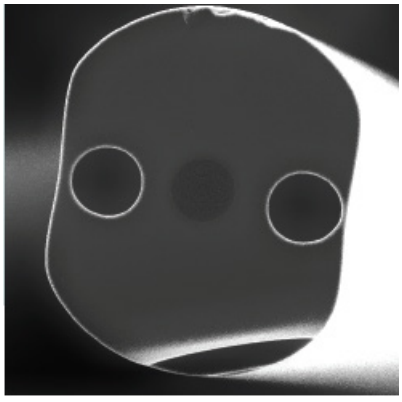
Partnership with PHOTONICS BRETAGNE Product line PERFOS

FEATURES & BENEFITS

- Truly single mode polarization maintaining behavior
- All-solid step index based fibre design based on our all-vapor phase delivery process
- Industry standard low index polymer coating providing long term reliability & performance
- Excellent fibre lot uniformity and consistency
- Photodarkening free silica matrix

APPLICATIONS

- High power ultrafast pulsed fiber lasers/amplifiers for material processing, lifescience, spectroscopy or defense applications.



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IXF-VLMA-40-220-PM-YB TECHNICAL SPECIFICATIONS

Parameters

Core diameter (µm)	40 ± 3
Core concentricity error (µm)	< 0.5
Fiber outside diameter (µm)	220 ± 5
Coating outside diameter (µm)	332 ± 5
Coating type	Low index
Fibre geometry	Circular with opposite flats
Background loss @ 1150 nm (dB/km)	< 10
Cladding loss @ 1300 nm (dB/km)	< 35
Cladding numerical aperture	≥ 0.46
Cladding absorption @ 915nm (dB/m)	2.2 ± 0.15
Predicted cladding absorption @ 976 nm (dB/m)	7.7 ± 0.5
Core numerical aperture (NA)	0.045 ± 0.0055
LP_{01} MFD @ 1060 nm (µm)	31 ± 1
Effective area aeff @ 1060 nm ($µm^2$)	750 ± 40
Birefringence @ 1060 nm	≥ 1.10×10^{-4}
Typical fiber efficiency*	≥ 75 %
Recommended coiling diameters (cm)	16 – 20

* Evaluated with 2 W 1064 nm signal in 976 nm forward pumping configuration.

Specifications are subject to change without notice

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