

OTHER DOPED FIBERS Specification Sheet

Ytterbium and Thulium Doped Fibers for Fiber Lasers

YbDF320-PM, YbDF350, and TmDF200



A Furukawa Company

Other Doped

Product Description

OFS has developed several rare earth doped fibers, each designed for a different type of fiber laser:

- YbDF320-PM fiber combines the features of an ytterbium fiber with those of a polarization-maintaining fiber for use in fiber lasers and polarization-maintaining amplifiers. Birefringence is induced by geometrical birefringence from an elliptical core.
- Single-mode Yb and Tm doped fibers have photosensitive cladding which makes the fibers ideal for DFB and DBR lasers

Features and Benefits

- Optimized for laser applications
- Various dopants
- High strength
- Dual-layer acrylate coating for excellent micro-bending, abrasion resistance, and mechanical strength
- Available colored or natural
- ISO 9001-certified processes

Related Products & Capabilities

- Custom PM EDFs with Stress Applying Parts available
- R37003, R37003-80 for C-Band amplifiers
- R37004X, for high-power C-Band amplifiers
- R37103, R37102-80 for L-Band amplifiers
- R37005, for ASE source applications
- See our full line of erbium-doped fibers for high-power C-Band, including HP980X and MP980
- Erbium-doped standard and PM fibers for fiber laser applications: EDF80, EDF150, EDF25-PM, EDF50-PM, and EDF08-PM

Ask us about other options available:

- Colored or Natural Buffers**
- Coils**
- Custom Designs**

To order items on this spec sheet, please contact our facility in:

- Broendby, Denmark
+45 4345 8888
- or by email inquiry to:
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Fiber Typical Parameters

Optical Properties	YbDF320-PM for 1 μm range	YbDF350 for 1 μm range	TmDF200 for 2 μm range
Peak absorption	100 dB/m @ 915 nm 320 dB/m @ 977 nm	110 dB/m @ 915 nm 350 dB/m @ 977 nm	200 dB/m @ 790 nm
Cutoff wavelength	1000 nm	890 nm	1350 nm
Numerical aperture	0.23	0.23	0.26
Mode field diameter	3.6 μm @ 1000 nm	3.6 μm @ 1000 nm	5.0 μm @ 1700 nm
Cladding diameter	125 μm	125 μm	125 μm
Coating diameter	245 μm	245 μm	245 μm
h-parameter ¹ of m ⁻¹	2.5 • 10 ⁻⁴ m ⁻¹		
Proof test	2% (200 kpsi)	2% (200 kpsi)	2% (200 kpsi)
Order by Part Number	YbDF320-PM	YbDF350	TmDF200

¹The h-parameter expresses the rate at which power is coupled between two polarization axes of the fiber. The polarization crosstalk after a length, l, is found from $P_y/P_x = 10 \times \log(h \times l)$. An h-parameter of $2.5 \times 10^{-4} \text{ m}^{-1}$ corresponds to a crosstalk of <-29 dB for a 5 m length.

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