

LMA Fibers

Core Sizes

- 10 μm
- 20 μm
- 25 μm
- 40 μm

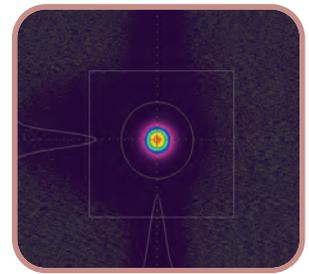
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Highly Doped Yb Fibers for Lasers and Amplifiers (Page 1 of 2)

The YB1200 and YB2000 families of highly doped ytterbium fibers are designed for fiber lasers and continuous wave (CW) and pulsed fiber amplifiers that operate in the 1 μm wavelength range with output powers from 1 mW to >100 W. These fibers feature high-pump absorption, good beam quality, high resistance to photodarkening, and excellent usability.

The double clad fibers feature a low-index fluoroacrylate coating with >0.46 NA. Fluorosilicate-coated all-glass variants are available for demanding high-power applications.



Typical Beam Quality for YB1200-20/400DC (M² = 1.1)

Passive Double Clad Fibers

Liekki's matched passive fibers are designed and manufactured to match to commercially available large-mode-area (LMA) active fibers, such as their YB1200 and YB2000 families of LMA fibers. They will maintain excellent beam quality when incorporated into fiber lasers or amplifiers.

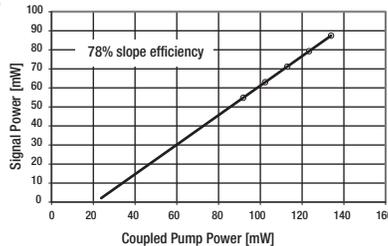
Features and Benefits

- Match Industry Standard Active Fiber Geometries with 125, 250, or 400 μm Cladding
- Low Signal and Pump Coupling Losses from Passive to Active Fiber
- Low-Index Fluoroacrylate Coating with >0.46 NA
- Excellent Beam Quality and Matching to LMA Fibers
- Ideal for Use with LMA Fibers

Core-Pumped Single Mode Fiber

YB1200-4/125

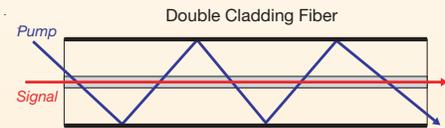
Liekki YB1200-4/125 is a highly doped ytterbium fiber for low noise, low nonlinearity preamplifiers and lasers. The fiber is compatible with low-cost pump diodes and standard single mode passive fibers.



Why Use Double Cladding Fiber?

- Low-Cost and High-Power Stripe and Bar Pump Lasers can be Used to Reach Kilowatt Level Pump Powers
- Diffraction-Limited Output with >80% Optical-to-Optical Efficiencies
- All Configurations Possible: CW Lasers, Pulsed Lasers, CW Amplifiers, Pulsed Amplifiers, and MOPAs

The Working Principle of Double Cladding Fiber



- High numerical aperture pump propagates in the cladding and is absorbed by the core
- Low numerical aperture signal propagates in the core and is amplified

Core-Pumped SM Fiber

ITEM#	CLADDING GEOMETRY	ABSORPTION @ 920 nm*	CORE DIAMETER	CLADDING DIAMETER	COATING DIAMETER	CUTOFF WAVELENGTH	CORE NA
YB1200-4/125	Round	280 ± 50 dB/m	4.0 ± 0.4 μm	125 ± 2 μm	245 ± 15 μm	1010 ± 70 nm	0.2 Nom

*Core Absorption, Core-Pumped Fiber

Double Cladding SM and MM Fibers

ITEM#	CLADDING GEOMETRY	ABSORPTION @ 920 nm*	CORE DIAMETER	CLADDING DIAMETER**	COATING DIAMETER (SECOND CLAD)	CLADDING NA	CORE NA
YB1200-6/125DC	Octagonal	0.6 ± 0.2 dB/m	5.5 ± 0.5 μm	125 ± 2 μm	245 ± 15 μm	>0.46	0.15 ± 0.01
YB1200-10/125DC	Octagonal	1.5 ± 0.4 dB/m	10 ± 1 μm	125 ± 2 μm	245 ± 15 μm	>0.46	0.08 ± 0.01
YB1200-20/400DC	Octagonal	0.7 ± 0.2 dB/m	20 ± 2 μm	400 ± 15 μm	500 ± 15 μm	>0.46	0.07 ± 0.01
YB1200-25/250DC	Octagonal	2.5 ± 0.7 dB/m	25 ± 2.5 μm	250 ± 15 μm	350 ± 15 μm	>0.46	0.07 ± 0.01
YB2000-7/125DC	Octagonal	1.0 ± 0.2 dB/m	7 ± 0.5 μm	125 ± 2 μm	245 ± 15 μm	>0.46	0.19 ± 0.02
YB2000-10/125DC	Octagonal	2.0 ± 0.4 dB/m	10 ± 1.0 μm	125 ± 2 μm	245 ± 15 μm	>0.46	0.12 ± 0.02

*Cladding Absorption, Double Clad Fibers

**Flat to flat

Highly Doped Yb Fibers for Lasers and Amplifiers (Page 2 of 2)

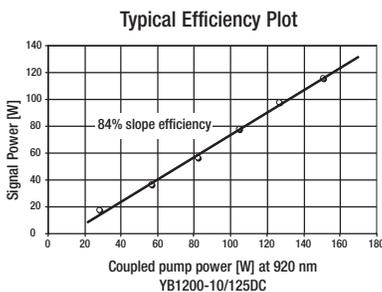
Double-Clad, Single Mode, and Multimode Large-Mode-Area (LMA) Fibers

YB1200-6/125DC

Liekki YB1200-6/125DC is a highly doped, single mode, double-clad fiber for medium-power fiber laser and amplifier applications. The fiber is compatible with many fiber-based components such as fiber gratings and combiners. See page 864 for the PM version (YB1200-6/125DC-PM).

YB1200-10/125DC

Liekki YB1200-10/125DC is a highly doped, double-clad fiber for medium to high-power fiber laser and amplifier applications. The combination of high cladding absorption and a single mode core make the fiber ideal for compact fiber-based power amplifiers. See page 864 for the PM version (YB1200-10/125DC-PM).



YB1200-20/125DC

Liekki YB1200-20/125DC is a highly doped, double-clad, multimode fiber ideally suited for compact, high average power, pulsed amplifier applications where large mode area and short fiber length are critical for suppression of nonlinear effects. The combination of a highly doped core, a large core-to-cladding ratio, and an efficient octagonal cladding shape provide very high cladding absorption. To purchase this fiber, please contact Tech Support.

YB1200-20/400DC

Liekki YB1200-20/400DC is a highly doped, double-clad fiber for high-power fiber lasers and amplifiers. The fiber combines a large core with excellent beam quality and a 400 μm cladding that is compatible with industry standard high-power pump lasers and delivery fibers.

YB1200-25/250DC (30/250 Available Upon Request)

Liekki YB1200-25/250DC is a highly doped, double-clad fiber featuring very high cladding absorption, high efficiency per application length, and excellent beam

quality. The fiber is ideal for high average power pulsed fiber amplifiers.

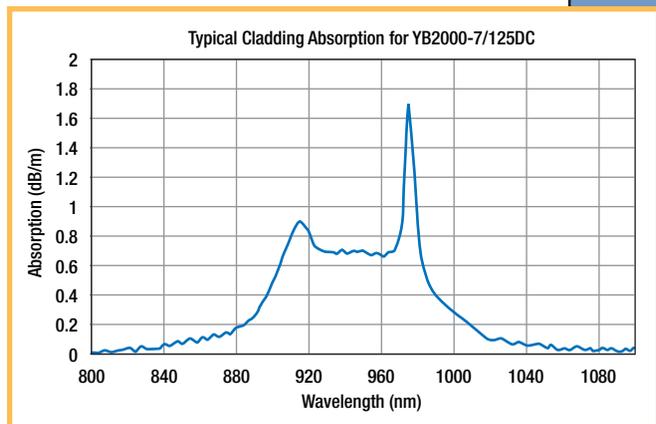
See page 864 for the PM version (YB1200-25/250DC-PM).

YB2000-7/125DC

Liekki YB2000-7/125DC is a highly doped, double-clad fiber for low-power amplifier or laser applications. The high photodarkening resistance and flat absorption profile enable the use of 940 nm pump lasers.

YB2000-10/125DC

Liekki YB2000-10/125 DC is a highly doped, photodarkening-resistant fiber suitable for low-power laser or amplifier applications.



Ytterbium-Doped Fibers

ITEM#	PRICE/m*	\$	£	€	RMB
YB1200-4/125	1 to 9 m	\$ 98.00	£ 67.70	€ 87,20	¥ 827.20
	10 to 49 m	\$ 83.30	£ 57.50	€ 74,15	¥ 703.10
	50 to 249 m	\$ 73.50	£ 50.80	€ 65,40	¥ 620.40
YB1200-6/125DC	1 to 9 m	\$ 90.00	£ 62.10	€ 80,10	¥ 759.60
	10 to 49 m	\$ 76.50	£ 52.80	€ 68,10	¥ 645.70
	50 to 249 m	\$ 67.50	£ 46.60	€ 60,10	¥ 569.70
YB1200-10/125DC	1 to 9 m	\$ 165.00	£ 113.90	€ 146,90	¥ 1,392.60
	10 to 49 m	\$ 140.25	£ 96.80	€ 124,90	¥ 1,183.80
	50 to 249 m	\$ 123.75	£ 85.40	€ 110,20	¥ 1,044.50
YB1200-20/400DC	1 to 9 m	\$ 254.00	£ 175.30	€ 226,10	¥ 2,143.80
	10 to 49 m	\$ 215.90	£ 149.00	€ 192,20	¥ 1,822.20
	50 to 249 m	\$ 190.50	£ 131.50	€ 169,60	¥ 1,607.90
YB1200-25/250DC	1 to 9 m	\$ 345.00	£ 238.10	€ 307,10	¥ 2,911.80
	10 to 49 m	\$ 293.25	£ 202.40	€ 261,00	¥ 2,475.10
	50 to 249 m	\$ 258.75	£ 178.60	€ 230,30	¥ 2,183.90
YB2000-7/125DC	1 to 9 m	\$ 150.00	£ 103.50	€ 133,50	¥ 1,266.00
	10 to 49 m	\$ 135.00	£ 93.20	€ 120,20	¥ 1,139.40
	50 to 249 m	\$ 120.00	£ 82.80	€ 106,80	¥ 1,012.80
YB2000-10/125DC	1 to 9 m	\$ 288.00	£ 198.80	€ 256,40	¥ 2,430.80
	10 to 49 m	\$ 244.80	£ 169.00	€ 217,90	¥ 2,066.20
	50 to 249 m	\$ 216.00	£ 149.10	€ 192,30	¥ 1,823.10

*Call for quantities over 250 m