Cladding Pumped Fibers

125 µm Polarization-Maintaining Erbium-Ytterbium and 125 µm or 200 µm Polarization-Maintaining Ytterbium

Product Description

The single-mode core of this polarization-maintaining fiber is doped with ytterbium. It is then surrounded by a silica cladding and covered with a low-index protective coating. These fibers enable fiber lasers and amplifiers with good beam profile characteristics, high wallplug efficiencies, compact footprints, superior reliability, and maintenance-free operation. They also accommodate high energies during pulsed operation and at high repetition rates.

Typical Applications

- Fiber lasers
- Fiber amplifiers
- High-energy, pulsed operation

Erbium-Ytterbium

Erbium-Ytterbium double clad fiber is used for single-mode fiber lasers and amplifiers operating in the 1540 to 1565 nm range.

Features and Benefits

- High conversion efficiency
- Patented cladding results in efficient mode mixing while maintaining good splice-ability
- Proprietary low-index polymer coating for high cladding NA with good fiber strength
- Core NA allows splicing to standard single-mode fiber

Ytterbium

Ytterbium double-clad fibers are used for single-mode fiber lasers and amplifiers operating in the 1040 to 1200 nm range.

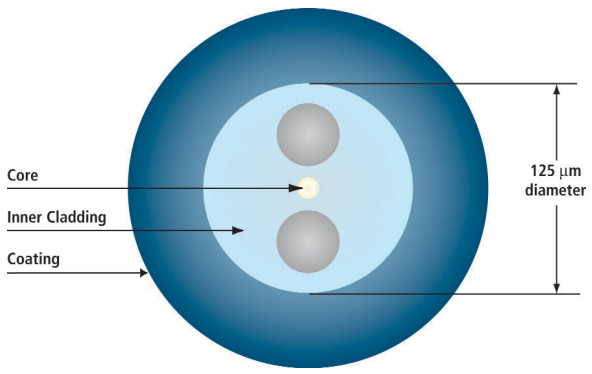
Features and Benefits

- Active ion concentrations optimized for efficiency
- High erbium concentration for short devices
- Wide pump wavelength window from 910 to 1060 nm
- Low-splice-loss achieved to conventional single-mode or dispersion-shifted fiber

Fiber Specifications (typical)

Properties	ErYb PM 125	Yb PM 125	Yb PM 200
Core numerical aperture	0.17	0.12	0.12
Cladding numerical aperture	0.45	0.45	0.45
Cutoff wavelength	<1500 nm	<1040 mm	<1040 mm
Mode field diameter @ 1550 nm	7 µm	not specified	not specified
Mode field diameter @ 1060 nm	not specified	6 µm	6 µm
Ytterbium clad absorption @ 915 nm	>0.5 dB/m	>0.5 dB/m	>0.15 dB/m
Erbium peak absorption near 1535 nm	40 dB/m	not specified	not specified
Beat Length @ 1060 mm	<4.0 mm	<4.0 mm	<4.0 mm
Beat Length @ 1550 mm	<6.0 mm	<6.0 mm	<6.0 mm
Circular cladding diameter	125 µm	125 µm	200 µm
Coating outer diameter	250 µm	250 µm	300 µm
Mechanical and Testing Data			
Proof test level	100 kpsi	100 kpsi	100 kpsi
Order by Part Number (also specify fiber length in meters)	**300 380 334**	**552 HPWR 004**	**552 HPWR 003**

125 µm Design



200 µm Design