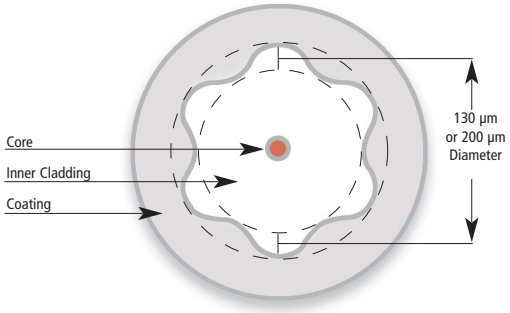
Cladding Pumped Fibers

130 µm Erbium-Ytterbium and 130 µm or 200 µm Ytterbium

Product Description

These fibers enable fiber lasers and amplifiers with good beam profile characteristics, high wallplug efficiencies, compact foot-prints, superior reliability, and maintenance-free operation. They also accommodate high energies during pulsed operation and at high repetition rates.

Cladding Pumped Fiber Design



Erbium-Ytterbium

The 125 µm single-mode core of this fiber is co-doped with both erbium and ytterbium. It is then surrounded by a silica cladding and covered with a low-index protective coating. The resulting double-clad fiber is used for single-mode fiber lasers and amplifiers operating in the 1540 to 1565 nm range.

Typical Applications

- Construction of multi-watt amplifiers around 1550 nm

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

Ytterbium

The single-mode core of this fiber is doped with ytterbium. It is then surrounded by a silica cladding and covered with a low-index protective coating. The resulting double-clad fiber is used for single-mode fiber lasers and amplifiers operating in the 1040 to 1200 nm range.

Typical Applications

- Construction of single-mode fiber lasers emitting at 1040 to 1200 nm

Features and Benefits

- Star-shaped cladding gives efficient mode mixing and improves splice-ability
- Tough, low-index polymer coating maintains strength and gives high cladding NA
- Small core NA leads to a small beam size at the laser wavelength

Fiber Specifications (typical)

Properties	ErYb 130	Yb 130	Yb 200
Core numerical aperture	0.17	0.12	0.12
Cladding numerical aperture	0.45	0.45	0.45
Cutoff wavelength	<1500 mm	<1040 mm	<1040 mm
Mode field diameter @ 1060 nm	not specified	6 µm	6 µm
Mode field diameter @ 1550 nm	7 µm	not specified	not specified
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
Star cladding diameter	130 µm	130 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	**108 728 635**	**107 986 820**	**107 986 812**

(also specify fiber length in meters)