

## Er/Yb Doped | Fibers

### For fiber amplifiers and lasers @ 1.5 μm

iXblue proposes a wide range of Erbium Ytterbium doped optical fibers designed for the assembly of high power CW or pulsed fiber amplifiers and lasers.

iXblue's Erbium Ytterbium doped fiber products have been optimized to address the specific requirements of high efficiency and low noise for high power fiber lasers.

#### Applications cover

- Lidar
- High power CW
- CATV and telecom amplifier
- Space amplifier
- High power pulsed fiber laser and amplifier
- Single frequency laser around 1.5 μm

#### Key Features

- High efficiency
- High pump and consistent absorption
- High brightness single mode core
- Low background losses
- Large mode area with low NA
- Low 1 μm parasitic emission

#### Latest Additions

- 12-130-POP: developed for pulsed applications
- 12-130-HPA: high power version, up to 20 W amplifier
- RAD: space grade version, check the Rad Hard fiber specifications

#### Related Products

- Matching passive fiber
- Associated fiber bragg mirrors
- Custom specifications on request



### Main Specifications

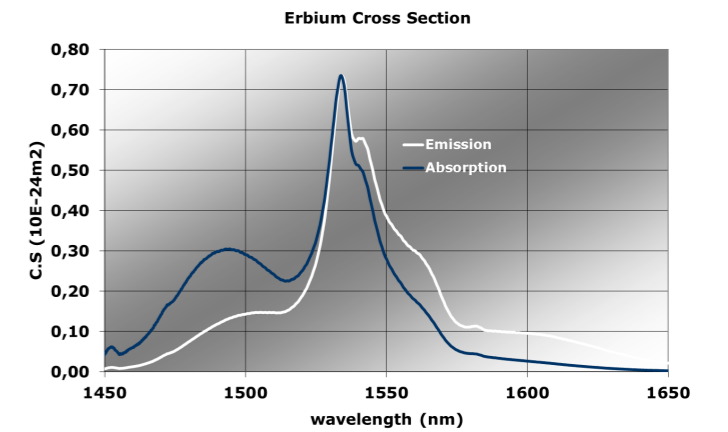
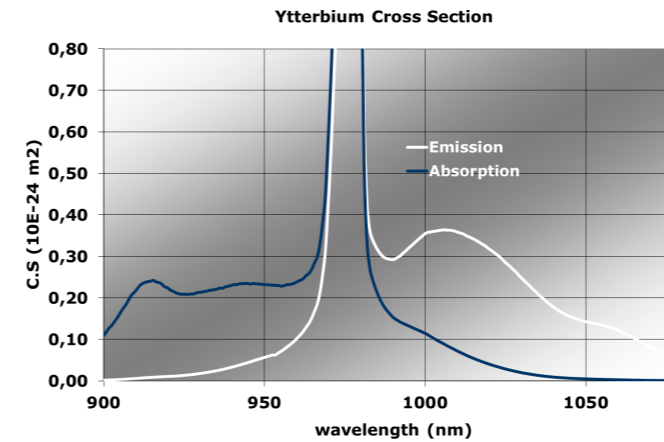
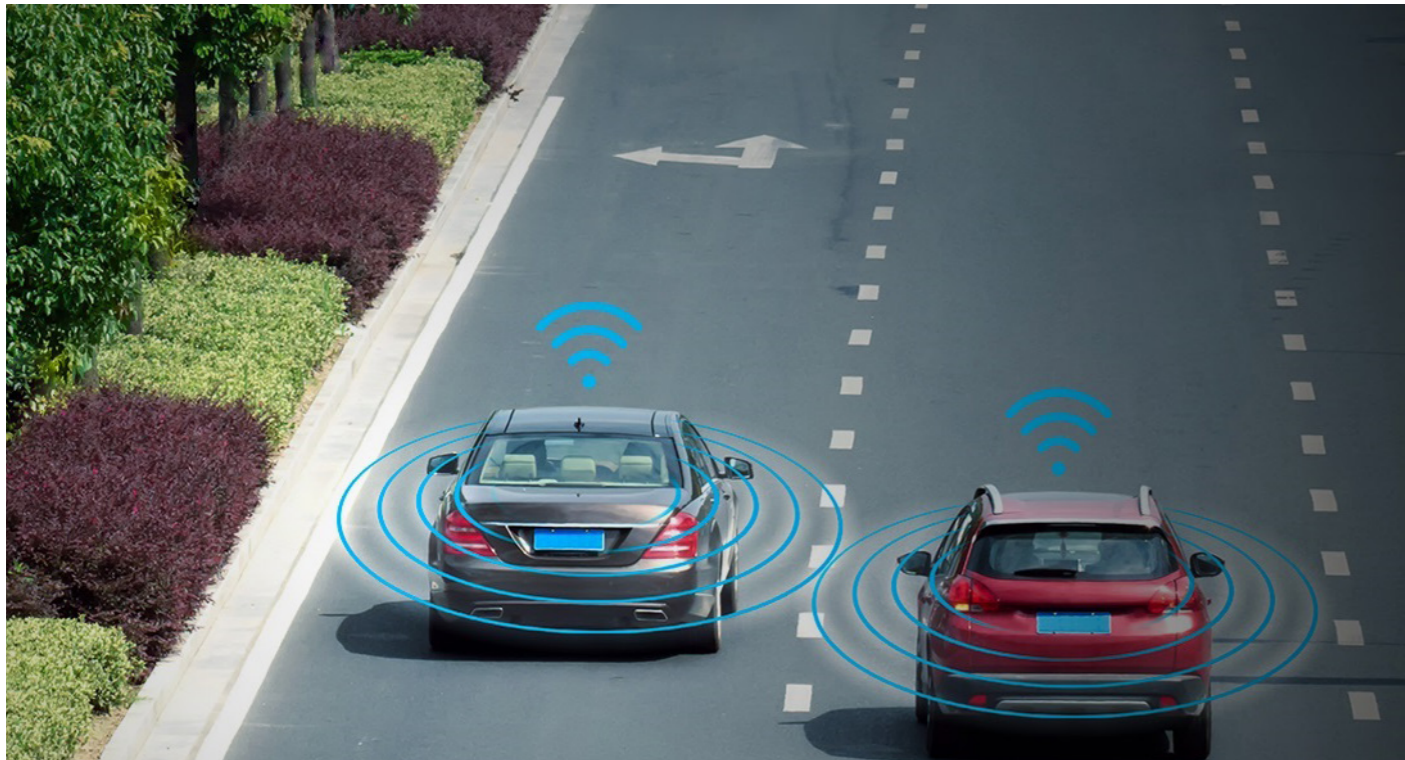
Product Name	Core diameter (μm)	Core absorption @1536nm (dB/m)	Core NA	Clad absorption @915nm (dB/m)	Clad absorption @976nm (dB/m) *	Cladding diameter Flat/Flat (μm)	Coating diameter (μm)
IXF-2CF-EY-O-6-130-LNF	6 +/- 0.5	> 25	0.19	> 0.6	> 2.0	125	245
IXF-2CF-EY-O-6-130-LNF-RAD **	6 +/- 0.5	> 30	0.19	> 0.6	> 2.0	125	245
IXF-2CF-EY-O-12-130	12 +/- 1	> 40	0.19	> 2.5	> 10	125	245
IXF-2CF-EY-O-12-130-POP	12 +/- 1	> 40	0.19	> 2.5	> 10	125	245
IXF-2CF-EY-O-12-130-HPA	12 +/- 1	> 40	0.19	> 2.0	> 8.0	125	210
IXF-2CF-EY-O-12-130-RAD **	12 +/- 1	> 30	0.19	> 1.8	> 7.2	125	245
IXF-2CF-EY-O-17-130	17 +/- 1	> 45	0.19	> 4.0	> 16	125	245
IXF-2CF-EY-O-25-250	25 +/- 1	> 45	0.08	> 3.0	> 12	250	345
IXF-2CF-EY-O-30-300	30 +/- 1	> 75	0.09	> 3.0	> 12	300	470
<b>Polarization Maintaining Fibers:</b>							
IXF-2CF-EY-PM-6-130-LNF	6 +/- 0.5	> 25	0.19	> 0.6	> 2.0	125	245
IXF-2CF-EY-PM-6-130-LNF-RAD **	6 +/- 0.5	> 30	0.19	> 0.6	> 2.0	125	245
IXF-2CF-EY-PM-12-130	12 +/- 1	> 40	0.19	> 2.5	> 10	125	245
IXF-2CF-EY-PM-12-130-HPA	12 +/- 1	> 40	0.19	> 2.0	> 8.0	125	210
IXF-2CF-EY-PM-12-130-RAD **	12 +/- 1	50 +/- 10	0.19	2.6 +/- 0.6	10.4 +/- 2.4	125	210
IXF-2CF-EY-PM-15-160	15 +/- 1	45 - 70	0.19	> 2.0	> 8.0	160	255
IXF-2CF-EY-PM-25-250	25 +/- 1	70 - 110	0.10	3.5 - 5.5	14 - 18	250	340
IXF-2CF-EY-PM-30-300	30 +/- 1	> 70	0.08	> 2.8	> 11	300	470

\* calculated from 915 nm absorption value

\*\* Radiation Induced Gain Variation < 0.02 dB/krad; check Rad Hard datasheet for full specifications

### Common specifications

- MM background: < 50 dB/km
- Cladding NA: ≥ 0.46
- Cladding shape: octagonal / round (PM)
- Birefringence: > 2.10<sup>-4</sup> typ. / Panda type
- Power conversion efficiency: > 40% typ
- Proof test level: 100 kpsi



Parameter	Value
Ytterbium Lifetime (μs)	950
Erbium Lifetime (ms)	9
Yb Absorption Cross Section @ 915nm (m <sup>2</sup> )	2,51E-25
Yb Absorption Cross Section @ 975nm (m <sup>2</sup> )	1,42E-24
Er Absorption Cross Section @ 1536 nm (m <sup>2</sup> )	5,90E-25
Transfer constant K (m <sup>3</sup> /s)	1,00E-22