

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
- Large choice of design: double clad, double clad all glass and triple clad

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 for Er/Yb double clad fibers

Product Name	Core diameter (μm)	Core absorption @1536nm (dB/m)	Core NA	Clad absorption @976nm (dB/m) *	Cladding diameter Flat/Flat (μm)	Coating diameter (μm)
IXF-2CF-AG-EY-O-5-105-125-HTC	5 +/- 0.5	75 +/- 15	0.19	3.7 +/- 0.5	125 +/- 3	215 +/- 15
IXF-2CF-EY-O-6-130-LNF-L1	6 +/- 0.5	25 - 35	0.19	2.4 - 3.6	125 +/- 3	245 +/- 15
IXF-2CF-EY-O-6-130-LNF-L2	6 +/- 0.5	35 - 45	0.19	3.2 - 4.8	125 +/- 3	245 +/- 15
IXF-2CF-EY-O-6-130-LNF-RAD **	6 +/- 0.5	> 30	0.19	> 2.0	125 +/- 3	245 +/- 15
IXF-2CF-AG-EY-O-9-105-125-HTC	8 +/- 0.5	70 +/- 10	0.14	9.0 +/- 2.0	125 +/- 3	215 +/- 15
IXF-2CF-EY-O-10-130	10 +/- 0.5	65 - 85	0.19	8.0 - 12	125 +/- 3	245 +/- 15
IXF-2CF-EY-O-12-130-L1	12 +/- 1	40 - 50	0.19	8.0 - 10	125 +/- 3	245 +/- 15
IXF-2CF-EY-O-12-130-L2	12 +/- 1	45 - 65	0.19	10 - 14	125 +/- 3	245 +/- 15
IXF-2CF-EY-O-12-130-L3	12 +/- 1	60 - 80	0.19	12 - 18	125 +/- 3	245 +/- 15
IXF-2CF-EY-O-12-130-POP	12 +/- 1	> 40	0.19	> 10	125 +/- 3	245 +/- 15
IXF-2CF-EY-O-12-130-HPA	12 +/- 1	> 40	0.19	> 8.0	125 +/- 3	210 +/- 15
IXF-2CF-EY-O-12-130-RAD **	12 +/- 1	50 - 70	0.19	9.2 - 14	125 +/- 3	210 +/- 15
IXF-2CF-EY-O-17-130-L1	17 +/- 1	40 - 50	0.19	16 - 20	125 +/- 3	245 +/- 15
IXF-2CF-EY-O-17-130-L2	17 +/- 1	> 45	0.19	20 - 24	125 +/- 3	245 +/- 15
IXF-2CF-EY-O-25-250	25 +/- 1	> 45	0.08	> 12	250 +/- 10	345 +/- 20
IXF-2CF-EY-O-30-300	30 +/- 1	> 75	0.09	> 12	300 +/- 10	470 +/- 20
Polarization Maintaining Fibers:						
IXF-2CF-EY-PM-6-130-LNF-L1	6 +/- 0.5	> 25	0.19	> 2.0	125 +/- 3	125 +/- 3
IXF-2CF-EY-PM-6-130-LNF-L2	6 +/- 0.5	35 - 45	0.19	3.2 - 4.8	125 +/- 3	125 +/- 3
IXF-2CF-EY-PM-6-130-LNF-RAD **	6 +/- 0.5	> 30	0.09	> 2.0	125 +/- 3	245 +/- 15
IXF-2CF-EY-PM-12-130-L2	12 +/- 1	45 - 65	0.19	10 - 14	125 +/- 3	245 +/- 15
IXF-2CF-EY-PM-12-130-0.10	12 +/- 0.5	55 - 75	0.10	10 - 14	125 +/- 3	245 +/- 15
IXF-2CF-EY-PM-12-130-HPA	12 +/- 1	> 40	0.19	> 8.0	125 +/- 3	210 +/- 15
IXF-2CF-EY-PM-12-130-RAD **	12 +/- 1	40 - 60	0.19	8.0 - 12.4	125 +/- 3	210 +/- 15
IXF-2CF-EY-PM-15-160	15 +/- 1	45 - 70	0.19	> 8.0	160 +/- 3	255 +/- 15
IXF-2CF-EY-PM-25-250	25 +/- 2	70 - 110	0.085	12.8 - 18	250 +/- 10	340 +/- 15
IXF-2CF-EY-PM-30-300	30 +/- 1	> 70	0.08	> 11	300 +/- 10	470 +/- 20

* 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)
- Proof test level: 100 kpsi

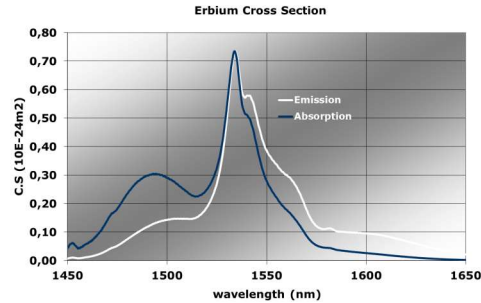
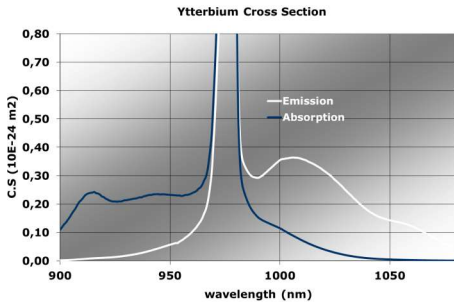
Main Specifications for Er/Yb triple clad fibers

Product Name	Core diameter (μm)	Core absorption @1536nm (dB/m)	Core NA	Clad absorption @976nm (dB/m) *	Cladding diameter Flat/Flat (μm)	Coating diameter (μm)
IXF-3CF-EY-O-5-105-125	5 +/- 0.5	70 - 80	0.19	2 - 3	125 +/- 3	215 +/- 15

Other specifications

- Clad absorption @976nm: 2.5 +/- 0.5 dB/m
- MM background: < 50 dB/km
- Proof test level: 100 kpsi

* calculated from 915 nm absorption value



Parameter	Value
Ytterbium Lifetime (μs)	950
Erbium Lifetime (ms)	9
Yb Absorption Cross Section @ 915nm (m²)	2.51E-25
Yb Absorption Cross Section @ 975nm (m²)	1.42E-24
Er Absorption Cross Section @ 1536 nm (m²)	5.90E-25
Transfer constant K (m³/s)	1.00E-22