



# Doped Fiber

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Datasheet

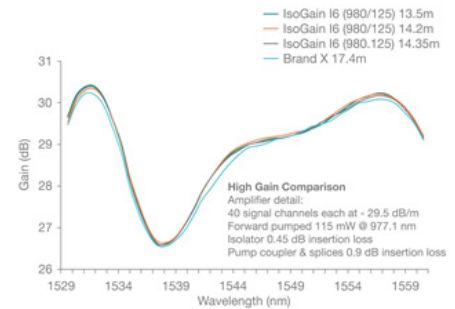
## Erbium Doped Fiber IsoGain™

Fibercore's IsoGain™ range of Erbium Doped Fibers (EDFs) offer a wide selection of absorption and cut-off wavelengths to allow the best choice of fiber for each type of Erbium Doped Fiber Amplifier (EDFA) design.

Fibercore's low absorption fibers offer best-in-class efficiency for C-band amplifiers whilst higher absorption fibers are optimized for L-band EDFAs.

High cut-off wavelength (HC) fibers have larger core diameters, reducing non-linear effects and increasing efficiency at higher pump powers.

The core composition of Fibercore's IsoGain™ has been engineered to generate a substantially flattened wavelength response that closely matches that of other leading fiber types.



Supported by Fibercore's **GainMaster™** simulation software

### Advantages:

- High efficiency core composition
- 'HC' variants optimized for high pump power EDFAs
- High absorption fibers for L-band amplifiers and mini/micro C-band EDFAs
- Wide range of absorption values for EDFA design optimization

### Typical applications:

- EDFAs / Telecoms
- ASE Light Sources
  - Gyros
  - Current Sensors
  - Distributed Sensor Systems
- Fiber Lasers
- Biomedical Illumination
- Optical Coherence Tomography (OCT)

### Related Products:

- Erbium Doped Fiber MetroGain™
- Dual-Clad Erbium/Ytterbium Doped Fiber (CP1500Y)
- GainMaster™ Simulation Tool

### Product Variants:

- **I-4 (980/125)** For high efficiency C-band EDFAs
- **I-4 (980/125)HC** For high efficiency, high power C-band EDFAs
- **I-6 (980/125)** Increased absorption for high efficiency C-band EDFAs
- **I-12(980/125)** Mid level absorption fiber for short length C-band and L-band EDFAs
- **I-12(980/125)HC** High cut off wavelength, mid level absorption fiber for higher power short length C-band and L-band EDFAs
- **I-15(980/125)HC** High cut off wavelength, mid/high level absorption fiber for higher power short length C-band and L-band EDFAs
- **I-25 (980/125)** Very high absorption fiber for short length L-band EDFAs
- **I-25H(1480/80)** 80µm cladding diameter, high cut off wavelength, high absorption fiber for small coil diameter mini and micro EDFAs

## Specifications

### High Efficiency C-Band Erbium Doped Fibers

	I-4(980/125)	I-4(980/125)HC	I-6 (980/125)
Cut-Off Wavelength (nm)	870 – 970	1000 – 1320	870 – 970
Numerical Aperture	0.22 – 0.24		
Mode Field Diameter (µm)	5.4 – 6.6 @1550nm	5.2 – 5.8 @1550nm	5.5 – 6.3 @1550nm
Absorption (dB/m)	5.0 – 6.7 @1531nm	7.7 – 9.4 @1531nm	7.2 – 8.4 @1531nm
Proof Test (%)	1 (100 kpsi)		
Attenuation (dB/km)	≤10 @1200nm		
Polarization Mode Dispersion (ps/m)	≤0.005		
Cladding Diameter (µm)	125 ± 1		
Core Concentricity (µm)	≤0.3		
Coating Diameter (µm)	245 ± 15		
Coating Type	Dual Acrylate		

### L-Band and C-Band Erbium Doped Fibers

	I-12(980/125)	I-12(980/125)HC	I-15(980/125)HC	I-25(980/125)
Cut-Off Wavelength (nm)	900 – 970	1200 – 1320	1200 – 1320	900 – 970
Numerical Aperture	0.21 – 0.23	0.23 – 0.26		
Mode Field Diameter (µm)	5.7 – 6.6 @1550nm	5.0 – 5.5 @1550nm	4.8 – 5.4 @1550nm	5.2 – 6.3 @1550nm
Absorption (dB/m)	14 – 21 @1531nm	17 – 21 @1531nm	27 – 33 @1531nm	35 – 45 @1531nm
Proof Test (%)	1 (100kpsi)			
Attenuation (dB/km)	≤10 @1200nm			
Polarization Mode Dispersion (ps/m)	≤0.005			
Cladding Diameter (µm)	125 ± 1			
Core Concentricity (µm)	≤0.3			
Coating Diameter (µm)	245 ± 15			
Coating Type	Dual Acrylate			

### Reduced Cladding Erbium Doped Fiber For Mini and Micro EDFAs

	I-25H(1480/80)
Cut-Off Wavelength (nm)	900 - 1025
Numerical Aperture	≥0.30
Mode Field Diameter (µm)	3.8 – 4.7 @1550nm
Absorption (dB/m)	23 – 27 @1531nm
Proof Test (%)	1 (100kpsi)
Attenuation (dB/km)	≤30 @1200nm
Polarization Mode Dispersion (ps/m)	≤0.005
Cladding Diameter (µm)	80 ± 1
Core Concentricity (µm)	≤0.5
Coating Diameter (µm)	160 ± 10
Coating Type	Dual Acrylate

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