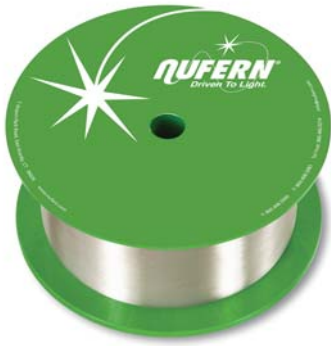


L-Band Erbium Doped Fiber



Nufern high performance L-Band Erbium-doped fibers are designed for use in L-band amplifiers and compact ASE sources. The 80 μm version is a reduced-cladding fiber ideal for small form-factor devices. All Nufern erbium-doped fibers are fabricated with a proprietary doping technology and have highly consistent and reproducible spectroscopy, ensuring intra-lot and lot-to-lot uniformity. These fibers are extensively characterized and accompanied by lot specific data.

Typical Applications

- L-band amplifiers
- Compact ASE sources
- Small form factor packages

Features & Benefits

- Highly consistent and reproducible spectroscopy — no need to batch matching GFFs
- Excellent core concentricity — low splice loss
- Detailed lot-specific characterization data — compatible with modeling programs

Optical Specifications

Operating Wavelength (nominal)
Mode Field Diameter (MFD)
Peak Absorption near 1530 nm
Peak Absorption near 980 nm
Core Attenuation @ 1200 nm
Second Mode Cut-Off
Numerical Aperture (nominal)

EDFL-980-HP

L-Band
$5.5 \pm 0.5 \mu\text{m} @ 1550 \text{ nm}$
$25 \pm 2 \text{ dB/m}$
$\geq 7.0 \text{ dB/m}$
$\leq 15.0 \text{ dB/km}$
$920 \pm 50 \text{ nm}$
0.25

EDFL-980-HP-80

L-Band
$5.5 \pm 0.5 \mu\text{m} @ 1550 \text{ nm}$
$25 \pm 2 \text{ dB/m}$
$\geq 7.0 \text{ dB/m}$
$\leq 15.0 \text{ dB/km}$
$920 \pm 50 \text{ nm}$
0.25

EDFL-1480-HP

L-Band
$5.3 \pm 0.5 \mu\text{m} @ 1550 \text{ nm}$
$30 \pm 3 \text{ dB/m}$
$15 \pm 3 \text{ dB/m}$
$\leq 15.0 \text{ dB/km}$
$1420 \pm 50 \text{ nm}$
0.25

Geometrical & Mechanical Specifications

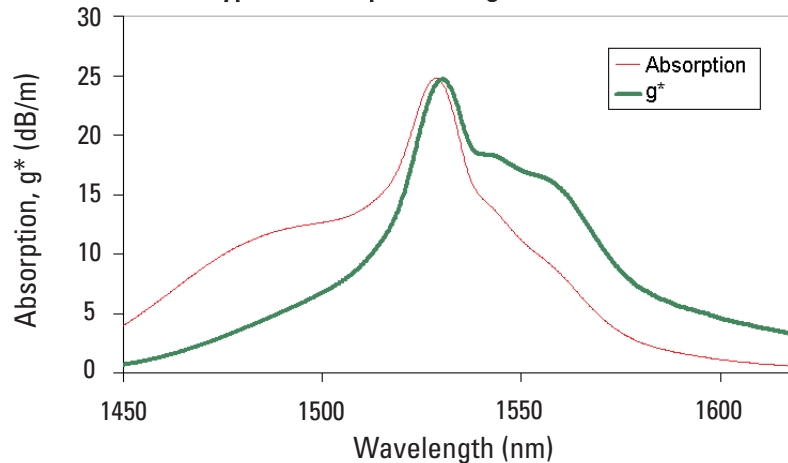
Clad Diameter
Coating Diameter
Core-Clad Concentricity
Coating/Clad Offset
Proof Test Level
Coating Material
Operating Temperature

$125.0 \pm 1.0 \mu\text{m}$
$245 \pm 10 \mu\text{m}$
$< 0.3 \mu\text{m}$
$\leq 5 \mu\text{m}$
$\geq 200 \text{ kpsi} (1.4 \text{ GN/m}^2)$
UV Cured, Dual Acrylate
- 40 to +85°C

$80.0 \pm 1.0 \mu\text{m}$
$165 \pm 10 \mu\text{m}$
$< 0.3 \mu\text{m}$
$\leq 5 \mu\text{m}$
$\geq 200 \text{ kpsi} (1.4 \text{ GN/m}^2)$
UV Cured, Dual Acrylate
- 40 to +85°C

$125.0 \pm 1.0 \mu\text{m}$
$245 \pm 10 \mu\text{m}$
$\leq 0.3 \mu\text{m}$
$\leq 5 \mu\text{m}$
$\geq 200 \text{ kpsi} (1.4 \text{ GN/m}^2)$
UV Cured, Dual Acrylate
- 40 to +85°C

Typical Absorption and g^* for EDFL-980-HP



RoHS



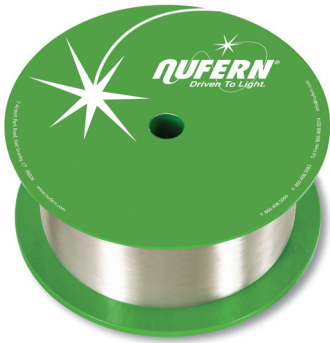
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C-Band Erbium Doped Fiber



Nufer's high performance C-Band Erbium-Doped 980-HP Fibers (EDFC-980-HP and EDFC-980C-HP-80) are designed for use in single and multi-channel C-band amplifiers and ASE sources. The 80 μm version is suitable for small form-factor amplifiers and metro amps. Both types can be powered with 980 nm or 1480 nm pumps. All Nufern erbium-doped fibers are fabricated with a proprietary technology and have highly consistent and reproducible spectroscopy.

Typical Applications

- Single and multi-channel C-band amplifiers
- ASE sources
- Small form factor amps
- Metro amps

Features & Benefits

- Highly consistent and reproducible spectroscopy — high manufacturing yields when matching to a GFF
- Excellent core concentricity — low splice loss to single-mode fibers
- High aluminum concentration — inherent gain flatness

Optical Specifications

Operating Wavelength (nominal)	C-Band
Mode Field Diameter @ 1550 nm	$5.8 \pm 0.5 \mu\text{m}$
Peak Absorption near 1530 nm	$6.0 \pm 1.0 \text{ dB/m}$
Peak Absorption near 980 nm	$\geq 3 \text{ dB/m}$
Loss @ 1200 nm	$\leq 10 \text{ dB/km}$
Second Mode Cut-Off	$920 \pm 50 \text{ nm}$
Saturation Power @ 1530 nm (nominal)	0.18 mW
Numerical Aperture (nominal)	0.23

EDFC-980-HP

Operating Wavelength (nominal)	C-Band
Mode Field Diameter @ 1550 nm	$5.8 \pm 0.5 \mu\text{m}$
Peak Absorption near 1530 nm	$6.0 \pm 1.0 \text{ dB/m}$
Peak Absorption near 980 nm	$\geq 3 \text{ dB/m}$
Loss @ 1200 nm	$\leq 10 \text{ dB/km}$
Second Mode Cut-Off	$920 \pm 50 \text{ nm}$
Saturation Power @ 1530 nm (nominal)	0.18 mW
Numerical Aperture (nominal)	0.23

EDFC-980-HP-80

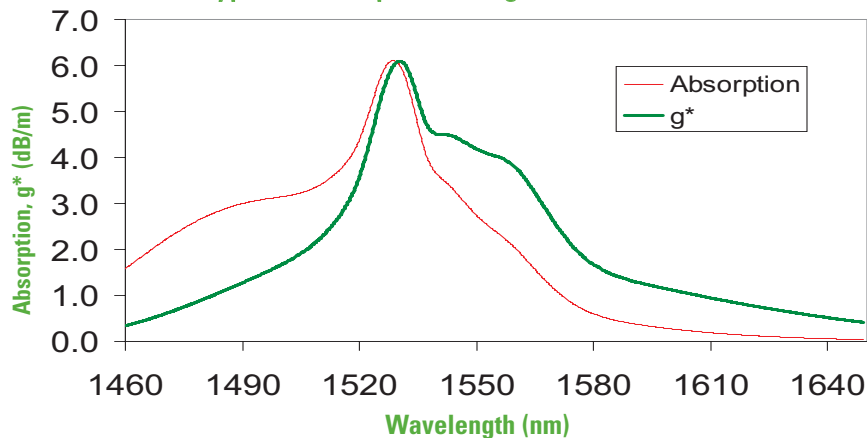
Operating Wavelength (nominal)	C-Band
Mode Field Diameter @ 1550 nm	$5.8 \pm 0.5 \mu\text{m}$
Peak Absorption near 1530 nm	$6.0 \pm 1.0 \text{ dB/m}$
Peak Absorption near 980 nm	$\geq 3 \text{ dB/m}$
Loss @ 1200 nm	$\leq 10 \text{ dB/km}$
Second Mode Cut-Off	$920 \pm 50 \text{ nm}$
Saturation Power @ 1530 nm (nominal)	0.18 mW
Numerical Aperture (nominal)	0.23

Geometrical & Mechanical Specifications

Clad Diameter	$125.0 \pm 1.0 \mu\text{m}$
Coating Diameter	$245 \pm 10 \mu\text{m}$
Core-Clad Concentricity	$< 0.3 \mu\text{m}$
Coating/Clad Offset	$\leq 5 \mu\text{m}$
Coating Material	UV Cured, Dual Acrylate
Operating Temperature	- 40 to +85° C
Proof Test Level	$\geq 200 \text{ kpsi (1.4 GN/m}^2\text{)}$

Clad Diameter	$80.0 \pm 1.0 \mu\text{m}$
Coating Diameter	$165 \pm 10 \mu\text{m}$
Core-Clad Concentricity	$< 0.3 \mu\text{m}$
Coating/Clad Offset	$\leq 5 \mu\text{m}$
Coating Material	UV Cured, Dual Acrylate
Operating Temperature	- 40 to +85° C
Proof Test Level	$\geq 200 \text{ kpsi (1.4 GN/m}^2\text{)}$

Typical Absorption and g^* for EDFC-980-HP



RoHS

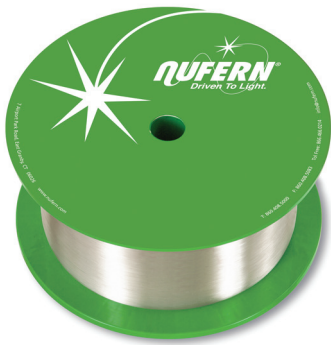


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C-Band & L-Band Photosensitive Erbium-Doped Fiber

Nufern's high performance PS-ESF-3/125 is the ideal fiber for distributed feedback (DFB) and distributed Bragg reflector (DBR) lasers. Engineered to be inherently photosensitive, these fibers enable short device lengths and good pump conversion efficiency. Variants of this fiber with higher gain and/or photosensitivity are available upon request as custom products.

Typical Applications

- Ultra-short very narrow linewidth all-optical DFB and DBR lasers

Features & Benefits

- Inherently photosensitive with moderate Er dopant concentration—Enables short length devices with a superimposed fiber grating structure
- High efficiency—Good conversion of pump to signal power
- Perfectly matched passive fiber available—Facilitates the construction of fiber-based components and pigtails with low pump and signal coupling losses

Optical Specifications

Operating Wavelength (nominal)	C-Band and L-Band
Mode Field Diameter (MFD)	$5.0 \pm 1.0 \mu\text{m}$ @ 1550 nm
Peak Absorption near 1530 nm	$8.5 \pm 1.0 \text{ dB/m}$
Second Mode Cut-Off	$920 \pm 50 \text{ nm}$
Numerical Aperture (nominal)	0.28

Geometrical & Mechanical Specifications

Clad Diameter	$125.0 \pm 1.0 \mu\text{m}$
Coating Diameter	$245 \pm 15 \mu\text{m}$
Core-Clad Concentricity	$< 0.5 \mu\text{m}$
Coating/Clad Offset	$\leq 5 \mu\text{m}$
Proof Test Level	$\geq 100 \text{ kpsi}$ (0.7 GN/m^2)
Core Composition	Erbium-doped, Photosensitive
Coating Material	UV Cured, Dual Acrylate
Operating Temperature	- 40 to +85° C

PS-ESF-3/125

C-Band and L-Band

$5.0 \pm 1.0 \mu\text{m}$ @ 1550 nm

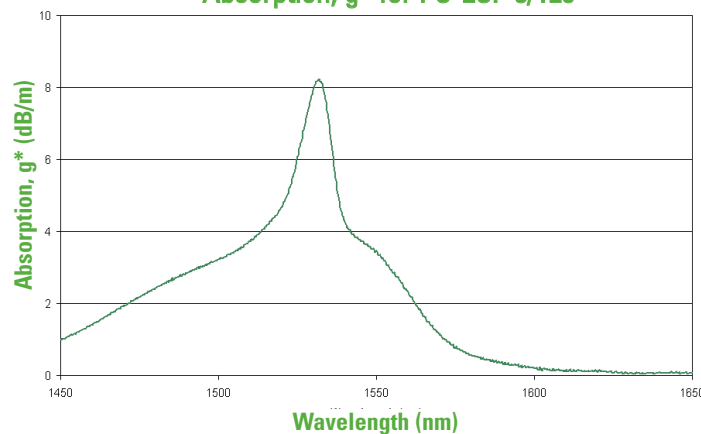
$8.5 \pm 1.0 \text{ dB/m}$

$920 \pm 50 \text{ nm}$

0.28

Note: The passive version of this fiber, PS-GSF-3/125, is also available.

Absorption, g^* for PS-ESF-3/125



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