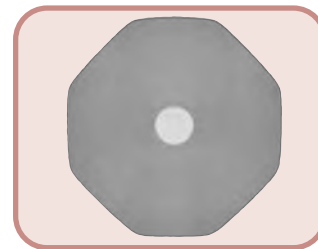


Highly Doped Er Fibers, 1.53 - 1.61 μm (Page 1 of 2)

Thorlabs offers a wide range of highly doped erbium fibers suitable for fiber lasers and amplifiers operating in the 1.53 to 1.61 μm wavelength region. These fibers are utilized in a broad range of applications including telecommunication amplifiers (EDFAs), high-power PON/CATV boosters, and ultra-short pulse amplifiers used in instrumentation, industrial, and medical applications.



Structure of Octagonal ER Fibers

Highly Er-Doped Fiber Specifications

ITEM#	RECOMMENDED OPERATING λ	PEAK CORE ABSORPTION	MFD	CLADDING DIAMETER	COATING DIAMETER	CUTOFF WAVELENGTH	NA
ER16-8/125	C-Band	16 ± 2 dB/m	9.5 ± 0.8 μm	125 ± 2 μm	245 ± 15 μm	1100-1400 nm	0.13 ± 0.02
ER30-4/125	C- and L-Bands	30 ± 3 dB/m	6.5 ± 0.5 μm	125 ± 2 μm	245 ± 15 μm	800-980 nm	0.2 ± 0.02
ER60-40/140DC	C- and L-Bands	60 ± 6 dB/m	40 ± 3 μm^*	140 ± 5 μm	245 ± 15 μm	—	0.09
ER80-4/125	C- and L-Bands	80 ± 8 dB/m	6.5 ± 0.5 μm	125 ± 2 μm	245 ± 15 μm	800-980 nm	0.2
ER80-8/125	C- and L-Bands	80 ± 8 dB/m	9.5 ± 0.5 μm	125 ± 2 μm	245 ± 15 μm	1100-1400 nm	0.13
ER110-4/125	C- and L-Bands	110 ± 10 dB/m	6.5 ± 0.5 μm	125 ± 2 μm	245 ± 15 μm	800-980 nm	0.2

Large-Mode-Area Erbium Doped Fiber

ER16-8/125

Liekki ER16-8/125 is a single mode fiber suitable for high-power output amplifiers (output power of 25 dBm or more). Good spliceability, excellent power conversion efficiency, excellent spectral reproducibility, and consistency make this fiber an ideal choice for today's high-power output amplifiers for CATV and PON applications.

Optical Characteristics

- **Peak Core Absorption at 1530 nm:** 16 ± 2 dB/m
- **Mode Field Diameter at 1550 nm:** 9.5 ± 0.8 μm
- **Core Numerical Aperture:** 0.13 ± 0.02
- **Fiber Cutoff Wavelength:** 1100 - 1400 nm

ER30-4/125

Liekki ER30-4/125 is a highly doped single mode fiber designed for C- and L-Band amplifiers and ASE sources. This fiber has demonstrated the highest power conversion efficiency available in the L-Band, achieving more than 50% for a typical fiber length of 20 m.

Optical Characteristics

- **Peak Core Absorption at 1530 nm:** 30 ± 3 dB/m
- **Mode Field Diameter at 1550 nm:** 6.5 ± 0.5 μm
- **Core Numerical Aperture:** 0.2 ± 0.02
- **Fiber Cutoff Wavelength:** 800 - 980 nm

Large-Mode-Area Erbium Doped Fiber

ER60-40/140DC

Liekki ER60-40/140DC fiber is a large-mode-area, Erbium-doped, multimode fiber suitable for medium power amplifiers and lasers. This fiber is ideally suited for compact, eye-safe devices in the 1500 to 1600 nm spectral region. Both 980 nm and 1480 nm laser diodes may be used for pump sources.

Optical Characteristics

- **Peak Core Absorption at 1530 nm:** 60 ± 6 dB/m
- **Peak Cladding Absorption at 1530 nm:** 4.6 ± 1 dB/m
- **Core Diameter:** 40 ± 3 μm
- **Core Numerical Aperture:** 0.09
- **Cladding Numerical Aperture:** >0.46

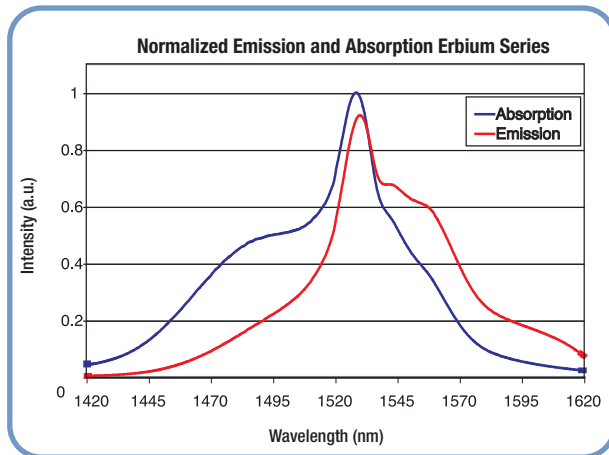
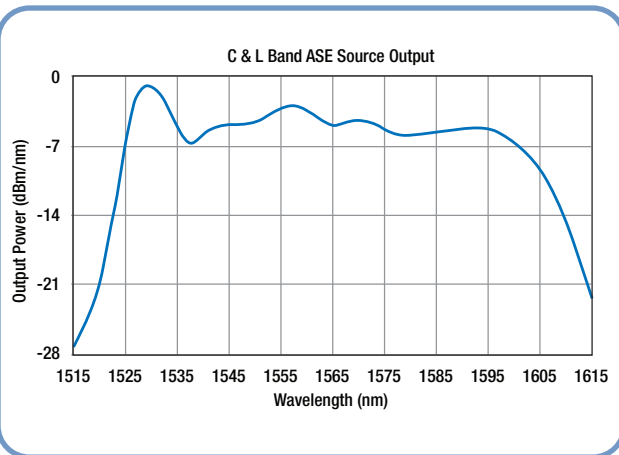
ER80-4/125

Liekki ER80-4/125 is a highly doped fiber for fiber lasers and amplifiers. It has a very high erbium concentration that minimizes the required application fiber length while providing strong gain and reduced nonlinear effects.

Optical Characteristics

- **Peak Core Absorption at 1530 nm:** 80 ± 8 dB/m
- **Mode Field Diameter at 1550 nm:** 6.5 ± 0.5 μm
- **Core Numerical Aperture:** 0.2
- **Fiber Cutoff Wavelength:** 800 - 980 nm

Highly Doped Er Fibers, 1.53-1.61 μm (Page 2 of 2)



Large-Mode-Area Erbium Doped Fiber

ER80-8/125

Liekki ER80-8/125 is a highly doped, single mode fiber suitable for high-power amplifiers and lasers (output power of 25 dBm or more). Good spliceability, high doping, and a large core make this fiber ideal for high-peak-power pulse amplification in the eye-safe 1.5 μm wavelength region.

Optical Characteristics

- **Peak Core Absorption at 1530 nm:** 80 ± 8 dB/m
- **Mode Field Diameter at 1550 nm:** 9.5 ± 0.5 μm
- **Core Numerical Aperture:** 0.13
- **Fiber Cutoff Wavelength:** 1100 - 1400 nm

ER110-4/125

Liekki ER110-4/125 is a highly doped single mode fiber for ultra-short pulse amplifiers operating in the 1500 nm wavelength region. It has a very high erbium concentration that minimizes the required application fiber length while providing strong gain and reduced nonlinear effects.

Optical Characteristics

- **Peak Core Absorption at 1530 nm:** 110 ± 10 dB/m
- **Mode Field Diameter at 1550 nm:** 6.5 ± 0.5 μm
- **Core Numerical Aperture:** 0.2
- **Fiber Cutoff Wavelength:** 800 - 980 nm

ITEM#	PRICE/m*	\$	£	€	RMB
ER16-8/125	1 to 9 m	\$ 75.80	£ 52.30	€ 67.45	¥ 639.80
	10 to 49 m	\$ 64.45	£ 44.45	€ 57.35	¥ 544.00
	50 to 249 m	\$ 56.85	£ 39.25	€ 50.60	¥ 479.90
ER30-4/125	1 to 9 m	\$ 22.30	£ 15.40	€ 19.85	¥ 188.30
	10 to 49 m	\$ 18.95	£ 13.10	€ 16.85	¥ 160.00
	50 to 249 m	\$ 16.75	£ 11.55	€ 14.90	¥ 141.40
ER60-40/140DC	1 to 9 m	\$ 490.00	£ 338.10	€ 436.10	¥ 4,135.60
	10 to 49 m	\$ 441.00	£ 304.30	€ 392.50	¥ 3,722.10
	50 to 249 m	\$ 392.00	£ 270.50	€ 348.90	¥ 3,308.50
ER80-4/125	1 to 9 m	\$ 99.00	£ 68.30	€ 88.10	¥ 835.60
	10 to 49 m	\$ 84.15	£ 58.05	€ 74.90	¥ 710.30
	50 to 249 m	\$ 69.30	£ 47.80	€ 61.70	¥ 584.90
ER80-8/125	1 to 9 m	\$ 99.00	£ 68.30	€ 88.10	¥ 835.60
	10 to 49 m	\$ 84.15	£ 58.05	€ 74.90	¥ 710.30
	50 to 249 m	\$ 69.30	£ 47.80	€ 61.70	¥ 584.90
ER110-4/125	1 to 9 m	\$ 99.00	£ 68.30	€ 88.10	¥ 835.60
	10 to 49 m	\$ 84.15	£ 58.05	€ 74.90	¥ 710.30
	50 to 249 m	\$ 74.25	£ 51.25	€ 66.10	¥ 626.70

*Call for Quantities Over 250 m