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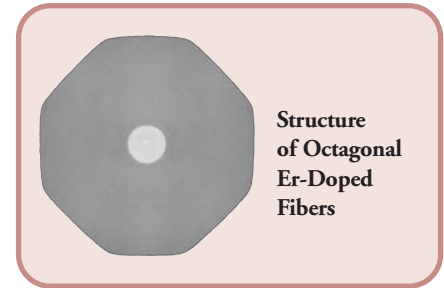
MM Fiber

Plastic Optical Fiber

**Highly Doped Er Fibers, 1.53 - 1.61  $\mu\text{m}$  (Page 1 of 2)****Features and Benefits**

- Excellent Geometric Properties Provide Very Low Birefringence and Excellent Splice Characteristics
- Core/Clad Concentricity:  $\leq 0.5 \mu\text{m}$
- Dual Acrylate Coating
- Splice Loss to SM Fiber of Pump Laser:  $\leq 0.1 \text{ dB}$
- Splice Loss to SMF-28e+ Fiber:  $\leq 0.15 \text{ dB}$

Thorlabs offers a wide range of highly doped erbium fibers suitable for fiber lasers and amplifiers operating in the 1.53 to 1.61  $\mu\text{m}$  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.

**Highly Doped Er Fiber Specifications**

ITEM #	RECOMMENDED OPERATING $\lambda$	PEAK CORE ABSORPTION*	MFD**	CLADDING DIAMETER	COATING DIAMETER	CUTOFF WAVELENGTH	NA
ER16-8/125	C-Band	$16 \pm 2 \text{ dB/m}$	$9.5 \pm 0.8 \mu\text{m}$	$125 \pm 2 \mu\text{m}$	$245 \pm 15 \mu\text{m}$	1100 - 1400 nm	0.13
ER30-4/125	C- and L-Bands	$30 \pm 3 \text{ dB/m}$	$6.5 \pm 0.5 \mu\text{m}$			800 - 980 nm	0.2
ER80-4/125		$80 \pm 8 \text{ dB/m}$	$6.5 \pm 0.5 \mu\text{m}$			800 - 980 nm	0.2
ER80-8/125		$80 \pm 8 \text{ dB/m}$	$9.5 \pm 0.8 \mu\text{m}$			1100 - 1400 nm	0.13
ER110-4/125		$110 \pm 10 \text{ dB/m}$	$6.5 \pm 0.5 \mu\text{m}$			800 - 980 nm	0.2

\* @ 1530 nm

\*\* Mode Field Diameter @ 1550 nm

**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:**  $16 \pm 2 \text{ dB/m}$
- **Mode Field Diameter at 1550 nm:**  $9.5 \pm 0.8 \mu\text{m}$
- **Core Numerical Aperture:** 0.13
- **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:**  $30 \pm 3 \text{ dB/m}$
- **Mode Field Diameter at 1550 nm:**  $6.5 \pm 0.5 \mu\text{m}$
- **Core Numerical Aperture:** 0.2
- **Fiber Cutoff Wavelength:** 800 - 980 nm

**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:**  $80 \pm 8 \text{ dB/m}$
- **Mode Field Diameter at 1550 nm:**  $6.5 \pm 0.5 \mu\text{m}$
- **Core Numerical Aperture:** 0.2
- **Fiber Cutoff Wavelength:** 800 - 980 nm

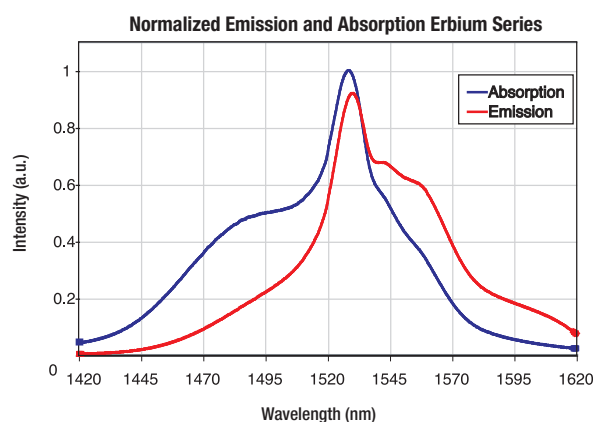
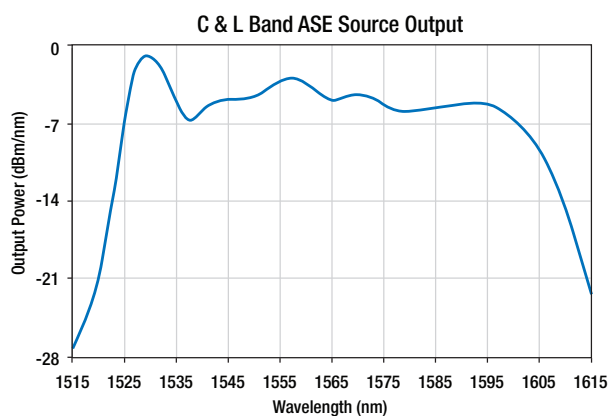
**Large-Mode-Area Erbium Doped Fiber****ER80-8/125**

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  $\mu\text{m}$  wavelength region.

**Optical Characteristics**

- **Peak Core Absorption at 1530 nm:**  $80 \pm 8 \text{ dB/m}$
- **Mode Field Diameter at 1550 nm:**  $9.5 \pm 0.8 \mu\text{m}$
- **Core Numerical Aperture:** 0.13
- **Fiber Cutoff Wavelength:** 1100 - 1400 nm

## Highly Doped Er Fibers, 1.53-1.61 $\mu\text{m}$ (Page 2 of 2)



### 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:**  $110 \pm 10$  dB/m
- **Mode Field Diameter at 1550 nm:**  $6.5 \pm 0.5$   $\mu\text{m}$
- **Core Numerical Aperture:** 0.2
- **Fiber Cutoff Wavelength:** 800 - 980 nm

ITEM #	PRICE/m*	\$	£	€	RMB
ER16-8/125	1 to 9 m	\$ 75.80	£ 54.58	€ 65,95	¥ 604.13
	10 to 49 m	\$ 64.43	£ 46.39	€ 56,06	¥ 513.51
ER30-4/125	1 to 9 m	\$ 22.30	£ 16.06	€ 19,41	¥ 177.74
	10 to 49 m	\$ 18.96	£ 13.65	€ 16,50	¥ 151.08
ER80-4/125	1 to 9 m	\$ 99.00	£ 71.28	€ 86,13	¥ 789.03
	10 to 49 m	\$ 84.15	£ 60.59	€ 73,22	¥ 670.68
ER80-8/125	1 to 9 m	\$ 99.00	£ 71.28	€ 86,13	¥ 789.03
	10 to 49 m	\$ 84.15	£ 60.59	€ 73,22	¥ 670.68
ER110-4/125	1 to 9 m	\$ 99.00	£ 71.28	€ 86,13	¥ 789.03
	10 to 49 m	\$ 84.15	£ 60.59	€ 73,22	¥ 670.68

\*Call for Quantities Over 50 m

## Need a Custom Patch Cable Quickly?



Thorlabs is pleased to offer same-day shipping service for small lots of custom patch cables assembled using our standard fibers. We stock many of our more popular fibers with protective jacketing in bulk, allowing us to assemble custom length patch cables the same day they are requested. Additionally, we stock the largest selection of single mode and multimode optical fibers in the photonics industry.



For Details, Contact Technical Support at [techsupport@thorlabs.com](mailto:techsupport@thorlabs.com)