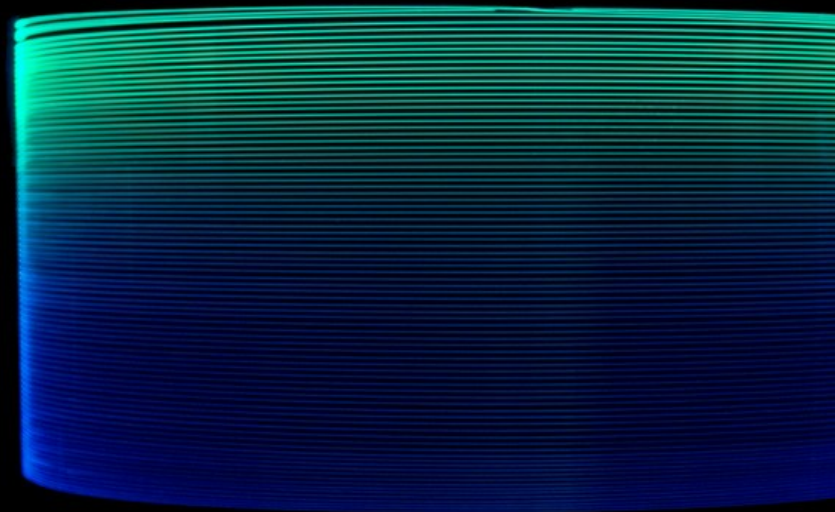


LIEKKI® passive fibers are especially designed and manufactured to match the optical guiding properties of LIEKKI® large mode area Ytterbium doped fibers. This enables optimal mode coupling with minimal splice loss for maintaining the power and excellent beam quality between all elements of a fiber laser or amplifier. High-quality Fiber Bragg Gratings can be written into all LIEKKI® passive fibers.

LIEKKI® passive fibers are available in single cladding, double cladding (DC), single cladding polarization maintaining (PM) and double cladding polarization maintaining configurations.



## Features

- *real*NA — most accurate fiber core NA to enable superior predictability of fiber performance and minimal splice loss
- Matching with industry standard active fiber geometries 125, 250, 400  $\mu\text{m}$
- Glass cladding diameter is designed to “fit-in” octagonal active fibers
- Low signal and pump coupling losses from passive to active fiber
- Single cladding fibers feature a dual coated high-index acrylate coating
- Double cladding fibers feature a  $\text{NA} \geq 0.48$  low-index fluoroacrylate coating, which is proven to operate up to  $120^\circ\text{C}$  and in extreme humidity.
- Fiber Bragg Gratings can be written into all large mode area passive fibers

## Applications

- Pigtails for fiber lasers and amplifiers
- All-fiber subassemblies
- High brightness power delivery
- Fiber based components for fiber lasers (e.g. pump combiners; FBGs)

## Typical Fiber Specifications

LIEKKI® Passive Fiber	Core <sup>1</sup> $\pm$	Cladding <sup>1</sup> $\pm$	Coating <sup>1</sup> $\pm$	Core NA <sup>2</sup> $\pm$	Cladding NA, $\geq$	Birefringence, $\geq$	Proof test <sup>3</sup> , $\geq$	Matching Active Fiber
Passive-6/125 <sup>4</sup>	7 0.5	125 2	245 15	0.12 (nominal)	-	-	100	Yb300-6/125(-PM) Yb1200-6/125DC
Passive-6/125DC <sup>4</sup>	7 0.5	125 2	245 15	0.120 (nominal)	0.48	-	100	Yb1200-6/125DC
Passive-6/125DC-PM <sup>4,5</sup>	7 0.5	125 2	245 15	0.120 (nominal)	0.48	2.0E-04	100	Yb1200-6/125DC-PM
Passive-10/125	10 1.0	125 2	245 15	0.080 0.005	-	-	100	Yb1200-10/125DC
Passive-10/125-PM <sup>5</sup>	10 1.0	125 2	245 15	0.080 0.005	-	1.4E-04	100	Yb1200-10/125DC-PM
Passive-10/125DC	10 1.0	125 2	245 15	0.080 0.005	0.48	-	100	Yb1200-10/125DC
Passive-10/125DC-PM <sup>5</sup>	10 1.0	125 2	245 15	0.080 0.005	0.48	1.4E-04	100	Yb1200-10/125DC-PM

<sup>1</sup> Core, cladding and coating diameters specified in  $\mu\text{m}$ .

<sup>2</sup> *real*NA

<sup>3</sup> Proof test level specified in kpsi.

<sup>4</sup> Core diameter specification refers to the far-field mode field diameter at 1060 nm.

<sup>5</sup> Cladding size refers to average cladding diameter; Maximum cladding diameter  $\leq 128 \mu\text{m}$

LIEKKI® Passive Fiber	Core <sup>1</sup> ±	Cladding <sup>1</sup> ±	Coating <sup>1</sup> ±	Core NA <sup>2</sup> ±	Cladding NA, ≥	Birefringence, ≥	Proof test <sup>3</sup> , ≥	Matching Active Fiber
Passive-12/125	12.5 1.0	125 2	245 15	0.080 0.005	-	-	100	Yb1200-12/125DC
Passive-12/125-PM <sup>4</sup>	12.5 1.0	125 2	245 15	0.080 0.005	-	1.6E-04	100	Yb1200-12/125DC-PM
Passive-12/125DC	12.5 1.0	125 2	245 15	0.080 0.005	0.48	-	100	Yb1200-12/125DC
Passive-12/125DC-PM <sup>4</sup>	12.5 1.0	125 2	245 15	0.080 0.005	0.48	1.6E-04	100	Yb1200-12/125DC-PM
Passive-20/125	20 1.5	125 2	245 15	0.080 0.005	-	-	100	Yb700-20/125DC Yb1200-20/125DC
Passive-20/125-PM <sup>4</sup>	20 1.5	125 2	245 15	0.080 0.005	-	0.8E-04	100	Yb1200-20/125DC-PM
Passive-20/125DC	20 1.5	125 2	245 15	0.080 0.005	0.48	-	100	Yb700-20/125DC Yb1200-20/125DC
Passive-20/125DC-PM <sup>4</sup>	20 1.5	125 2	245 15	0.080 0.005	0.48	0.8E-04	100	Yb1200-20/125DC-PM
Passive-12/250	12.5 1.0	250 5	350 15	0.080 0.005	-	-	100	Yb1200-12/250DC
Passive-12/250DC	12.5 1.0	250 5	350 15	0.080 0.005	0.48	-	100	Yb1200-12/250DC
Passive-14/250	14 1.0	250 5	350 15	0.070 0.005	-	-	100	Yb1200-14/250DC
Passive-14/250DC	14 1.0	250 5	350 15	0.070 0.005	0.48	-	100	Yb1200-14/250DC
Passive-25/250	25 1.5	250 5	350 15	0.070 0.005	-	-	100	Yb700-25/250DC Yb1200-25/250DC
Passive-25/250-PM	25 1.5	250 5	350 15	0.070 0.005	-	1.6E-04	100	Yb700-25/250DC-PM Yb1200-25/250DC-PM
Passive-25/250DC	25 1.5	250 5	350 15	0.070 0.005	0.48	-	100	Yb700-25/250DC Yb1200-25/250DC
Passive-25/250DC-PM	25 1.5	250 5	350 15	0.070 0.005	0.48	1.6E-04	100	Yb700-25/250DC-PM Yb1200-25/250DC-PM
Passive-30/250	30 2.0	250 5	350 15	0.070 0.005	-	-	100	Yb700-30/250DC Yb1200-30/250DC
Passive-30/250-PM	30 2.0	250 5	350 15	0.070 0.005	-	1.6E-04	100	Yb700-30/250DC-PM Yb1200-30/250DC-PM
Passive-30/250DC	30 2.0	250 5	350 15	0.070 0.005	0.48	-	100	Yb700-30/250DC Yb1200-30/250DC
Passive-30/250DC-PM	30 2.0	250 5	350 15	0.070 0.005	0.48	1.6E-04	100	Yb700-30/250DC-PM Yb1200-30/250DC-PM
Passive-20/400 (Yb800)	20 1.5	400 5	520 15	0.068 0.005	-	-	100	Yb800-20/400DC
Passive-20/400 (Yb1200)	20 1.5	400 5	520 15	0.070 0.005	-	-	100	Yb1200-20/400DC
Passive-20/400-PM (Yb1200)	20 1.5	400 5	520 15	0.070 0.005	-	1.6E-04	50	Yb1200-20/400DC-PM
Passive-20/400DC (Yb800)	20 1.5	400 5	520 15	0.068 0.005	0.48	-	100	Yb800-20/400DC
Passive-20/400DC (Yb1200)	20 1.5	400 5	520 15	0.070 0.005	0.48	-	100	Yb1200-20/400DC
Passive-20/400DC-PM (Yb1200)	20 1.5	400 5	520 15	0.070 0.005	0.48	1.6E-04	85	Yb1200-20/400DC-PM
Passive-20/400DC-PM (Yb800)	20 1.5	400 5	520 15	0.068 0.005	0.48	1.4E-04	85	Yb800-20/400DC-PM

<sup>1</sup> Core, cladding and coating diameters specified in  $\mu\text{m}$ ; <sup>2</sup> *real*NA; <sup>3</sup> Proof test level specified in kpsi; <sup>4</sup> Cladding size refers to average cladding diameter; Maximum cladding diameter  $\leq 128 \mu\text{m}$