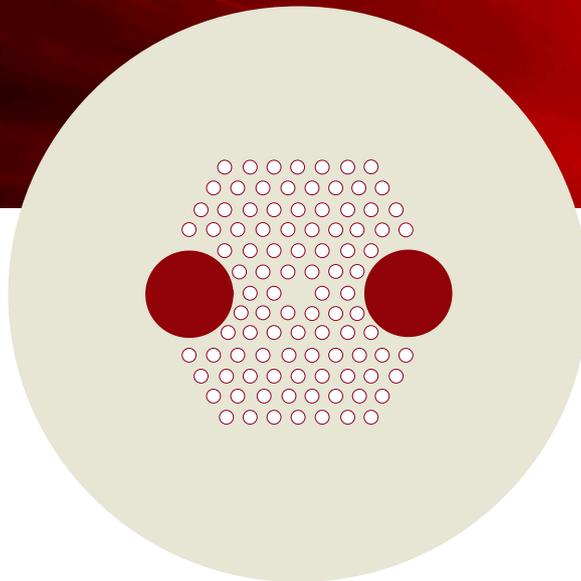


# LMA-PM fibers

Single-mode, polarization-maintaining fibers



## LOW LOSS POLARIZATION-MAINTAINING FIBERS

### Ideal for multi-wavelength transmission

Our polarization-maintaining single-mode fibers, the LMA-PM-5, the LMA-PM-10, and the LMA-PM-15 are optimized to exhibit low loss while keeping an almost constant mode field diameter.

The fiber is endlessly single-mode (i.e. it has no higher order mode cut-off) and delivers excellent mode quality at all wavelengths.

### Applications

- Mode filtering
- Short pulse delivery
- Multi-wavelength transmission
- Single-mode polarization-maintaining pigtailling
- Single-mode polarization-maintaining short wavelength delivery

# LMA-PM FIBERS

## Low loss and constant mode field diameter

Our polarization-maintaining single-mode fibers - the LMA-PM-5, the LMA-PM-10, and the LMA-PM-15 - are all optimized to exhibit low loss.

The fibers present a low-loss in a wide wavelength window:

- LMA-PM-5: Low-loss fiber from 400 - 1200 nm
- LMA-PM-10: Low-loss fiber from 500 - 1700 nm
- LMA-PM-15: Low-loss fiber from 600 - 1700 nm

## The LMA-PM-5 has a standard outer diameter

The LMA-PM-5 fiber has a standard 125  $\mu\text{m}$  outer diameter and is compatible with all common fiber tools.

## Also available in a non-polarization-maintaining version

All three fibers are also available in a non polarization-maintaining version.

## Features

- Low-loss
- Polarization-maintaining
- Single-mode at all wavelengths
- Radiation hard pure silica fiber
- Wavelength independent mode-field diameter

# SPECIFICATIONS

## Optical

Model	LMA-PM-5	LMA-PM-10	LMA-PM-15
Single-mode cut-off wavelength <sup>1)</sup>	None	None	None
Attenuation [dB/km]			
@ 532 nm	< 40 <sup>2)</sup>	< 25 <sup>2)</sup>	-
@ 632 nm	< 20	< 15	-
@ 1064 nm	< 7	< 5	< 10
Mode-field diameter, $1/e^2$ [ $\mu\text{m}$ ]			
@ 532 nm	$4.2 \pm 0.5$	$8.4 \pm 1.0$	$12.2 \pm 1.5$
@ 1064 nm	$4.4 \pm 0.5$	$8.6 \pm 1.0$	$12.6 \pm 1.5$
NA (5%)			
@ 532 nm	-	-	$0.04 \pm 0.02$
@ 1064 nm	0.20 typical	$0.12 \pm 0.02$	$0.07 \pm 0.02$
Birefringence $\Delta n$ @ 1064 nm	$\geq 1.5 \times 10^{-4}$	$\geq 1.4 \times 10^{-4}$	$\geq 1.3 \times 10^{-4}$
Polarization Extinction Ratio <sup>3)</sup> [dB]	$\geq 18$	$\geq 18$	$\geq 18$

1) TIA-445-80-C standard.

2) 16 cm bend diameter.

3) AKA PXtalk on a 2 m sample.

## Mechanical

Model	LMA-PM-5	LMA-PM-10	LMA-PM-15
Core diameter [ $\mu\text{m}$ ]	$5.0 \pm 0.5$	$10.0 \pm 0.5$	$14.8 \pm 0.8$
Outer cladding diameter [ $\mu\text{m}$ ]	$125 \pm 2$	$230 \pm 5$	$230 \pm 5$
Coating diameter [ $\mu\text{m}$ ]	$245 \pm 10$	$350 \pm 10$	$350 \pm 10$
Core and cladding material	Pure silica	Pure silica	Pure silica
Coating material, single-layer	Acrylate	Acrylate	Acrylate
Coating concentricity [ $\mu\text{m}$ ]	< 10	< 10	< 10
Proof test level [%]	0.5	0.33	0.33

All NKT Photonics fiber products are produced under our quality management system certified in accordance with the ISO 9001:2015 standard.