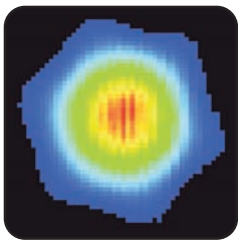
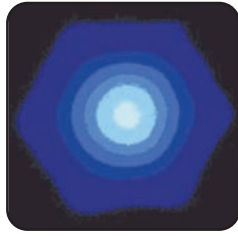


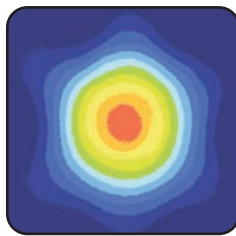
Single Mode, Large-Mode-Area, Photonic Crystal Fiber



LMA-20



LMA-25



LMA-35

Near-Field Intensity Profiles

LMA-20: at 635 nm

LMA-25: with White Light

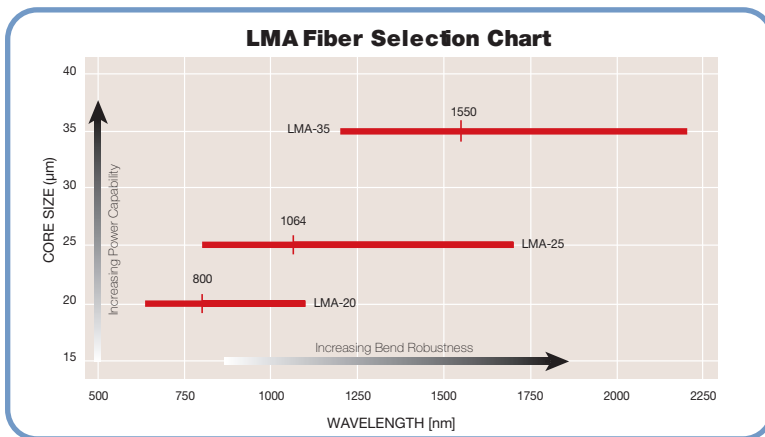
LMA-35: at 635 nm

Thorlabs offers a selection of Endlessly Single Mode (ESM), Large-Mode-Area (LMA) Photonic Crystal Fibers (PCFs), including Polarization-Maintaining (PM) versions (see page 1048). A conventional single mode fiber is actually multimode for wavelengths shorter than the second-mode cutoff wavelength, limiting the useful operating wavelength range in many applications. In contrast, NKT Photonics' endlessly single mode PCFs are truly single mode at all wavelengths for which fused silica is transparent.

In practice, the useful operating wavelength range is limited only by bend loss. Although the cladding possesses six-fold symmetry, the mode profile is very similar to the quasi-Gaussian fundamental

mode of a conventional, axially symmetric, step-index fiber, resulting in a form overlap that is >90%. Unlike conventional fibers, these fibers are fabricated from a single material: undoped, high-purity, fused silica glass. The combination of material and very large mode area enables high power levels to be transmitted through the fiber without material damage or the adverse effects caused by the fiber's nonlinear properties.

The fibers can be spliced to standard single mode fibers or directly connectorized with standard FC/PC connectors or SMA 905 high power connectors. They can also be offered with end sealing or connectors as a custom item. Please contact your local Tech Support office for details or to receive a quotation.



Features

- Very High Average Power and Peak Power Handling Capability
- Low Nonlinearities
- Low Fiber Attenuation
- Endlessly Single Mode Operation – No Higher Order Mode Cutoff
- Mode Field Diameter is Wavelength Independent
- Available Optimized for 780, 1064, and 1550 nm (Core Sizes of 20, 25, and 35 μm, Respectively)

Optical and Mechanical Properties

PARAMETERS	LMA-20	LMA-25	LMA-35
MFD	15.0 ± 1.5 μm	19.8 ± 2.0 μm	26.0 ± 2.5 μm
Attenuation*	<7 dB/km @ 780 nm <5 dB/km @ 1060 nm	<3.5 dB/km @ 1064 nm <1.5 dB/km @ 1550 nm	<10 dB/km @ 1550 nm
NA	0.04 ± 0.01 @ 780 nm 0.05 ± 0.01 @ 1060 nm	0.04 ± 0.01 @ 1064 nm 0.06 ± 0.01 @ 1550 nm	0.046 ± 0.01 @ 1550 nm
Core Diameter	20 ± 0.4 μm	25.2 ± 0.4 μm	35.0 ± 0.5 μm
Cladding Diameter	230 ± 5 μm	268 ± 5 μm	335 ± 5 μm
Coating Diameter	350 ± 10 μm	410 ± 10 μm	488 ± 10 μm
Coating Material	Acrylate	Acrylate	Acrylate

*Measured for bend radius of 16 cm.

ITEM #	PRICE/m	\$	£	€	RMB
LMA-20	1 to 9 m	\$ 128.00	£ 92.16	€ 111,36	¥ 1,020.16
	10 to 49 m	\$ 79.36	£ 57.14	€ 69,05	¥ 632.50
LMA-25	1 to 9 m	\$ 128.00	£ 92.16	€ 111,36	¥ 1,020.16
	10 to 49 m	\$ 79.36	£ 57.14	€ 69,05	¥ 632.50
LMA-35	1 to 9 m	\$ 128.00	£ 92.16	€ 111,36	¥ 1,020.16
	10 to 49 m	\$ 79.36	£ 57.14	€ 69,05	¥ 632.50

Applications

- High-Power Delivery
- Short Pulse Delivery
- Mode Filtering
- Laser Pigtailling
- Multi-Wavelength Guidance
- Broadband Interferometry

