



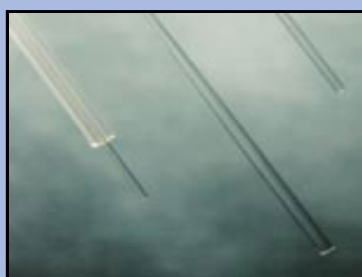
micromaterials

Crystal fiber pioneers



Products

LHPG Sapphire Fibers



Sapphire is a chemical and scratch resistant material with a melting point of 2,072°C. MMI offers LHPG grade sapphire fibers with diameter ranging from 75 to 500 μm . In addition, fibers with enlarged end(s) made possible by taper(s) are also available. This is an important feature, since the flexibility of the fiber varies as the inverse 4th power of the diameter (e.g., a 100 μm fiber is 16 times more flexible than a 200 μm fiber). The tapered fibers give the user high throughput capability without sacrificing their flexibility in both energy delivery and spectroscopy applications. PTFE jacket and/or connector(s) are available for fibers with diameter larger than 100 μm .

Sapphire Fiber Selection Chart	
Diameter	Max. Length
305 - 500 μm	50 cm
205 - 300 μm	100 cm
100 - 200 μm^*	200 cm
75 - 95 μm	100 cm
*100 μm fibers with 100 cm length (SF100-100) and 125 μm fibers with 100 cm length (SF125-100) are stock items.	

Fiber orientation	C-axis
Melting point	2,072°C
Tensile strength	2,200 MPa
Damage threshold	1.3 kJ/cm ² @ 3 μm
Numerical aperture	0.45 (300 μm fiber, 1m)
Attenuation	0.5-1.0 dB in near IR (1m, 300 μm)
Bending loss	3% for 3cm dia.loop (100 μm fiber)

Additional data available upon request

NA of Sapphire Fiber

Other Crystal Fibers

Doped Al_2O_3 , YAG, and doped YAG fibers are also available on a custom basis.

Crystalline Fibers Temperature Sensors Absorption Probes Raman Probes Diode Lasers

