

TOP® NIR-Ge Germanium-doped Quartz Fiber

Specification Datasheet · TopRays Optical Fiber

TOPRAYS' TOP® NIR-Ge fiber stands out with an extremely high numerical aperture, outstanding performance and a broad spectral range. The series offers a choice of core diameters and customizable solutions tailored to your specific needs.



Technical Parameters

Parameter	Value
Operating Temperature	-200 to +350 °C
Core Diameter	Available 20 to 1000 μm
Standard Core/Cladding Ratio	1 : 1.04 1 : 1.06 1 : 1.1 1 : 1.15 1 : 1.2 1 : 1.25 1 : 1.4 or custom
Standard Proof Test	100 kpsi (nylon, ETFE, acrylate jackets) 70 kpsi (polyimide jacket)
Minimum Bending Radius	50 × cladding diameter (short-term mechanical stress); 150 × core diameter (for high-power laser use)
Wavelength TOP® NIR-Ge	400 – 2600 nm
Numerical Aperture (NA), Standard	0.37 ± 0.02

Advantages

- Germanium-doped quartz core
- High laser-damage resistance
- Step-index profile
- Special jackets available for high-temperature, high-vacuum and highly corrosive chemical environments
- Extremely low NA expansion
- Biocompatible materials
- Sterilization by ethylene oxide (ETO) and similar methods is possible

Construction

Germanium-doped quartz glass core · fluorine-doped quartz cladding · buffer layer (if any: silicone, hard polymer) · jacket

Jacket Options

Jacket	Operating Temperature
Polyimide	-190 to +350 °C
ETFE (Tefzel®)	-40 to +150 °C
Nylon	-40 to +100 °C
Acrylate	-40 to +85 °C
DuPont Hytrel® 7246	-40 to +140 °C
Acrylate DeSolute® DF-0009	-40 to +150 °C
PFA Fluon®	-200 to +260 °C