Sapphire Optical Fiber

Photran is the world leader in the production of sapphire optical fiber. Sapphire’s unique combination of properties provides innovative solutions in the areas of Sensor Development and Laser Energy Delivery.

- High Temperature
- IR Transmission
- Chemically Inert
- High Laser Damage Threshold

Standard Fiber Core Sizes 150, 250, 325, 425 (micron). Available in up to 2 meter lengths! Special orders of up to 3 meter lengths.

www.photran.com
Sapphire Optical Fiber

Photran's single crystal sapphire fiber is available in a full range of sizes. Value added services include custom cable design and assembly, and a proprietary bending process for curved tips.

Individual Fiber or Complete Assemblies

Custom Assemblies
- Flexible Bundles
- Flexible, Durable Assemblies
- Full Delivery Systems and Hand Pieces

Design Considerations

LASER ENERGY DELIVERY - Sapphire Optical Fiber enhances the utility of numerous laser systems by providing an energy efficient, durable and flexible means of delivering the laser energy to the point of use.

- High laser damage threshold (1200 J/cm²)
- High Melting point (2053°C) enables high repetition rates and average power.
- Biocompatible, non-toxic, USP Class VI Approved (Passes both Implant and Elution)
- Flexible: bend radius as low as 20mm for 150 micron fiber diameter.

Sapphire Tips and Probes
- Straight Tips
- Curved / Bent Tips up to 90°
- Tapered Tips and Specials

SENSOR - Sapphire Optical Fiber is an ideal material for sensor applications where reliable performance is required in extreme environment conditions.

- Chemical Resistant
- Maintains integrity at high temperatures
- High transmission from visible to beyond 3 microns
- Tough and durable

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<tr>
<th>Fiber Core Diameter (micron)</th>
<th>Minimum Bend Radius (mm)</th>
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<tbody>
<tr>
<td>150</td>
<td>20</td>
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<td>250</td>
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<td>325</td>
<td>60</td>
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<tr>
<td>425</td>
<td>80</td>
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<td>Effective Numerical Aperture</td>
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