LASER COMPONENTS (UK) LTD
4 Gloucester Avenue,
Chelmsford,
Essex CM2 9LD
Telephone: +44 1245 491 499
Fax: +44 1245 491 801

Sapphire Optical Fibre

Single Crystal Sapphire Fibre and Delivery Systems for Erbium:YAG, Erbium:YSGG, and Other Surgical Lasers

Applications

- **Dentistry**
- **Ophthalmology**
- **Orthopaedics**
- **Other Endoscopic and General Surgical Uses**

Advantages

- Biocompatible, non-toxic, USP Class VI approved - passes both implant and elution test protocols
- High transmission from visible to beyond 3 micron wavelength
- Flexible - bend radius as low as 20 mm for 150 micron fibre diameter
- High strength- 400,000 psi/2.8 GPa - use of PTFE or FEP buffer further improves durability and handling
- High laser damage threshold (1200 J/cm2) and high melting point (2053°C) enable high repetition rates and average power
- Sterilisation with eto, steam/autoclave or gamma

Sapphire Fibre or Complete Delivery Systems

LCUK offers a range of customer choices:

- PTFE buffered fibres
- Flexible fibre bundles
- Trunk fibres
- Full delivery systems and hand-pieces
- Armoured assembly
- Flexible, durable assemblies
- Catheters
- Sapphire tips and probes
- Straight tips
- Curved tips up to 90 degrees
- Plastic or metal sheath for increased strength

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- Choice of terminations- SMA, Power SMA or custom assemblies

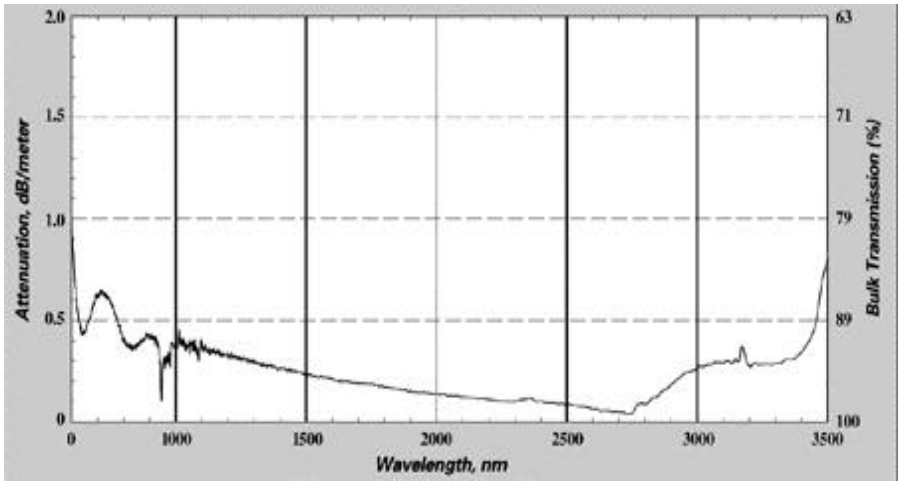
Sapphire Optical Fibre Specifications

Typical Specifications

Fibre Core Diameter (microns)	150	250	325	425
Buffer Diameter (microns)	400	450	650	750
Effective NA	0.12			
Transmission (per meter)	80%	80%	80%	80%
Minimum Bend Radius (mm)	20	30	60	80
Length - Maximum Standard	2 metres			
Length - Maximum Special Order	3 metres			

Typical Spectral Response

of sapphire optical fibre



Photran is a world leader in the production of sapphire fibre and other sapphire products for over 25 years

Sapphire Fibre Facilities and Capabilities Include:

- High volume fibre production using patented EFG method
- In-line proof testing
- Automated diamond polishing stations
- Computerised Nomarski inspection system used to assure optimum end finish
- Multiple lasers for assurance testing and certification
- Clean room fibre assembly area
- Full engineering, design and application support services