OBERON®

FIBER TECHNOLOGIES

Our World of Fibers

Product Overview

Location

Some facts about us

OBERON GmbH Fiber Technologies is one of the world's leading manufacturers of laser surgical fibers as well as special optical components for medical devices, and produces exclusively in Germany. As a certified medical device manufacturer, our products are distributed almost all over the world and we are continuously expanding our global sales structure.

Customers worldwide

182

We commit ourselves to precision, reliability and customer satisfaction

Shipped units in 2023

>32.000

Production area

>1600 m²

Modular ISO class-7 cleanroom

150 m²

Design and production exclusively in

Wildau, Germany

Assembling operators

40

State-of-the-art production equipment and technology

Experience

>20 years

Since the strategic spin-off from LEONI Fiber Optics in 2013, we have been able to combine more than 15 years of experience in optical fiber manufacturing with the flexibility of a highly specialised local SME. Over the last 10 years, a comprehensive quality management system has been implemented, enabling us to offer our customers not only products, but also a full range of services.

Regulatory compliance worldwide

Our compliance is the key to your success

We demand the highest quality of ourselves, and our clients demand it of us. That is why our quality management system conforms to ISO 13485 and ISO 9001 requirements.
As a certified medical device manufacturer, OBERON holds all the required certification for the design, development and distribution of medical devices. The conformity of our products has been confirmed by our notified body, meaning we can provide devices with ce marking.

Key certifications

CE · FDA · Australian Government Department of Health and Aged Care · ANVISA · Ministry of Health

Common solutions and mutual benefits

- Many years of experience combined with up-to-date knowledge
- Practical solutions for a role as subcontractor
- Assistance in preparing relevant documentation
- Timely support with local registrations
- Recognised validation documents
- Audit support – both from the client and their certifier

Research and development

We transform customer needs into precise solutions

Together with a strong network of scientific partners and universities, we continuously push developments and always try to find innovative solutions for our customers' needs.
In various project, OBERON successfully developed fibers which allow clinical specialists to enter new fields of application, leading to better regeneration of patients, less pain and improved effectiveness of treatments.

InCone

Purpose: Development of a process for laser structuring of distal ends, as well as caps for extended application areas in minimally invasive medicine

UroMed

Purpose: Raman-spectroscopy-based diagnostic fiber probe in urology

Projects in cooperation with

Fraunhofer IZM · Fraunhofer IIS · AIP Leibniz-Institut für Astrophysik Potsdam · Universitätsklinikum Freiburg · Schölly Excellence Inside · ipht jena

TECHNOLOGY

General Laser Surgery Fibers

Disposable Laser Surgery Fibers (all silica)

Core	Clad	Total diameter	Description
200	240	420	Laser Surgery Fiber 200
272	300	420	Laser Surgery Fiber 272
365	400	580	Laser Surgery Fiber 365
400	440	800	Laser Surgery Fiber 400
550	600	750	Laser Surgery Fiber 550
600	660	890	Laser Surgery Fiber 600
800	840	1200	Laser Surgery Fiber 800
1000	1100	1400	Laser Surgery Fiber 1000

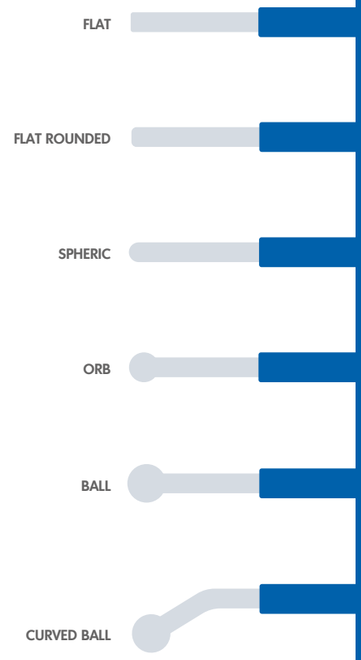
→ Dimensional data in µm

Laser Surgery Fibers for single use in various surgical applications

- Pure silica fiber with highest resistance against laser damage
- NA = 0.22
- Applicable from 400 nm to 2200 nm
- Standard length 3 m
- Ready to use in double sterile pouch (EO sterilized)
- Standard blue polymer jacket / buffer (ETFE – Tefzel)
- Free-standing SMA 905 connector with optional extension sleeve
- Standard shelf life 24 months

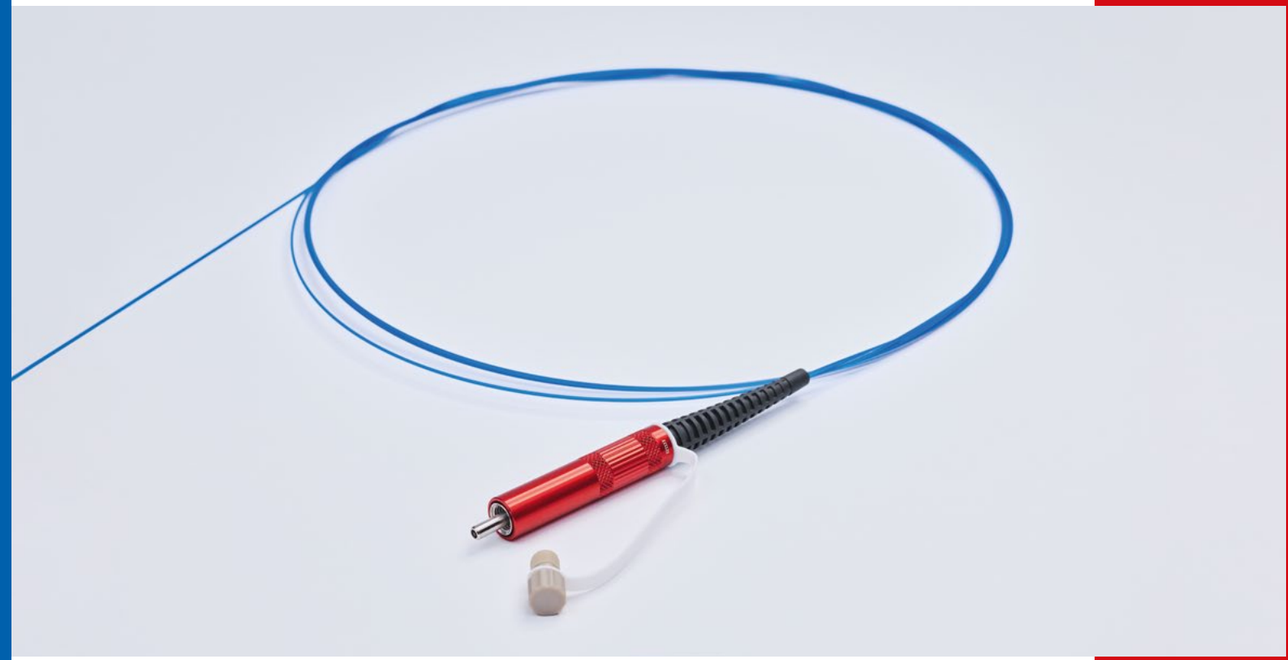
Available customised features

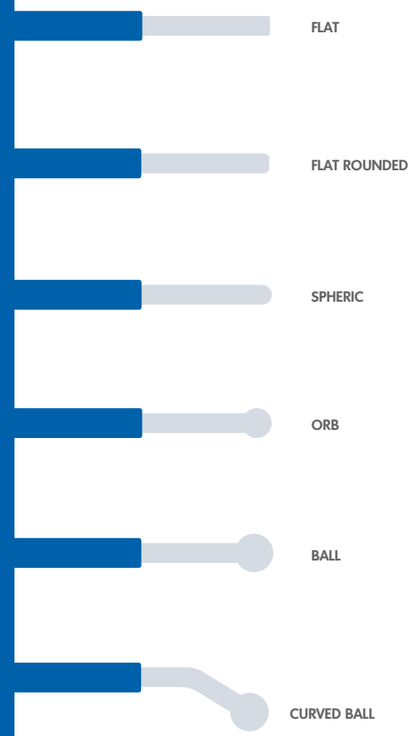
- Customer-specific RFID capsules
- F-SMA extension sleeves in various colours and characteristics
- Laser engraving on extension sleeves
- Shrink tubes with laser-engraved additional information
- Various lengths and diameters
- Higher numerical aperture (e.g. 0.26)
- Alternative buffer materials possible (e.g. Nylon)
- Customised connector designs possible
- Alternative connector designs such as e.g. DIN, FC/PC
- Accessories such as strippers and cleavers
- Male or female LUER adapter for catheter connection available



In accordance with the individual needs of single applications, a wide range of specialised tip designs is available.

In accordance with the individual needs of single applications, a wide range of specialised tip designs is available.





Reusable Laser Surgery Fibers for multiple uses in various surgical applications

- 10 Times reusable and approved for re-sterilisation with fractional vacuum or gravity method and steam steriliser in accordance with DIN EN 13060 or DIN EN 285
- Pure synthetic fused silica glass core with highest resistance against laser damage
- NA = 0.22
- Applicable for UV 532 nm and IR up to 2200 nm
- Standard length 3 m
- Special PEEK protection cap with loss prevention
- Ready to use in double sterile pouch (EO sterilised)
- Standard polymer coating blue Tefzel, special coatings such as silicone or nylon upon request
- Free-standing SMA 905 connector with optional extension sleeve
- Standard shelf life 24 months

Available customized features

- Customer-specific RFID capsules
- F-SMA extension sleeves in various colours and characteristics
- Laser engraving on extension sleeves
- Shrink tubes with laser-engraved additional information
- Male or female LUER adapter for catheter connection available
- Various lengths and diameters
- Accessories such as strippers and cleavers
- Higher numerical aperture (e.g. 0.26)

Reusable Laser Surgery Fibers

Reusable Laser Surgery (all silica) Fibers

→ Dimensional data in µm

Core	Clad	Total diameter	Description
200	240	420	Laser Surgery Fiber 200
272	300	420	Laser Surgery Fiber 272
365	400	580	Laser Surgery Fiber 365
400	440	800	Laser Surgery Fiber 400
550	600	750	Laser Surgery Fiber 550
600	660	890	Laser Surgery Fiber 600
800	840	1200	Laser Surgery Fiber 800
1000	1100	1400	Laser Surgery Fiber 1000

General Laser Surgery Fibers

Disposable Hardclad Barefibers

Core	Clad	Total diameter	Description
200	220	420	Laser Surgery Fiber 200
400	430	730	Laser Surgery Fiber 400
600	630	950	Laser Surgery Fiber 600

→ Dimensional data in µm

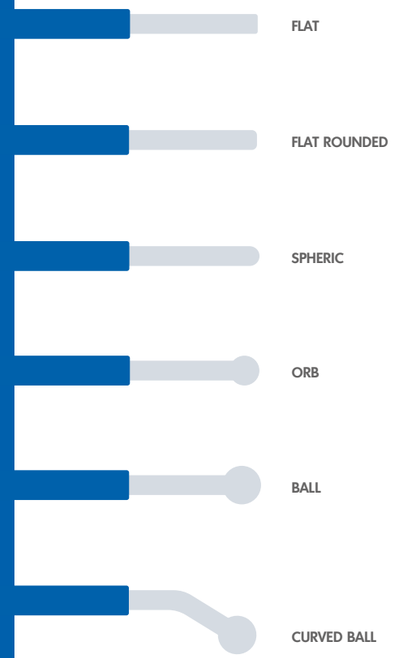
Disposable Laser Surgery Fibers for single use in various surgical applications

- Hard plastic clad silica composition as affordable alternative solution to all silica fibers
- NA = 0.37
- Standard SMA 905 connector with optional extension sleeve
- Power transmission up to 40 W depending on core diameter
- Applicable from 400 nm to 1940 nm
- Standard length 3 m
- Ready to use in double sterile pouch (EO sterilised)
- Standard transparent polymer jacket / buffer (ETFE – Tefzel)
- Standard shelf life 24 months

Available customized features

- Customer-specific RFID capsules
- F-SMA extension sleeves in various colours and characteristics
- Laser engraving on extension sleeves
- Shrink tubes with additional information
- Male or female LUER adapter for catheter connection available
- Various lengths and diameters
- Accessories such as strippers and cleavers
- Alternative buffer materials possible (e.g. Nylon)

In accordance with the individual needs of single applications, a wide range of specialised tip designs is available.

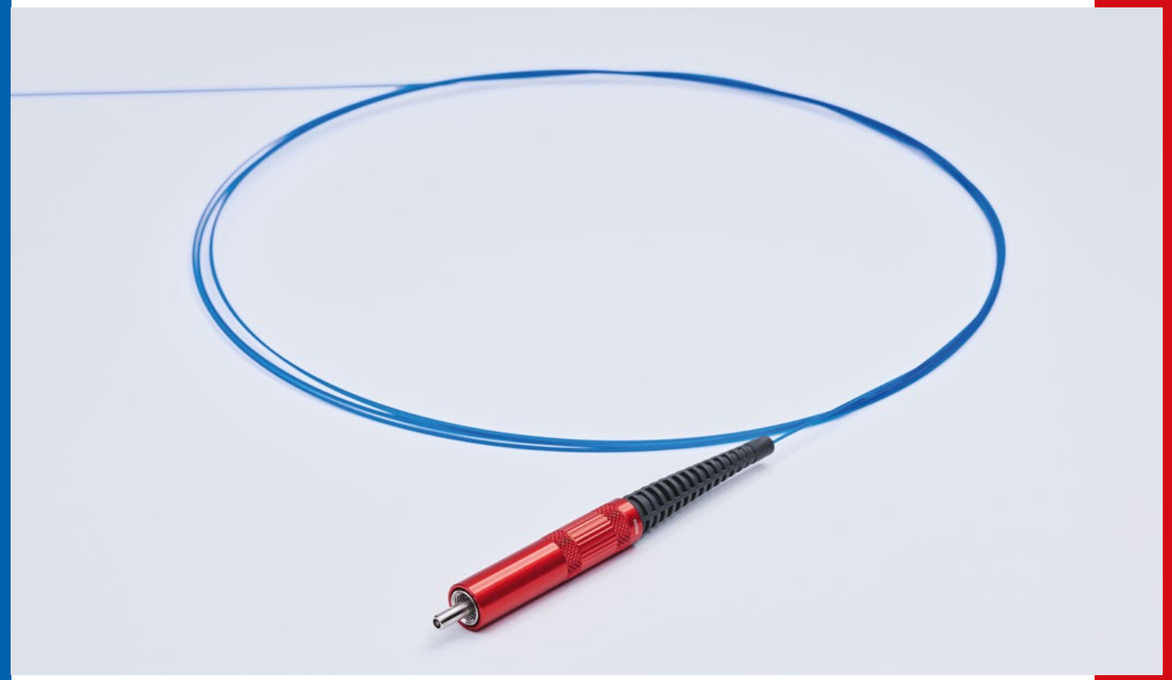


Laser Surgery Fibers for pulsed laser applications

- Pure silica fiber with highest resistance against laser damages
- NA = 0.22
- Special free-standing holmium connector for high-power applications and pulsed laser mode
- Optional extension sleeve
- Applicable from 400 nm to 2200 nm
- Standard length 3 m
- Ready to use in double sterile pouch (EO sterilised)
- Standard blue polymer jacket / buffer (ETFE – Tefzel)
- Standard shelf life 24 months
- Available as 10 times reusable product

Available customised features

- Customer-specific RFID capsules
- F-SMA extension sleeves in various colours and characteristics
- Laser engraving on extension sleeves
- Shrink tubes with laser-engraved additional information
- Male or female LUER adapter for catheter connection available
- Various lengths and diameters
- Higher numerical aperture (e.g. 0.26)
- Alternative buffer materials possible (e.g. nylon)
- Accessories such as strippers and cleavers



General Laser Surgery Fibers

Disposable Holmium Laser Surgery (all silica) Fibers

→ Dimensional data in µm

Core	Clad	Total diameter	Description
200	240	420	Laser Surgery Fiber 200
230	276	430	Laser Surgery Fiber 230
272	300	420	Laser Surgery Fiber 272
365	400	580	Laser Surgery Fiber 365
400	440	800	Laser Surgery Fiber 400
550	600	750	Laser Surgery Fiber 550
600	660	890	Laser Surgery Fiber 600
800	840	1200	Laser Surgery Fiber 800
1000	1100	1400	Laser Surgery Fiber 1000

Radial Fibers

Disposable Radial Emission Fibers

Core	Clad	Total diameter	Capillary diameter	Standard material code	Description
400	420	950	1000	270050S	Laser Surgery Fiber - Radial Emission Fiber 400 µm
550	578	1300	1800	270088S	Laser Surgery Fiber - Diffuse Emission Fiber 600 µm
400	420	950	1000	270142S	Laser Surgery Fiber - Fused Radial Emission Fiber 400 µm
550	578	1300	1800	270130S	Laser Surgery Fiber - Fused Diffuse Emission Fiber 600 µm
550	578	1300	1550	270175S	Laser Surgery Fiber - Slim Radial Emission Fiber 600 µm
365	400	580	800	270011S	Laser Surgery Fiber - Radial Emission Fiber 365 µm

→ Dimensional data in µm

Laser Surgery Fibers for single use in endovenous laser therapy

· Clearly shaped ring emission for best results in tissue contact
· Pure silica fiber with highest resistance against laser damage
· NA = 0.22
· Standard SMA905 connector optimised for diode lasers
· Optional extension sleeve
· Applicable from 810 nm to 1940 nm
· Standard length 2,6m
· Special laser-engraved length marking for better allocation in the vein and safe use with available introducers
· Atraumatic tip design with glass capillary
· Available in glued and fused design
· Ready to use in double sterile pouch (EO sterilised)
· Standard white polymer jacket / buffer (ETFE – Tefzel)
· Standard shelf life 24 months

Available customized features

· Customer-specific RFID capsules
· SMA905 extension sleeves in various colours and characteristics
· Laser engraving on extension sleeves
· Shrink tubes with laser-engraved additional information
· Customised connector designs possible
· Alternative connector designs such as e.g. DIN, FC/PC
· Male or female LUER adapter for catheter connection available

Note: Due to possible violation of an existing EP patent, Radial Emission Fibers are not available for the German market

NEW: Laser Surgery Fibers for single use in endovenous laser therapy

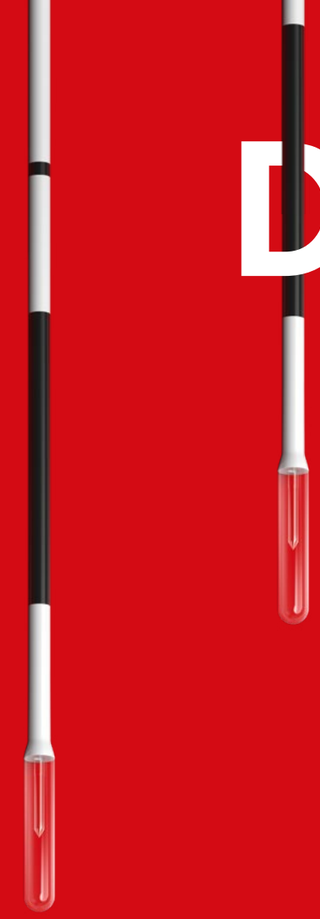
- Diffuse light emission through special tip design
- Pure silica fiber with highest resistance against laser damage
- NA = 0.22
- Standard SMA905 connector optimised for diode lasers
- Optional extension sleeve
- Applicable from 810 nm to 1940 nm
- Standard length 2,6 m
- Special laser-engraved length marking for better allocation in the vein and safe use with available introducers
- Atraumatic tip design with glass capillary
- Available in glued and fused execution
- Ready to use in double sterile pouch (EO sterilised)
- Standard white polymer jacket / buffer (ETFE – Tefzel)
- Standard shelf life 24 months

Available customised features

- Customer-specific RFID capsules
- SMA905 extension sleeves in various colours and characteristics
- Laser engraving on extension sleeves
- Shrink tubes with laser-engraved additional information
- Customised connector designs possible
- Alternative connector designs such as e.g. DIN, FC/PC
- Male or female LUER adapter for catheter connection available

Radial Fibers

Disposable Diffuse Emission Fibers



Core	Clad	Total diameter	Capillary diameter	Standard material code	Description
400	420	950	1000	270167S	Laser Surgery Fiber - Diffuse Emission Fiber 400 µm
550	578	1300	1800	270168S	Laser Surgery Fiber - Diffuse Emission Fiber 600 µm
400	420	950	1000	270183S	Laser Surgery Fiber - Fused Diffuse Emission Fiber 400 µm
550	578	1300	1800	270184S	Laser Surgery Fiber - Fused Diffuse Emission Fiber 600 µm
550	578	1300	1550	270185S	Laser Surgery Fiber - Slim Diffuse Emission Fiber 600 µm

→ Dimensional data in µm

Laser Surgery Fibers for Proctology

Disposable Fistula Fiber Probe

Core	Clad	Total diameter	Capillary diameter	Standard material code	Description
400	420	950	1000	270758S	Laser Surgery Fiber - Fistula Fiber Probe 400 µm

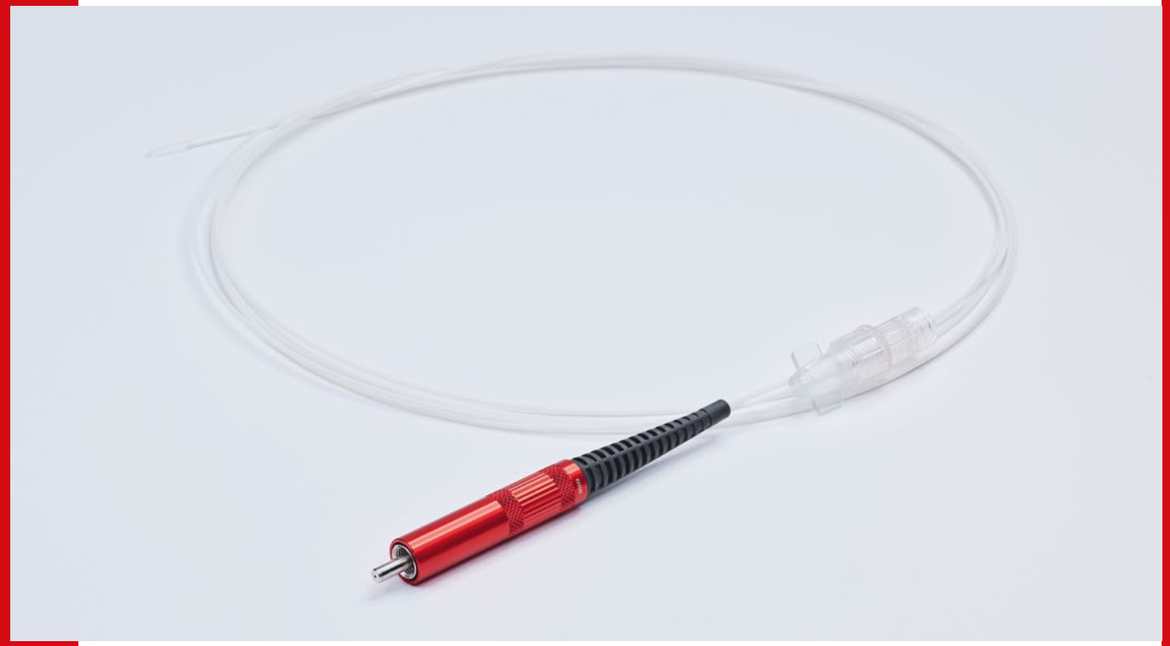
→ Dimensional data in µm

Laser Surgery Fibers for single use in proctology treatments

- Pure silica fiber with highest resistance against laser damage
- NA = 0.22
- Special atraumatic capillary for smooth entering into fistula channel
- Radial emission of energy for the treatment of inner fistula walls
- Standard SMA905 connector optimised for diode lasers
- Optional extension sleeve
- Special laser-engraved length marking for better allocation in the fistula
- Applicable from 810 nm to 1940 nm
- Standard length 3,0m
- Standard white polymer jacket / buffer (ETFE – Tefzel)
- Ready to use in double sterile pouch (EO sterilised)
- Standard shelf life 24 months

Available customised features

- Customer-specific RFID capsules
- SMA905 extension sleeves in various colours and characteristics
- Laser engraving on extension sleeves
- Shrink tubes with laser-engraved additional information
- Customised connector designs possible
- Alternative connector designs such as e.g. DIN, FC/PC
- Male or female LUER adapter for catheter connection available

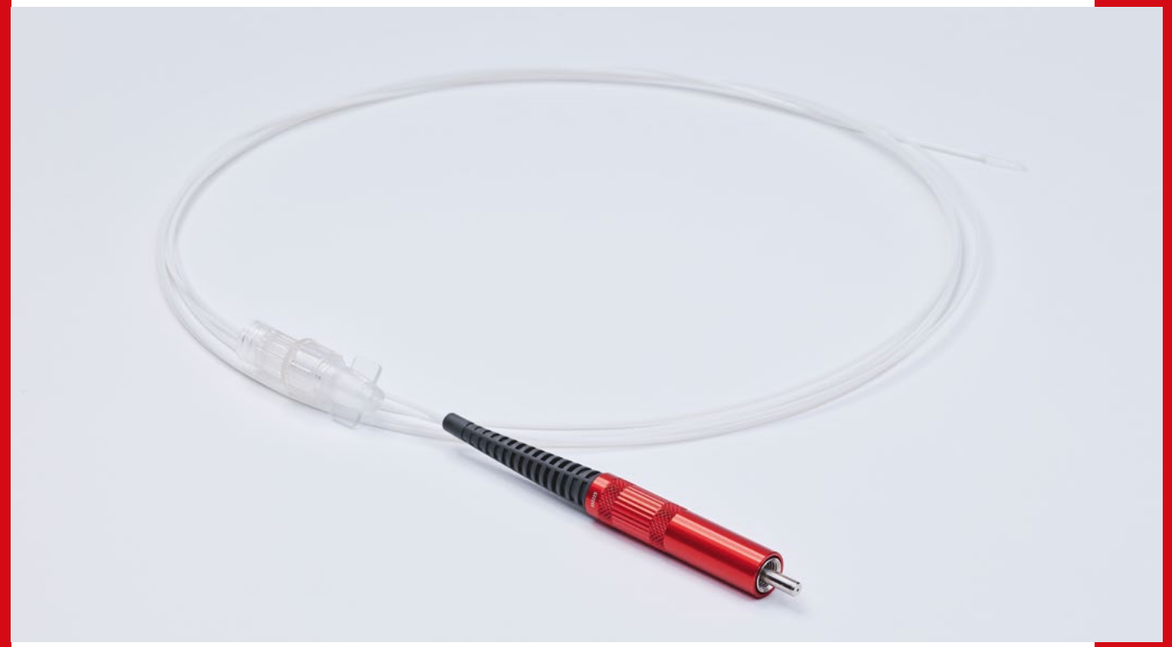


Laser Surgery Fibers for single use in proctology treatments

· Pure silica fiber with highest resistance against laser damage
· NA = 0.22
· Special capillary dome with conical shape for steady positioning within the haemorrhoid lump
· Homogenous distribution of energy within the treated tissue
· Standard SMA905 connector optimised for diode lasers
· Optional extension sleeve
· Applicable from 810 nm to 1940 nm
· Standard length 3,0 m
· Standard white polymer jacket / buffer (ETFE – Tefzel)
· Equipped with LUER adapter for direct coupling to available handpieces
· Ready to use in double sterile pouch (EO sterilised)
· Standard shelf life 24 months

Available customised features

· Customer-specific RFID capsules
· SMA905 extension sleeves in various colours and characteristics
· Laser engraving on extension sleeves
· Shrink tubes with laser-engraved additional information
· Alternative buffer materials possible (e.g. nylon)
· Customised connector designs possible
- Alternative connector designs such as e.g. DIN, FC/PC



Laser Surgery Fibers for Proctology

Disposable Hemorrhoid Fiber Probe

Core	Clad	Total diameter	Capillary diameter	Standard material code	Description
550	578	1300	1800	270504S	Laser Surgery Fiber - Hemorrhoid Fiber Probe 600 µm

→ Dimensional data in µm

Matching tools for your application

Description	Standard material code
Introducer needle cannula 14G – 6 cm length	Z10080
Opened retractor with seagull wing	Z10081

Laser Surgery Fibers for Dentistry and Orthopaedics

Disposable and Reusable Dental and Orthopaedic Surgery Fibers

Disposable or Reusable Laser Surgery Fibers for various applications in dental surgery and orthopaedic applications

· Pure silica fiber with highest resistance against laser damage
· NA = 0.22
· Thin diameters and heat resistance due to polyamide coating
· Standard silicone protection tube with outer diameter of 1.5 or 2.0 mm
· Distal free-standing fiber for instant use
· Homogenous distribution of energy within the treated tissue
· Standard SMA905 connector
· Optional extension sleeve
· Applicable from 400 nm to 2200 nm
· Standard length 3,0 m
· Ready to use in double sterile pouch (EO sterilised)
· Standard shelf life 24 months

Available customised features

· Customer-specific RFID capsules
· SMA905 extension sleeves in various colours and characteristics
· Laser engraving on extension sleeves
· Shrink tubes with laser-engraved additional information
· Higher numerical aperture (e.g. 0.26 up to 0.47)
· Customised connector designs possible
· Alternative connector designs such as e.g. DIN, FC/PC

Core	Clad	Total diameter	Standard material code	Description
114	125	153	230070S	Laser Surgery Fiber - Dental Surgery Fiber 114 µm
150	165	195	230071S	Laser Surgery Fiber - Dental Surgery Fiber 150 µm
200	220	240	230080S	Laser Surgery Fiber - Dental Surgery Fiber 200 µm
320	385	415	230093S	Laser Surgery Fiber - Dental Surgery Fiber 320 µm
400	440	480	230094S	Laser Surgery Fiber - Dental Surgery Fiber 400 µm
600	660	685	230095S	Laser Surgery Fiber - Dental Surgery Fiber 600 µm
200	220	240	230085S	Laser Surgery Fiber - Dental Surgery Fiber 200 µm (reusable)
320	385	415	230086S	Laser Surgery Fiber - Dental Surgery Fiber 320 µm (reusable)
400	440	480	230089S	Laser Surgery Fiber - Dental Surgery Fiber 400 µm (reusable)
600	660	685	230090S	Laser Surgery Fiber - Dental Surgery Fiber 600 µm (reusable)
200	240	275	230034S	Laser Surgery Fiber - Orthopaedic Surgery Fiber 200 µm
320	385	415	230002S	Laser Surgery Fiber - Orthopaedic Surgery Fiber 320 µm

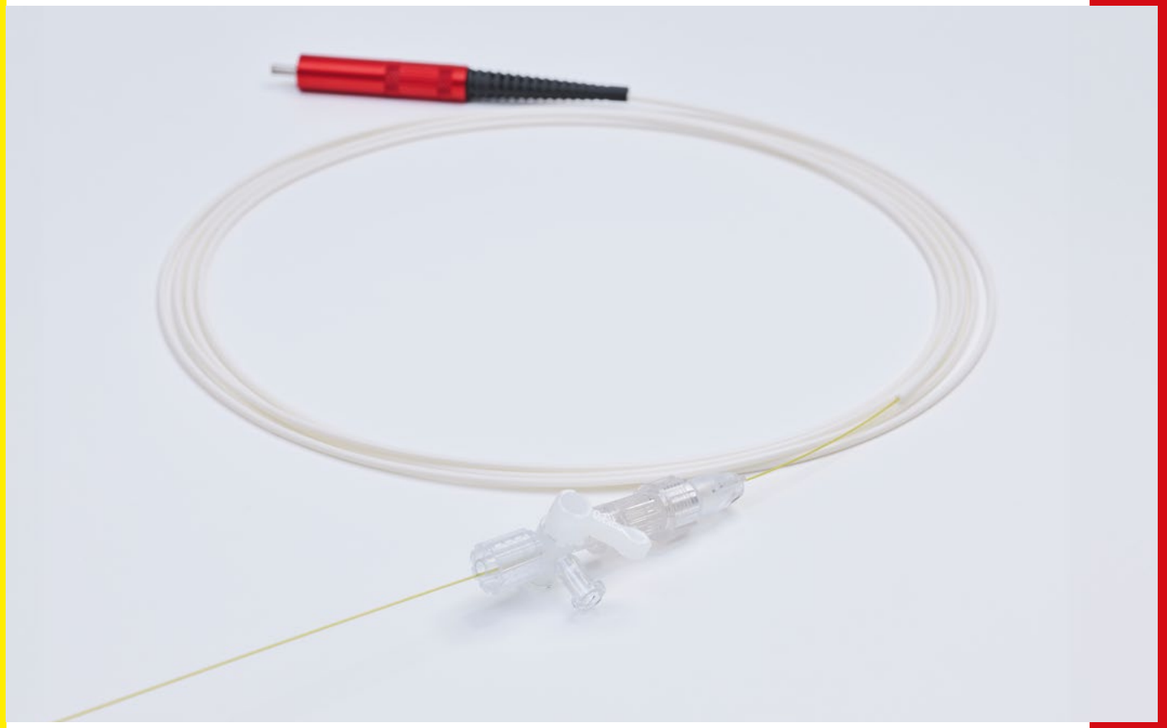
→ Dimensional data in µm

Disposable Laser Surgery Fibers specially designed for percutaneous laser-assisted discectomy

· Pure silica fiber with highest resistance against laser damage
· NA = 0.22
· Thin diameters and heat resistance due to polyamide coating
· LUER adapter with T-junction for fixation in spinal needle
· 31 cm free-standing fiber
· Standard silicone protection tube with outer diameter of 1.5 or 2.0 mm
· Homogenous distribution of energy within the treated tissue
· Standard SMA905 connector optimised for diode lasers
· Optional extension sleeve
· Applicable from 400 nm to 2200 nm
· Standard length 3,0 m
· Ready to use in double sterile pouch (EO sterilised)
· Standard shelf life 24 months

Available customised features

· Customer-specific RFID capsules
· SMA905 extension sleeves in various colours and characteristics
· Laser engraving on extension sleeves
· Shrink tubes with laser-engraved additional information
· Higher numerical aperture (e.g. 0.26 up to 0.47)
· Customised connector designs possible
· Alternative connector designs such as e.g. DIN, FC/PC

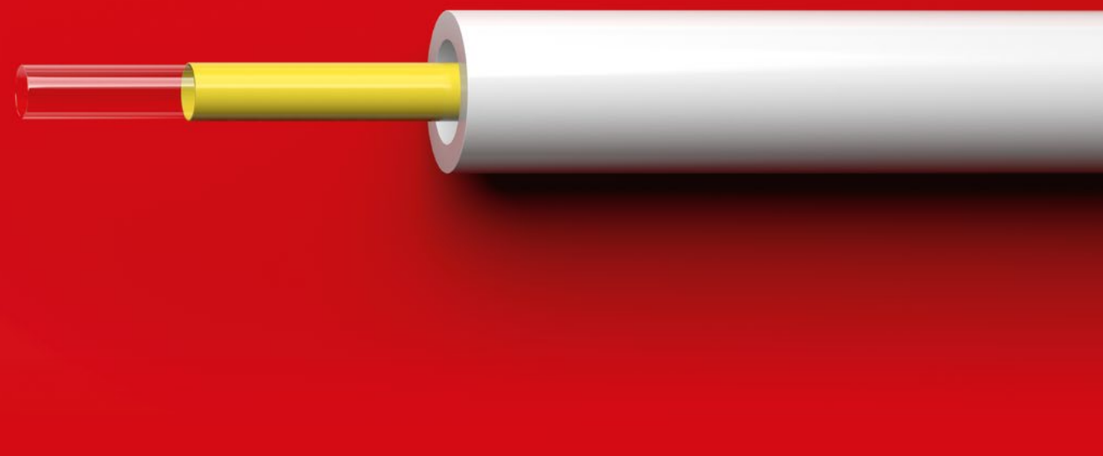


Laser Surgery Fibers for Dentistry and Orthopaedics

Orthopaedic Fiber for PLDD

Core	Clad	Total diameter	Standard material code	Description
320	385	415	230127S	Laser Surgery Fiber - Orthopaedic Surgery Fiber for PLDD
400	440	480	230068S	Laser Surgery Fiber - Orthopaedic Surgery Fiber for PLDD

→ Dimensional data in µm



Fiber Optic Cables

High Power Cables

for demanding laser applications

Cables designed for high-power applications in aesthetics and industrial fields

- Transmission of up to 400 W
- Highest resistance against laser damage through unique polishing process
- LD80 high-power connector with or without anti-twist key (SMA 905 on demand)
- Pure silica fiber with highest resistance against laser damage
- NA = 0.22
- Core diameter up to 1500 µm
- Fiber centricity <5 µm fiber core to ferrule
- Industrial standard and highest resistance against mechanical stress (PVC; kevlar / PVC; stainless steel)
- Various coatings for harsh ambient conditions
- Various lengths up to 10 m
- Bending limitation on demand
- Laser engraving
- Applicable from 400 nm to 2200 nm
- Individual packaging and easy handling for operator

Available customised features

- Customer-specific RFID capsules
- Laser engraving on extension sleeves
- Biocompatible shrink tubes with additional information
- Mechanical bending limitation
- Higher numerical aperture (e.g. 0.26)
- Assembly with electrical strands for ready-to-use specs.
- Execution with electrical strands / wires for signal transfer

Cables and bundles designed for photonics technology in analytics, optical measurement and sensors

- Highest resistance against laser damage through unique polishing process
- SMA 905; FC/PC, DIN, ST, MTP connector and other customer-specific requirement
- Pure silica fiber applicable from 190 nm to 1200 nm (high OH) or 400 nm to 2200 nm (low OH)
- Alternative core designs such as e.g. square core available
- NA = 0.22
- Applicable for large temperature range up to 300°C
- Core diameter up to 1500 µm
- Industrial standard and highest resistance against mechanical stress (PVC; kevlar / PVC; stainless steel)
- Various coatings for harsh ambient conditions
- Various lengths up to 200 m depending on the properties
- Bending limitation on demand
- Laser engraving
- Individual packaging and easy handling for operator
- Various geometries and configurations of bundles (e.g. square, circular, matrix row, hexagon)
- Option of fiber sorting
- Anti-reflection coating of both ends

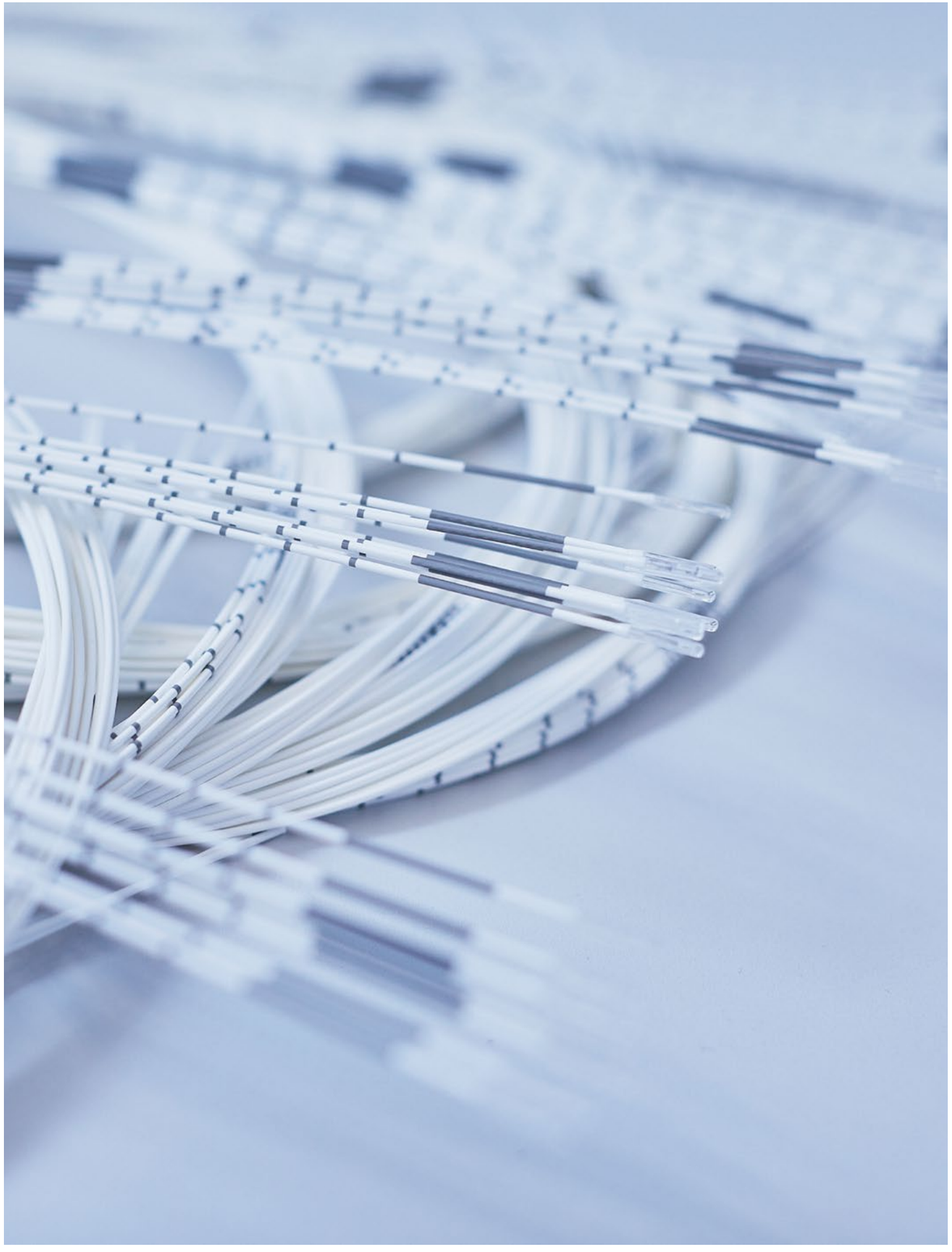
Available customised features

- Lower and higher numerical aperture (e.g. 0.12 or 0.26)
- Execution with electrical strands / wires for signal transfer
- Alternative fiber properties (single mode fibers)
- Simplex or duplex execution

Fiber Optic Cables

Speciality Cables and Bundles

for very demanding applications



Are you interested in our products?

Please feel free to contact us at any time.

Sales Dept.
+49 3375 21 500-26
sales@oberonfiber.com

Tobias Roth
CEO
+49 3375 21 500-25
roth@oberonfiber.com

OBERON GmbH Fiber Technologies
Ludwig-Witthöft-Str. 14, 15745 Wildau b. Berlin

OBERON®
FIBER TECHNOLOGIES