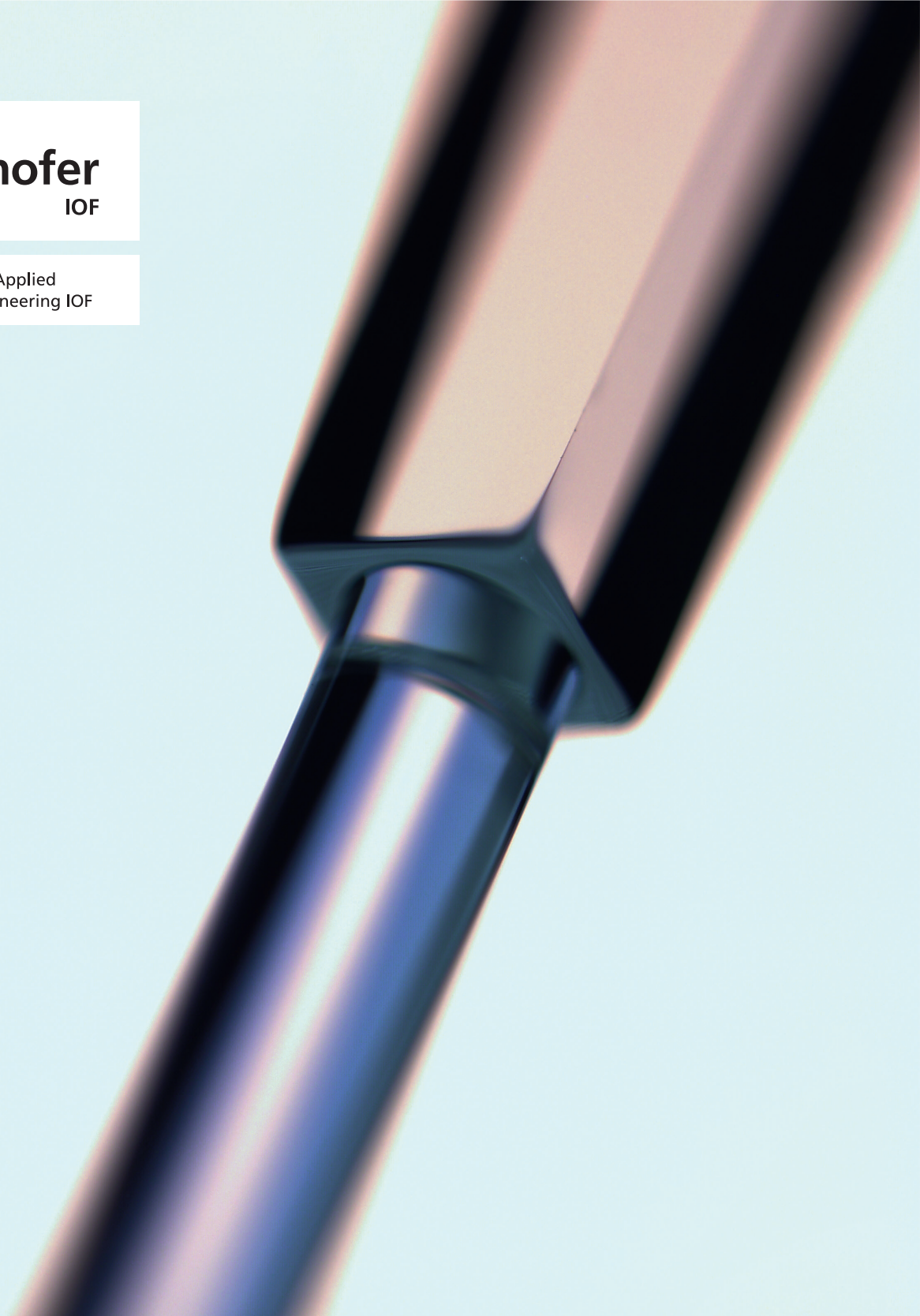


Fraunhofer Institute for Applied Optics and Precision Engineering IOF



Top: CO₂ laser splicing-contamination-free and versatile joining with high reproducibility for manufacturing of high power fiber laser components.

Cover: Special fiber splice manufactured with CO₂ laser technology.

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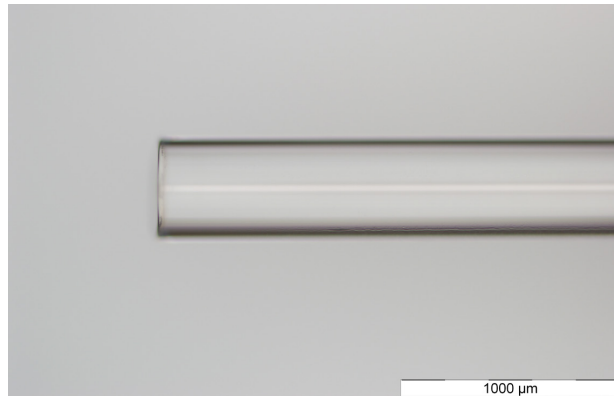


www.
more info

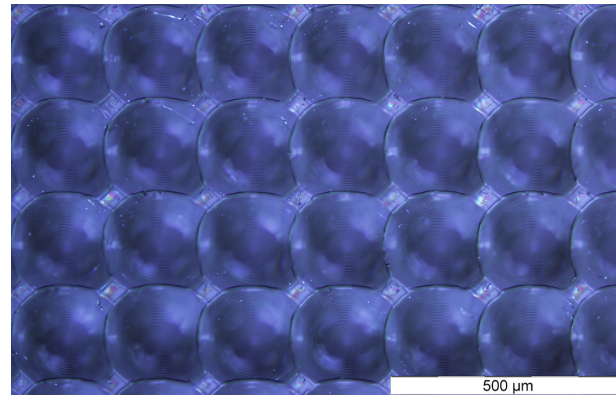
Innovative and flexible glass fiber processes with extraordinary purity and high potential for automation

CO₂ laser-based packaging and joining technologies for optical fibers

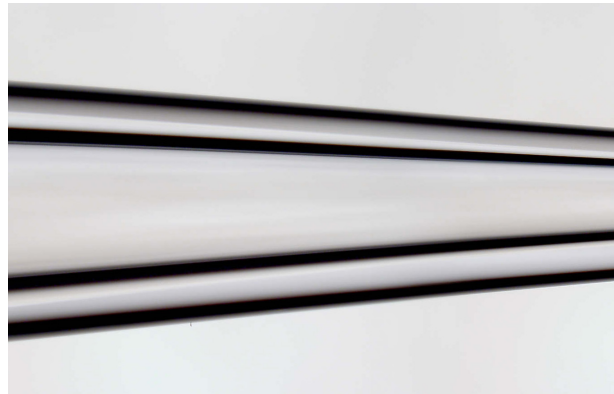
Overview of available CO₂ laser-based glass fiber processes Part 1



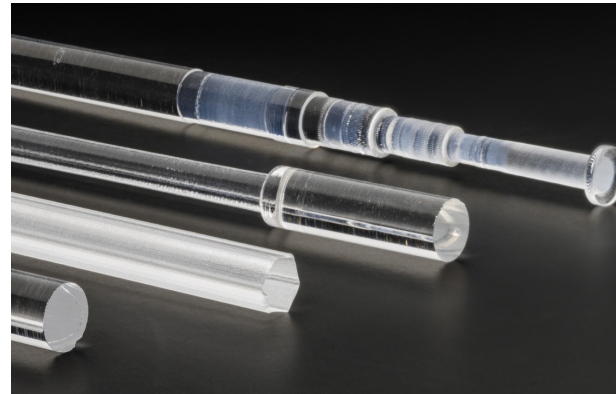
Cleaving
of fibers, instead of using a diamond blade



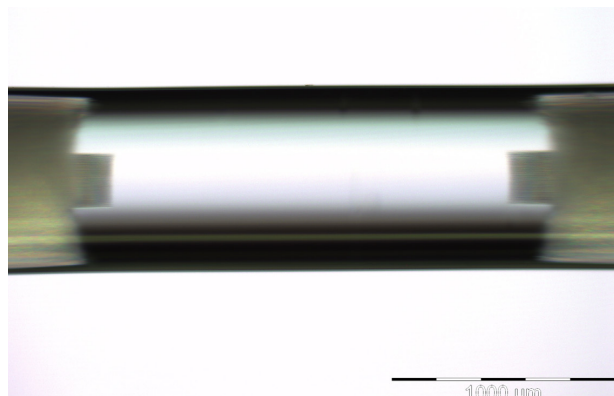
Surface modification
changing of surface properties (reflectivity, transmission, etc.)



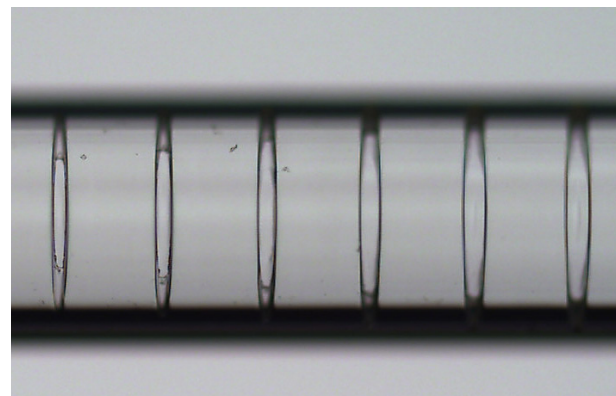
Tapering
changing cross-section, mode field adaptation, etc.



Ablation and Polishing
processing of half-finished products and fiber preforms, etc.

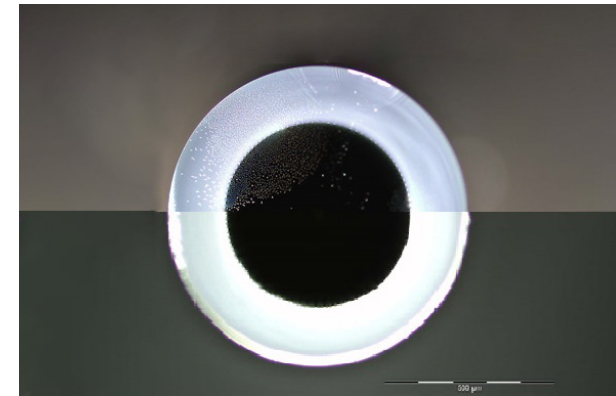


Collapsing
of photonic crystal fibers and capillaries etc.

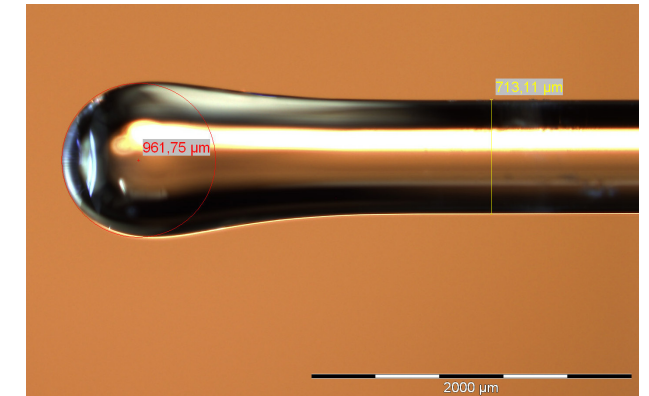


Stripping
removing of fiber acrylate layers, etc.

Overview of available CO₂ laser-based glass fiber processes Part 2



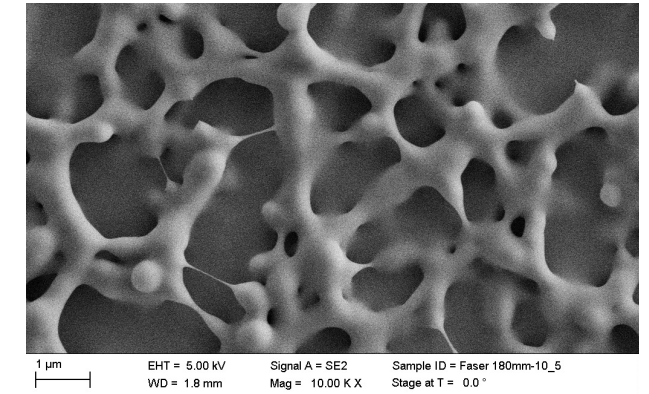
Cleaning
of fibers and fiber tips with short laser pulses



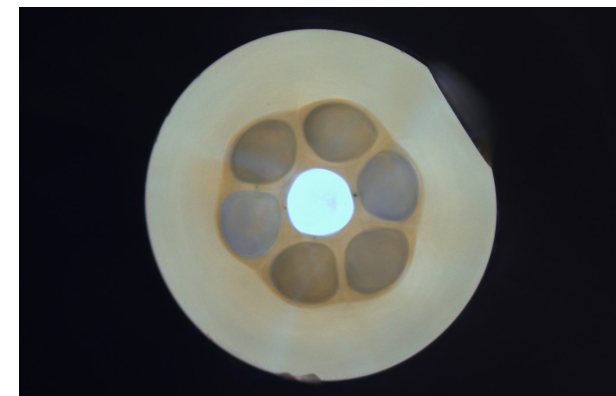
Shaping/ Polishing
generation of additional functionalities for fibers



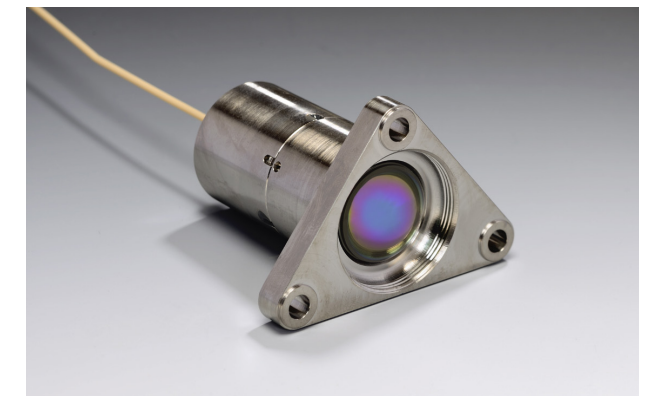
Splicing
optical components with equal or different Ø,
cross-sections



Laser deposition
monolithic surface modification for fiber mode
stripping, reflectivity changing, etc.



Fused fiber coupler
for lower and high-power applications



Spliced fiber collimators
suitable for space with outstanding optical performance