



## Specialty Optical Fiber and Silica Capillary Tubing

RISE Acreo Fiberlab is a purpose built facility for production and R&D of silica based optical fiber and capillaries. Our engineers and scientists partner with you to design and develop custom designed fiber for your application, in e.g. medical, sensing, aerospace, components or lasers. Our production resources safely fulfil your specialty optical fiber need from a few hundred meters to several hundreds of kilometers per year.

### Capabilities

- Silica based optical fiber and capillaries
- MCVD preform manufacture, Optical fiber draw towers
- Custom core dopants and waveguide designs
- Fiber diameters from 50µm to rod type fiber
- Standard and specialty coatings, polymers and hermetic carbon
- Extruded buffer coatings
- 20+ years experience of specialty optical fiber development and production

### Doped silica preforms

We custom design optical preforms for a variety of applications. Fiber that require e.g. high numerical aperture, custom rare-earth ion doping, controlled Rayleigh scattering, electro-optic activity, integrated nano particles and more, can be achieved in our MCVD laboratory. We also supply optical preform cores to partners.

### Functional fibers and custom geometries

Our glass workshops and 17m tall draw towers are perfect tools for developing advanced silica based capillaries and fibers with odd

geometries. Combinations of holes and optical cores enable entirely new functions and components. Our experience include square fibers with photosensitive cores, multi hole fiber with specialty electro-optic cores, multi hole capillaries with and without cores for optofluidics, 'Gemini' fibers where several fibers are drawn as one, and much more. Fiber diameters can range from 50µm up to rod type fibers of several mm.

### Custom coating technologies

We have the capability to apply a wide range of coatings on to your fiber. Standard coatings include polyimides, acrylates (low index, high temperatures), and silicones. Specialty solutions such as colored coatings, non-standard combinations, or coatings with extreme refractive index are developed on demand.

### Hermetic carbon

With our proprietary CVD process, we can apply carbon on any silica optical fiber. This provides a hermetic seal of your fibers, and is important in e.g. harsh environments to mitigate problems from water vapor or hydrogen gas. The carbon is also used to suppress noise in biomedical sensing, and to efficiently block light leakage from the fiber.

### Contact us to discuss Specialty Optical Fiber

Åsa Claesson, VP Fiber Optics  
asa.claesson@ri.se, +46 (0)70 221 16 46