

# Optran® UV NCC, Optran® WF NCC

## Silica / silica non-circular core fiber

These fibers are ideal for laser applications, among others, where the shape and homogeneity of the output beam is decisive. CeramOptec® offers these fibers in rectangular, square, octagonal and other core / cladding geometries for additional advantages compared to our UV / WV range. Laser beam-shaping optics can be avoided.

### Homogeneous power distribution

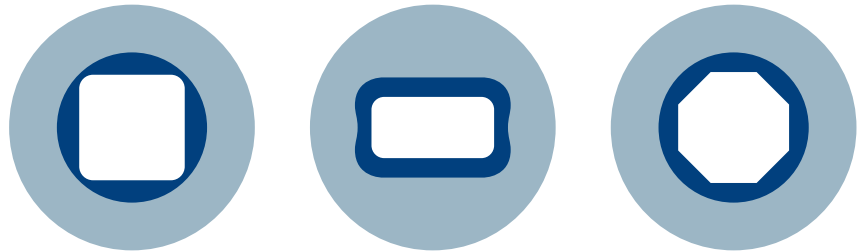
#### Wavelength

Optran® UV NCC	190–1200 nm
Optran® WF NCC	300–2400 nm

#### Numerical aperture (NA)

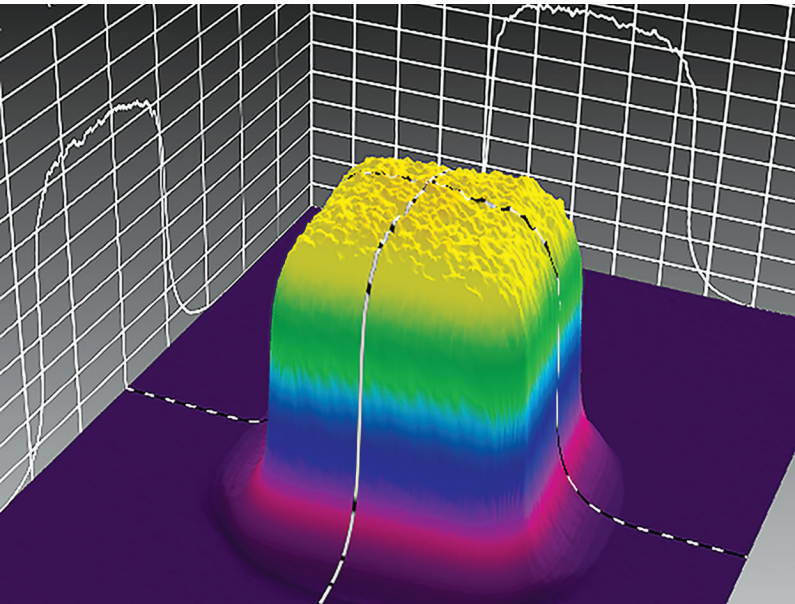
Low	0,16 ± 0,02
Standard	0,22 ± 0,02
High	0,28 ± 0,02

Different core and cladding geometries available such as square, rectangular or octagonal

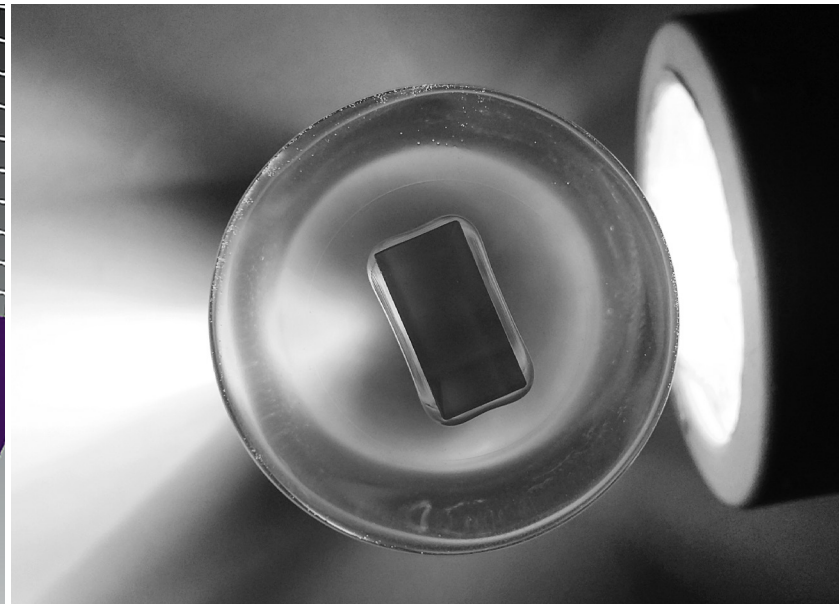


#### Technical data

Wavelength / spectral range	Optran® UV NCC: 190–1200 nm Optran® WF NCC: 300–2400 nm
Numerical aperture (NA)	0,16 ± 0,02   0,22 ± 0,02   0,28 ± 0,02 or customised
Operating temperature	-190 to +350 °C
Core diameter	Geometries and diameters upon request
OH content	Optran® UV NCC: high (> 700 ppm) Optran® WF NCC: low (< 1 ppm) Fibers with OH content < 0,25
Standard proof test	100 kpsi (nylon, ETFE, acrylate cladding) 70 kpsi (polyimide cladding)
Minimum bending radius	50 × cladding diameter (short-term mechanical stress) 150 × core diameter (during use with high laser power)
Attenuation values	in relation to wavelength: see p. 18



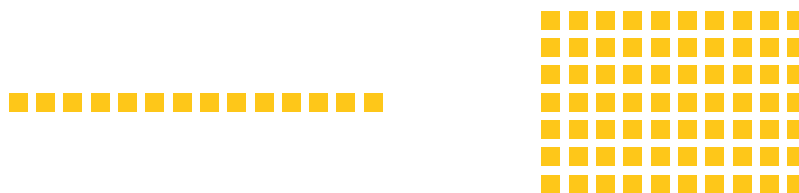
Fibers with a rectangular core geometry homogenize the intensity distribution. The image shows the intensity distribution on the focal level, using NCC fibers with core diameter of 800 × 800 μm.



Fiber with rectangular core geometry.

**Pure fused silica / F-doped fused silica square and rectangular shaped fibers**

Fibers which deviate from the traditional round form with a square or rectangular shape offers advantages due to providing maximum packing density for input and output. These fibers are very suitable for connections to angular sources and receivers. The angular shaped core provides consistent short-distance homogenization input power distribution. Our angular fibers are also available in rectangular shapes with large side ratios and a small corner radius, thanks to our special PCVD-technology.



Large NCC's are ideal for applications which require a combination of flexibility and large cross sections in silica fibers, e.g. a diode laser delivery system.



**Applications**

First choice for applications for beam shaping e.g. including surface treatment or for lighting.