

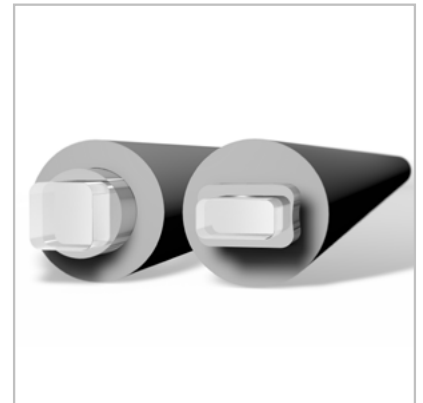
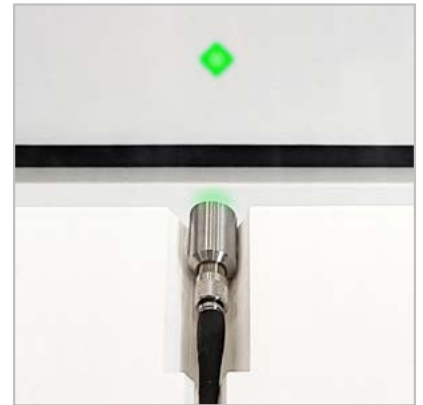
Laser Fibers with a Rectangular/Square Fiber Core (Square Fibers)

In addition to traditional optical fibers, LASER COMPONENTS also manufactures fibers with a rectangular or square fiber core. These fibers are referred to as square fibers.

By using this technology, it is possible to efficiently couple lasers with a corresponding rectangular beam profile and achieve a so-called top hat profile. Furthermore, the rectangular shape helps to homogenize the input signal across short distances and achieve very good mode mixing. Compared to a fiber with a round fiber core, this can provide significant advantages by eliminating the need for additional optics and thus save costs.

LASER COMPONENTS assembles these fibers with all standard connectors as part of its in-house production; however, this is carried out mainly with SMA, SMA High Power, and D80 connectors.

With a special assembly method, it is also possible to align the fiber to the twist lug of the D80 connector.

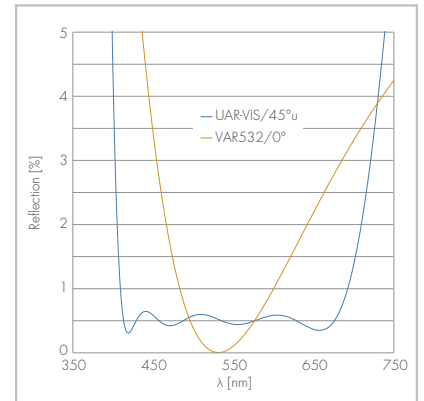


Specifications

Operating wavelength	190 – 1200 nm / 300 – 2400 m
Numerical aperture	0.16 ± 0,02 0.22 ± 0.02 0.28 ± 0.02
Core diameter / edge length	Upon request
Power range	Up to 400 W cw
Connector	SMA standard; SMA high power with AR-CAP-/copper ferrule; D80 connector, ST, FC
Protection tubing	Metal tube with PVC, stainless steel tube, PVC tube, PTFE tube
Eccentricity	<10 µm (<5 µm on request)
Marking	Customer logo on heat sink possible
Fiber lengths	According to customer requirements

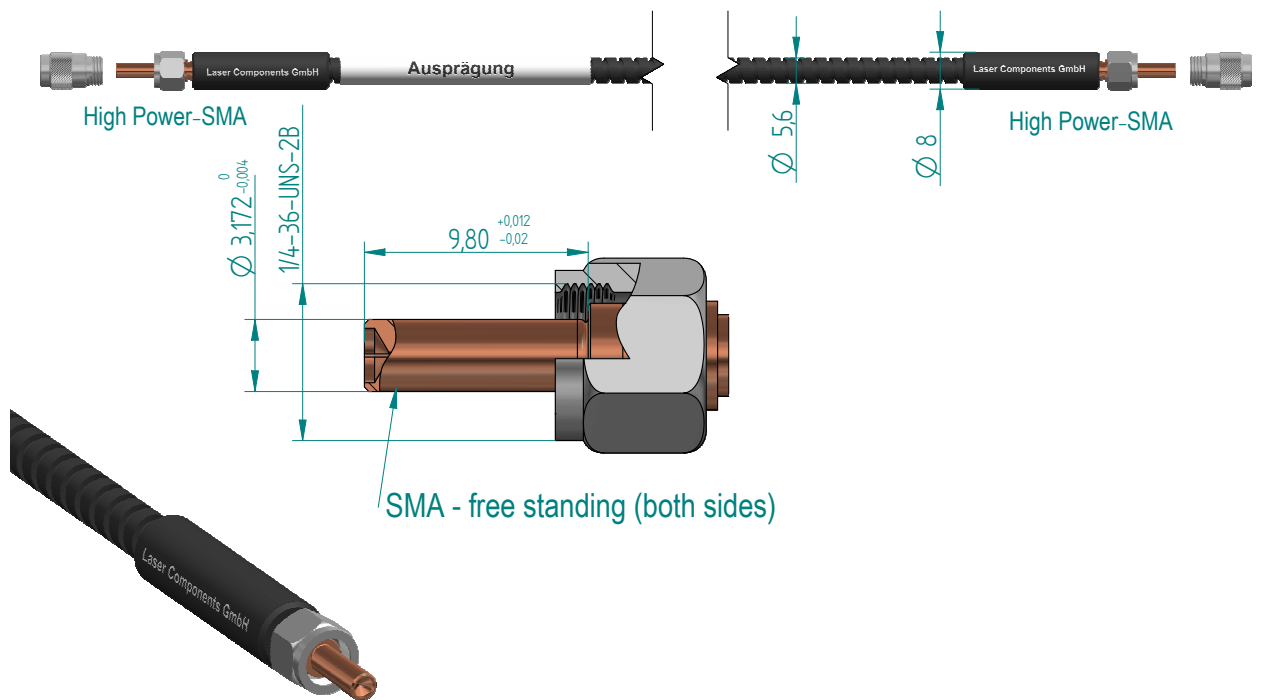
Optional: AR Coating

Furthermore, an anti-reflective coating can be applied to fiber end faces. Contact us directly for individual requirements.



Technical Drawing

SMA High Power connector with a copper ferrule on both sides; metal tube, black



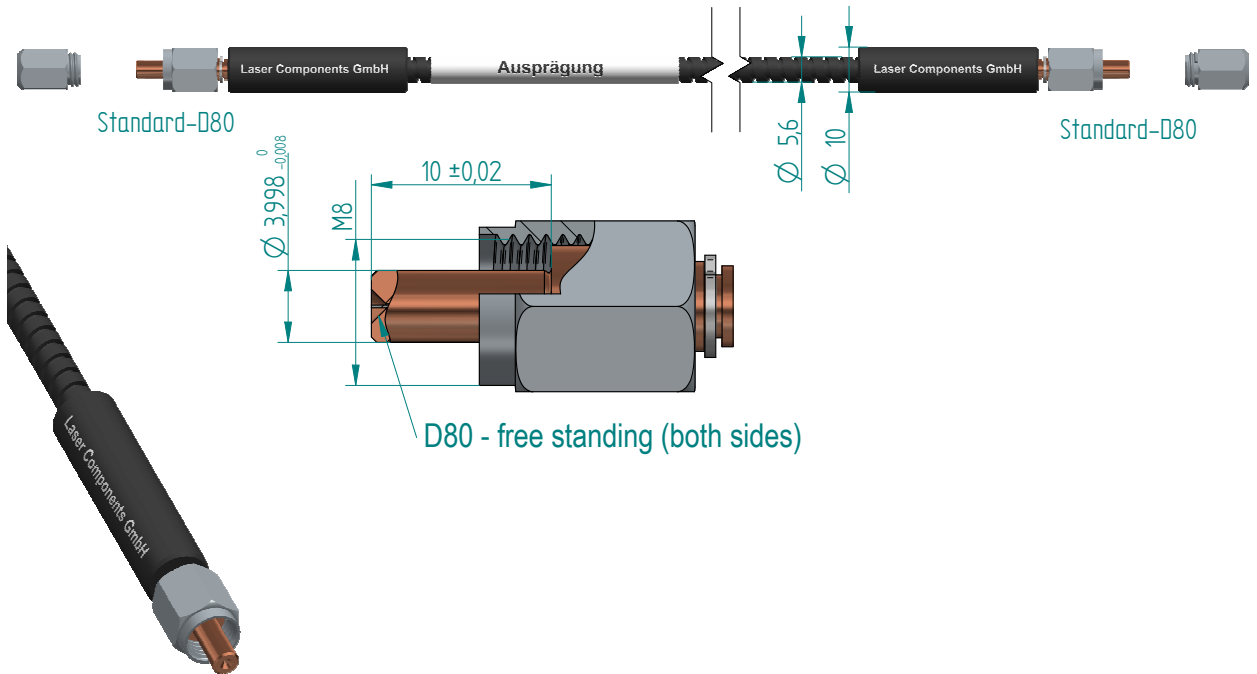
Specifications

- Eccentricity < 10 μm (fiber core to ferrule)
- Fiber type upon request
- Fiber length upon request
- 5.6 mm metal tube (black)
- Measurement report for attenuation, photos of end faces, and measurement values for eccentricity upon request
- Customized heat shrink tube with laser marking

05/22 / V1 / FFHW / lc-fiberoptics/high-power-assemblies/rectangular_square-fiber-core

Technical Drawing

D80 connector with a copper ferrule on both sides; metal tube, black



Specifications

- Eccentricity < 10 µm (fiber core to ferrule)
- Fiber type upon request
- Fiber length upon request
- 5.6 mm metal tube (black)
- Measurement report for attenuation, photos of end faces, and measurement values for eccentricity upon request
- Customized heat shrink tube with laser marking
- D80 ferrule with or without twist lug upon request