

SILICA/SILICA Optical Fiber

STU

- **STU-D:** Ultra Low -OH Core
- **STU:** Low -OH Core

- Excellent FRD
- Wide Spectral Range

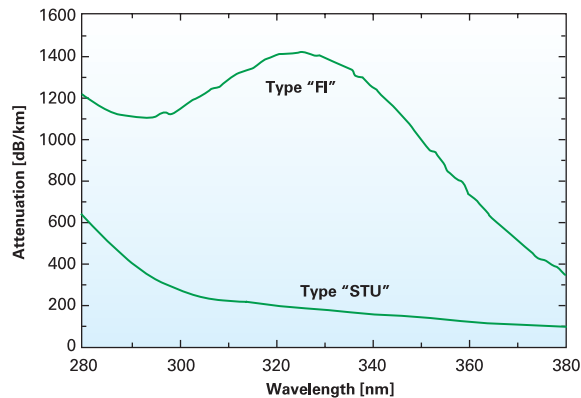
STU-D

Characteristics

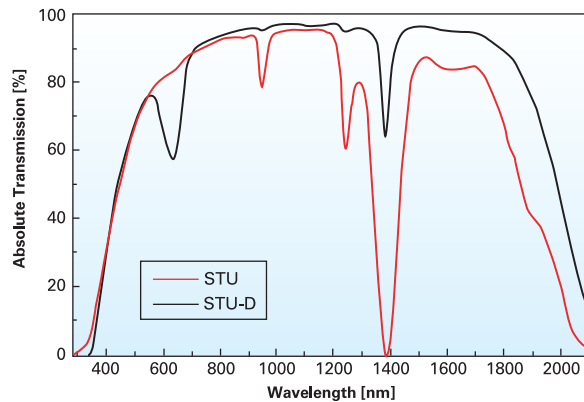
- Step Index
- Numerical Aperture: 0.22 ± 0.02
Full Acceptance Cone: 25.4 degrees
- UV-Vis-NIR Transmission, less than 280nm to greater than 2,000nm
- Excellent FRD Characteristics for Astronomy Applications
- Custom sizes
- Optional Jacketing Available
- STU: Low -OH Core, Doped Silica Clad
- STU-D: Ultra Low -OH Core, Doped Silica Clad
- Polyimide Buffer Standard; Silicone, Acrylate, Fluoropolymer, Aluminum & dual buffers also available
- Polyimide Concentricity: $\pm 3\mu\text{m}$
- Temperature: Operating, -65°C to $+300^\circ\text{C}$, Intermittent, up to 400°C
- Proof Tested from 100kpsi

These fiber configurations are based on the latest wide-band synthetic fused silica materials. They are designed for applications such as astronomical spectroscopy, where stable, broadband spectral coverage from the UV to the near IR is required. The Focal Ratio Degradation (FRD) characteristics are excellent. Polymicro Technologies manufactures these fibers with various core sizes, buffers and jackets. Core sizes range from $50\mu\text{m}$ to over $1000\mu\text{m}$, with tight dimensional tolerances and excellent concentricity. The fiber type STU has low -OH ($\sim 5\text{-}20\text{ppm}$) for UV use while the type STU-D has ultra low -OH ($\sim 1\text{ppm}$) for improved NIR at the expense of reduced UV transmission¹. The type STU fiber is noticeably improved in the 280nm to 380nm range compared to our standard low -OH (type FI) optical fiber.

Typical Characteristics



Attenuation of STU and Standard Low OH fiber¹



Transmission of 100m length of STU and STU-D Optical Fiber¹

These fibers can also be assembled into custom configurations as required. Contact Polymicro to assist you with your needs in optical fiber as well as custom micro-optical components, capillary tubing and assemblies.

¹ G. Lu, G.F. Schotz, J. Vydra, D. Fabricant, "Optical Fiber for UV-IR Broadband Spectroscopy," SPIE Proceedings, Optical Astronomical Instrumentation, V3355, pp884-891, Mar 1998



18019 N. 25th Avenue • Phoenix, AZ 85023-1200
 Voice: (602) 375-4100 Fax: (602) 375-4110
 E-Mail: sales@polymicro.com
 URL: <http://www.polymicro.com>

- Flexible Capillary
- Multimode Optical Fiber
- Specialty Assemblies
- Micro-Components