Pure Silica Core Visible Wavelength Fibers

Nufern's pure silica core fibers are optimized for use at visible wavelengths from 400 up to 700 nm. These high-performance fibers were developed for applications such as RGB components requiring couplers, diode pigtails and unique delivery needs. The pure silica core fibers were designed for more demanding applications that require lower attenuation and higher resistance to radiation and color center formation compared to germanium-doped fibers. An extended range (XP) version of S405 replaces the HP version offering a broader operational wavelength range.

Typical Applications

- Diode Pigtails
- Compact UV sources
- RGB components

Features & Benefits

- Tight specifications — Highly deterministic results, highest product yield
- High proof test — Low risk of mechanical damage and failure
- High fatigue failure resistance — Longest service life
- Pure silica core — Resistance to radiation-induced damage and color center formation

Optical Specifications	**S405-XP**	**S460-HP**	**S630-HP**
Operating Wavelength	400 – 680 nm	460 – 600 nm	630 – 860 nm
Core NA	0.120	0.120	0.120
Mode Field Diameter (Gaussian)	3.3 ± 0.5 µm @ 405 nm 4.6 ± 0.5 µm @ 630 nm	3.4 µm @ 460 nm (nominal)	4.2 ± 0.5 µm @ 630 nm
Cutoff	380 ± 20 nm	425 ± 25 nm	590 ± 30 nm
Core Attenuation	≤ 30.0 dB/km @ 630 nm ≤ 30.0 dB/km @ 488 nm	≤ 30.0 dB/km @ 460 nm	≤ 10.0 dB/km @ 630 nm
Geometrical & Mechanical Specifications			
Cladding Diameter	125.0 ± 1.0 µm	125.0 ± 1.0 µm	125.0 ± 1.0 µm
Core Diameter	3.0 µm	3.0 µm	3.5 µm
Coating Diameter	245.0 ± 15.0 µm	245.0 ± 15.0 µm	245.0 ± 15.0 µm
Coating Concentricity	< 5.0 µm	< 5.0 µm	< 5.0 µm
Core/Clad Offset	≤ 0.60 µm	≤ 0.50 µm	≤ 0.50 µm
Coating Material	UV Cured, Dual Acrylate	UV Cured, Dual Acrylate	UV Cured, Dual Acrylate
Operating Temperature Range	-60 to 85 °C	-55 to 85 °C	-55 to 85 °C
Short Term Bend Radius	≥ 6 mm	≥ 6 mm	≥ 6 mm
Long Term Bend Radius	≥ 13 mm	≥ 13 mm	≥ 13 mm
Prooftest Level	≥ 200 kpsi (1.4 GN/m²)	≥ 200 kpsi (1.4 GN/m²)	≥ 200 kpsi (1.4 GN/m²)

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Nufern products are manufactured under an ISO 9001:2008 certified quality management system.

RoHS

Standard specifications and design parameters are listed above. Specifications are subject to change without notice. Other configurations such as alternative form factors, optimized cut-off and UV cured color coating may be available. Let us know how Nufern can assist with your requirements.