



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 pigtailed 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 Pigtailed
- 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

Operating Wavelength
Core NA
Mode Field Diameter (Gaussian)
Cutoff
Core Attenuation

S405-XP

400 – 680 nm
0.120
3.3 ± 0.5 μm @ 405 nm
4.6 ± 0.5 μm @ 630 nm
380 ± 20 nm
≤ 30.0 dB/km @ 630 nm
≤ 30.0 dB/km @ 488 nm

S460-HP

460 – 600 nm
0.120
3.4 μm @ 460 nm (nominal)
425 ± 25 nm
≤ 30.0 dB/km @ 460 nm

S630-HP

630 – 860 nm
0.120
4.2 ± 0.5 μm @ 630 nm
590 ± 30 nm
≤ 10.0 dB/km @ 630 nm

Geometrical & Mechanical Specifications

Cladding Diameter
Core Diameter
Coating Diameter
Coating Concentricity
Core/Clad Offset
Coating Material
Operating Temperature Range
Short Term Bend Radius
Long Term Bend Radius
Proof test Level

125.0 ± 1.0 μm
3.0 μm
245.0 ± 15.0 μm
< 5.0 μm
≤ 0.60 μm
UV Cured, Dual Acrylate
-60 to 85 °C
≥ 6 mm
≥ 13 mm
≥ 200 kpsi (1.4 GN/m²)

125.0 ± 1.0 μm
3.0 μm
245.0 ± 15.0 μm
< 5.0 μm
≤ 0.50 μm
UV Cured, Dual Acrylate
-55 to 85 °C
≥ 6 mm
≥ 13 mm
≥ 200 kpsi (1.4 GN/m²)

125.0 ± 1.0 μm
3.5 μm
245.0 ± 15.0 μm
< 5.0 μm
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UV Cured, Dual Acrylate
-55 to 85 °C
≥ 6 mm
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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.

