



# 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/m<sup>2</sup>)

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/m<sup>2</sup>)

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-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.

