

# Pure Silica Core Visible Wavelength Fibers



Coherent'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

	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

	S405-XP	S460-HP	S630-HP
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	Acrylate	Acrylate	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
Proof Test Level	≥ 200 kpsi (1.4 GN/m <sup>2</sup> )	≥ 200 kpsi (1.4 GN/m <sup>2</sup> )	≥ 200 kpsi (1.4 GN/m <sup>2</sup> )



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Custom developed fiber (FUD) 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 Coherent can assist with your requirements.