

20/400 Precision Matched Photosensitive Double Clad Fiber



Nufern's PS-GDF-20/400-M photosensitive fiber is precision matched to the active and passive 20/400-M fibers and is designed for use in writing fiber Bragg gratings for fiber laser applications. Nufern's matched series of Large Mode Area (LMA) double clad fibers are ideal for high power monolithic fiber lasers and amplifiers. Featuring a matching set of LMA fibers, this series of fibers ensure splice compatibility across the entire chain of 20/400 fiber components, such as fiber Bragg gratings and couplers, required to make monolithic fiber lasers. This matched fiber series is based on a 20 micron diameter core and 400 micron diameter clad size with a low NA (0.06) core and consists of Yb-doped fiber, photosensitive fiber and passive beam delivery fibers all made to highest tolerances in the industry. All fibers utilize the latest glass composition and NuCOAT coating technology for long life and excellent beam quality.

Typical Applications

- Monolithic high power lasers & amplifiers
- Ideal for Bragg gratings in laser applications
- Military, industrial and medical

Features & Benefits

- Matched fiber series – Ensures splice compatibility across the 20/400 matched series of fibers
- High photosensitivity — Enables low cost, high yield grating fabrication
- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

Optical Specifications

Operating Wavelength	1060 – 1600 nm
Core NA	0.065 ± 0.005
First Cladding NA (5%)	≥ 0.46
Core Attenuation	≤ 15.0 dB/km @ 1200 nm ≤ 30.0 dB/km @ 1300 nm
Cladding Attenuation	≤ 15.0 dB/km @ 1095 nm

PS-GDF-20/400-M

Geometrical & Mechanical Specifications

Cladding Diameter	400.0 ± 5.0 μm
Core Diameter	20.0 ± 1.5 μm
Coating Diameter	550.0 ± 15.0 μm
Core/Clad Offset	≤ 2.00 μm
Clad Non-Circularity	≤ 0.5 %
First Cladding Material	Low Index Polymer
Proof test Level	≥ 100 kpsi (0.7 GN/m ²)

The precision matched active and passive fibers are also available - see LMA-YDF-20/400-M and LMA GDF-20/400-M



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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.