Step Index Multimode Fiber

105/125, 200/220, 400/440 µm

DATASHEET

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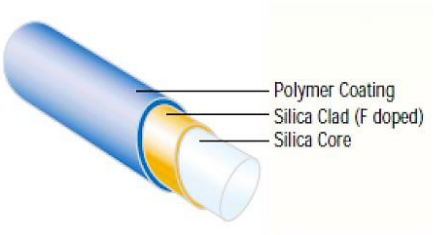
Agiltron silica cladding multimode fiber with a step-index profile is manufactured with the advanced plasma-activated chemical vapor deposition method. This fiber can be customized with different fiber designs, including core and cladding diameter as well as NA. This fiber provides excellent geometrical, optical, environmental, and mechanical properties. It is especially suitable for high-power delivery.

The fiber is made with a germanium-doped silica core and fluorine-doped silica cladding



Features

- All Glass Materials
- Low Loss
- Low Cost
- High Reliability

Applications

- High Power delivery
- Sensors
- Instrumentation

Specifications

Parameter	105/125	200/220	400/440	Unit
Optical properties				
Numerical Aperture	0.22±0.02	0.22±0.02	0.22±0.02	dB
Geometrical properties				
Core diameter	105.0±2.0	200.0±5.0	400.0±8.0	µm
Cladding diameter	125.0±2.0	220.0±5.0	440.0±8.0	µm
Coating diameter	250.0±10.0	500.0±20.0	730.0±30.0	µm
Core/cladding concentricity	≤3	≤3	≤3	µm
Material Composition				
Core	Pure or Ge/Fe doped Silica Glass			
Cladding	Pure or Ge/Fe doped Silica Glass			
Coating	Dual-layer UV-carylate or EFFE			
Mechanic Properties				
Proof Test Level		100		kpsi

RoHS COMPLIANT

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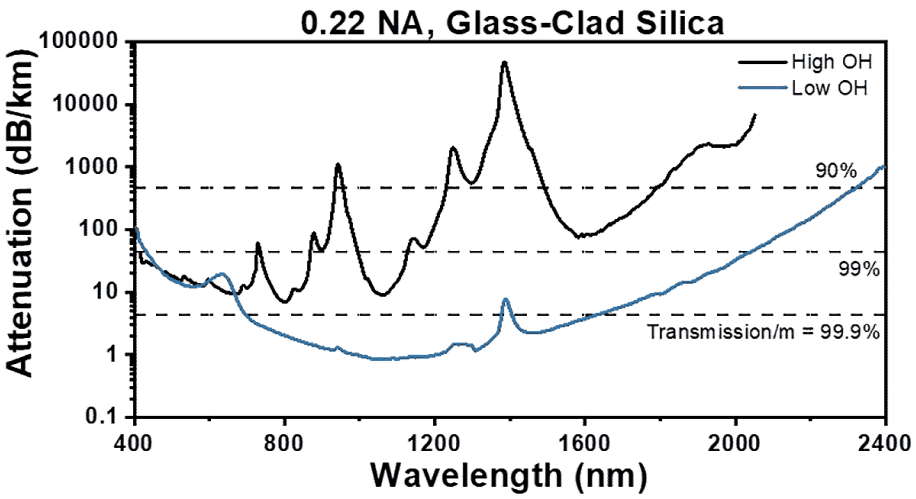
Typical Multimode Fiber Attenuation



Ordering Information (Part Number)

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Prefix	**Core diameter**	**Cladding diameter**	**NA [1]**	**Coating diameter**	**OH**	**Length**	**Connector**
SIMF-	105 = 10 200 = 20 400 = 22 600 = 60 1000 = 11 Special = 00	125 = 12 220 = 22 440 = 44 660 = 66 Special = 00	0.22 = 22 0.15 = 15 Special = 00	250 = 250 500 = 500 730 = 730 Special = 000	High = 1 Low = 2 Special = 0	1 m = 00001 10 m = 00010 100 m = 00100 1 km = 01000 10 km = 10000 99 km = 99000	None = 1

[1]. Selection of 0.15NA available for 105 core diameter

Application Notes

Fiber Core Alignment
Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

Fiber Cleanliness
Fibers with smaller core diameters (<5 µm) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power
Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the how handling by expanding the core side at the fiber ends.

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