fiberguide industries
THE FIBER OPTIC SOLUTIONS COMPANY
A HALMA COMPANY

Aluminum Coated Fiber

Fiber Type:
Step Index Multimode

Fiber Construction:
Aluminum Coated Fiber

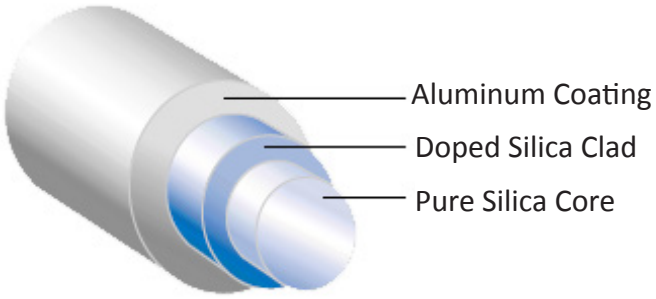
Trade Name:
Anhydroguide™
VIS-IR (Low OH)
300nm – 2400nm

Superguide™
UV-VIS (High OH)
190nm – 1250nm

AGI™ Series
(850nm, 1300nm)

ASI™ 633 Series
(633nm – 680nm)

ASI™ 1500 Series
(1310nm)



Aluminum Coated Fiber

Fiberguide's Aluminum Coated Fibers are designed for a wide temperature range (-269°C to +400°C) and superior strength (> 100kpsi). This allows for long life at extended stress levels in applications that require tight bends. Also, the strong chemical bond between the silica cladding and the aluminum enables direct termination without pistoning. This bond also makes Aluminum coating the ideal choice to preserve deep UV performance in Fiberguide's Solarguide product family.

FIBER SPECIFICATIONS

STEP INDEX MULTIMODE

- oPure Fused Silica Core / Fluorine Doped Silica Cladding
- o Core / Cladding Sizes: 50/125µm to 400/440µm
- o Numerical Aperture (NA): 0.12, 0.22, 0.26
- o Standard Core/Clad Ratio: 1.1
- o Available Core/Clad Ratios: 1.2, 1.4 and 2.5

GRADED INDEX MULTIMODE

- o Germanium Doped Fused Silica Core / Pure Fused Silica Cladding
- o Core / Cladding Sizes: 50/125µm, 62.5/125µm
- o Numerical Aperture (NA): 50µm: 0.200 / 62.5µm: 0.275

COMMON SPECIFICATIONS

- Recommended Bend Radius:
  - o Short Term: 100 X Clad Diameter
  - o Long Term: 200 X Clad Diameter

Please note that these figures represent best practice recommendations. In applications where tighter bends are required, Fiberguide can assist you in estimating what impact they may have on fiber reliability.

- 100% Proof Test Using 4-Axis Bend Method

SINGLE MODE

- o Germanium Doped Fused Silica Core / Pure Fused Silica Cladding
- o Mode Field Diameter / Cladding Sizes: 4.3/125µm, 9.0/125µm
- o Numerical Aperture (NA): 0.12

Applications:

- •High temperature and cryogenic temperature sensing
- •Semi Conductor Manufacturing
- •Corrosive and caustic environments
- •Ultra high vacuum devices
- •Radiation resistant sensors
- •Rocket, turbine and jet engine monitoring

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AGI™ Series (850nm, 1300nm)

ASI™ 633 Series (633nm – 680nm)

ASI™ 1500 Series (1310nm)

Aluminum Coating
Temperature: -269˚C to +400˚C / -452˚F to + 752˚F

Fiber Type: Anhydroguide™ Pure Fused Silica Core/ Fluorine Doped Silica Cladding - Step Index Multimode
Wavelength: VIS-IR (Low OH): 300 nm - 2400 nm

Numerical Aperture (NA):
Standard: 0.22 ± 0.02 (Full acceptance Angle 25˚) - Prefix AFS or SFS
Low: 0.12 ± 0.02 (Full Acceptance Angle 14˚) - Prefix AFM or SFM
Hi: 0.26 ± 0.02 (Full Acceptance Angle 30˚) - Prefix AFH or SFH

Proof Test: 100 KPSI 4-Axis Bend Test

Product Code	Core Diameter (µm)	Cladding Diameter (µm)	Coating Diameter (µm)	Bend Radius Short Term/ Long Term (mm)
AFS50/125/175A	50 ± 2	125 + 1/-3	175 ± 18	≥ 13/25
AFS100/140/200A	100 ± 2	140 + 1/-3	200 ± 20	≥ 14/28
AFS105/125/175A	105 ± 2	125 + 1/-3	175 ± 18	≥ 13/25
AFS200/220/280A	200 ± 4	220 ± 4.4	280 ± 28	≥ 22/44
AFS300/330/430A	300 ± 6	330 ± 6.6	430 ± 43	≥ 33/66
AFS400/440/530A	400 ± 8	440 ± 9	530 ± 53	≥ 44/88

Aluminum Coating
Temperature: -269˚C to +400˚C / -452˚F to + 752˚F

Fiber Type: Superguide™ Pure Fused Silica Core/ Fluorine Doped Silica Cladding - Step Index Multimode
Wavelength: UV-VIS (High OH): 190 nm - 1250 nm

Numerical Aperture (NA):
Standard: 0.22 ± 0.02 (Full acceptance Angle 25˚) - Prefix AFS or SFS
Low: 0.12 ± 0.02 (Full Acceptance Angle 14˚) - Prefix AFM or SFM
Hi: 0.26 ± 0.02 (Full Acceptance Angle 30˚) - Prefix AFH or SFH

Proof Test: 100 KPSI 4-Axis Bend Test

Product Code	Core Diameter (µm)	Cladding Diameter (µm)	Coating Diameter (µm)	Bend Radius Short Term/ Long Term (mm)
SFS50/125/175A	50 ± 2	125 + 1/-3	175 ± 18	≥ 13/25
SFS100/140/200A	100 ± 2	140 + 1/-3	200 ± 20	≥ 14/28
SFS105/125/175A	105 ± 2	125 + 1/-3	175 ± 18	≥ 13/25
SFS200/220/280A	200 ± 4	220 ± 4.4	280 ± 28	≥ 22/44
SFS300/330/430A	300 ± 6	330 ± 6.6	430 ± 43	≥ 33/66
SFS400/440/530A	400 ± 8	440 ± 9	530 ± 53	≥ 44/88

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Fiber Construction:
Aluminum Coated Fiber

Trade Name:
Anhydroguide™ VIS-IR (Low OH) 300nm – 2400nm

Superguide™ UV-VIS (High OH) 190nm – 1250nm

AGI™ Series (850nm, 1300nm)

ASI™ 633 Series (633nm – 680nm)

ASI™ 1500 Series (1310nm)

Aluminum Coating
Temperature: -269˚C to +400˚C / -452˚F to + 752˚F

Fiber Type: Anhydrous Graded Index (AGI™) Multimode
Wavelength: Optimized for 850nm & 1300nm

Numerical Aperture (NA):
50µm: 0.200 ± 0.02 (Full acceptance Angle 23.6˚)
62.5µm: 0.275 ± 0.02 (Full acceptance Angle 33.4˚)

Proof Test: 100 KPSI 4-Axis Bend Test

Product Code	Core Diameter (µm)	Cladding Diameter (µm)	Coating Diameter (µm)	Bend Radius Short Term/ Long Term (mm)
AGI50/125/175A	50 ± 2	125 + 1/-3	175 ± 18	≥ 13/25
AGI62.5/125/175A	62.5 ± 1	125 + 1/-3	175 ± 18	≥ 13/25

Aluminum Coating
Temperature: -269˚C to +400˚C / -452˚F to + 752˚F

Fiber Type: Anhydrous Silica (ASI™) Single Mode
Wavelength:
ASI 633 (4.3/125µm): 633nm - 680nm
ASI 1500 (9.0/125µm): 1310nm

Numerical Aperture (NA):
0.12 ± 0.02 (Full Acceptance Angle 14˚)

Proof Test: 100 KPSI 4-Axis Bend Test

Product Code	Core Diameter (µm)	Cladding Diameter (µm)	Coating Diameter (µm)	Bend Radius Short Term/ Long Term (mm)
ASI4.3/125/175A	4.3 ± 0.3	125 + 1/-3	175 ± 18	≥ 13/25
ASI9.0/125/175A	9.0 - 0.5	125 + 1/-3	175 ± 18	≥ 13/25