



Technical Data

Fiber Type:

Step Index Multimode
Graded Index Multimode
Single Mode

Fiber Construction:

Gold Coated Fiber

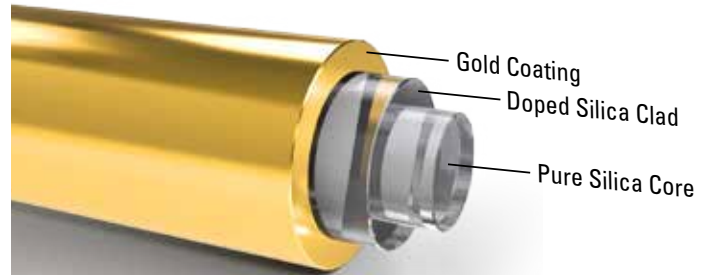
Typical Applications:

- High temperature and cryogenic temperature sensing
- Down-hole sensing for oil and gas industry
- Corrosive and caustic environments
- Ultra high vacuum devices
- Radiation resistant sensors
- Rocket, turbine and jet engine monitoring

Certifications:

ISO 9001:2015
ISO 13485:2016

Fiberguide's Gold Coated Fibers are designed to achieve the widest temperature range (-269°C to +700°C) of any optical fiber on the market. This, combined with excellent corrosion resistance, and the fiber's ability to be soldered or brazed, makes it the ideal fiber for many applications.

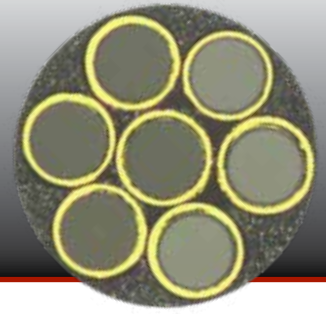


SPECIFICATIONS - Note: temperature range for all fibers is -269° to +700°C

Fiber Name	Wave-length Range	Core Diam. (um)	Clad-ding (um)	Coating (um)	NAs	Short Term Bend Radius (mm)	Long Term Bend Radius (mm)
AFS50/125/155G	400-2200	50±2	50±2	155±16	0.12, 0.22, 0.26	13	25
AFS100/140/175G	400-2200	100±2	140±3	175±18	0.12, 0.22, 0.26	14	28
AFS105/125/155G	400-2200	105±2	124±2	155±16	0.12, 0.22, 0.26	13	25
AFS200/220/255G	400-2200	200±4	240±4.4	255±26	0.12, 0.22, 0.26	22	44
AFS 300/330/380G	400-2200	300±7	330±6.6	380±38	0.12, 0.22, 0.26	33	66
AFS400/440/510G	400-2200	400±8	440±9	510±51	0.12, 0.22, 0.26	44	88
AFS500/550/630G	400-2200	500±10	550±11	630±63	0.12, 0.22, 0.26	50	100
SFS50/125/155G	200-1100	50±2	124±2	155±16	0.12, 0.22, 0.26	13	25
SFS100/140/175G	200-1100	100±2	140±3	175±18	0.12, 0.22, 0.26	14	28
SFS105/125/155G	200-1100	105±2	124±2	155±16	0.12, 0.22, 0.26	13	25
SFS200/220/255G	200-1100	200±4	240±4.4	255±26	0.12, 0.22, 0.26	22	44
SFS 300/330/380G	200-1100	300±7	330±6.6	380±38	0.12, 0.22, 0.26	33	66
SFS400/440/510G	200-1100	400±8	440±9	510±51	0.12, 0.22, 0.26	44	88
SFS500/550/630G	200-1100	500±11	550±11	630±63	0.12, 0.22, 0.26	50	100
AGI50/125/155G	850, 1300	50±2	124±2	155±16	.21	13	25
AGI62.5/125/155G	400-2200	50±2	124±2	155±16	.27	13	25
ASI4.3/125/155G	633-680	50±2	124±2	155±16	.12	13	25
ASI9/125/155G	1310-1550	50±2	124±2	155±16	.12	13	25

CONTACT US:

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Technical Data

Fiber Type:

Step Index Multimode
Graded Index Multimode
Single Mode

Fiber Construction:

Gold Coated Fiber

Typical Applications:

- High temperature and cryogenic temperature sensing
- Down-hole sensing for oil and gas industry
- Corrosive and caustic environments
- Ultra high vacuum devices
- Radiation resistant sensors
- Rocket, turbine and jet engine monitoring

Certifications:

ISO 9001:2015
ISO 13485:2016

Gold Fiber Assemblies

Fiberguide's gold fiber assemblies are custom designed for your application. We assemble each assembly using specific assembly techniques to match your demanding specifications. We have designs that can meet the range of the fiber from -269° to +700°C. Contact us and work directly with our engineers to design your assembly today.



Application for gold fibers include high temperature, cryogenic, corrosive and caustic environments, ultra-high vacuum, rocket, turbine and jet engine monitoring.

Specifications

Configurations: Single fiber or multiple fiber assemblies

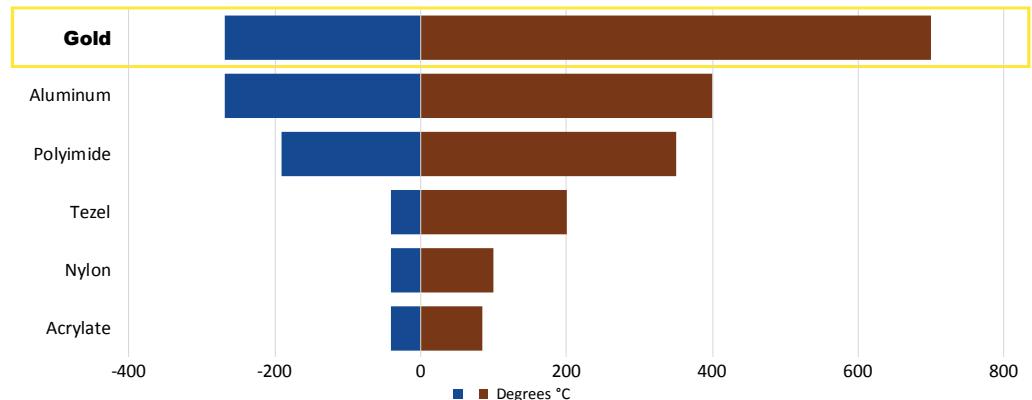
Hot End Connectors: Custom Machined Ferrules (Round, Square, Rectangular, Slit)

Cold End Connectors: SMA, FC, ST, and Custom

Sheathing Options: Stainless Steel Monocoil, Ruggedized Stainless Steel Braided Hose

Temperature Range: -269° to +700°C

Temperature Range



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Fiber Type:

Step Index
Multimode

Fiber

Construction:

Aluminum Coated
Fiber

Trade Name:

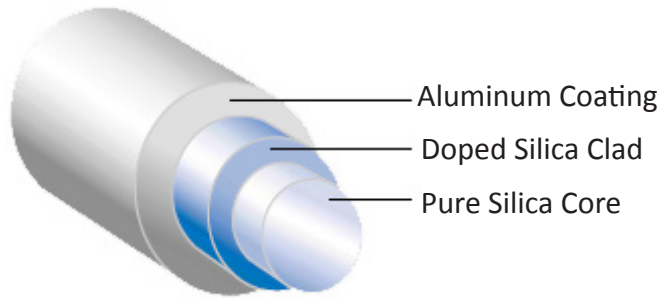
Anhydroguide™
VIS-IR (Low OH)
300nm – 2400nm

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

- o Pure 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

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

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

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

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 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

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 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