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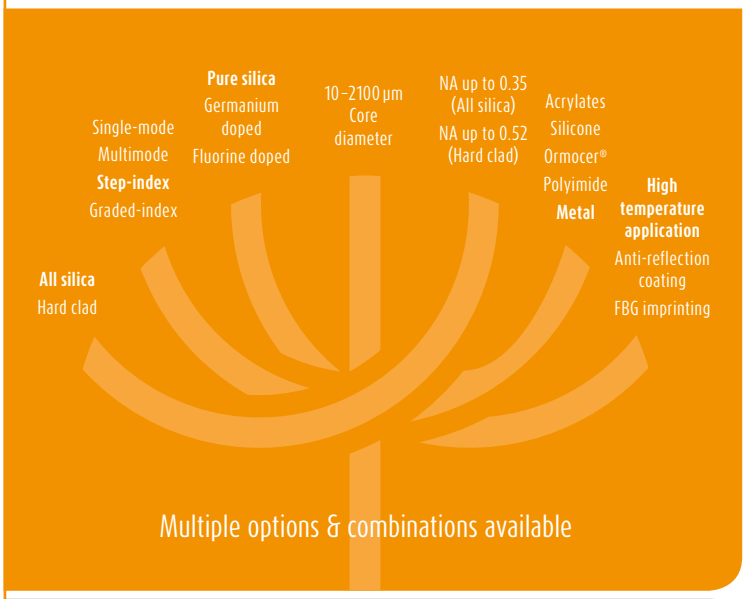
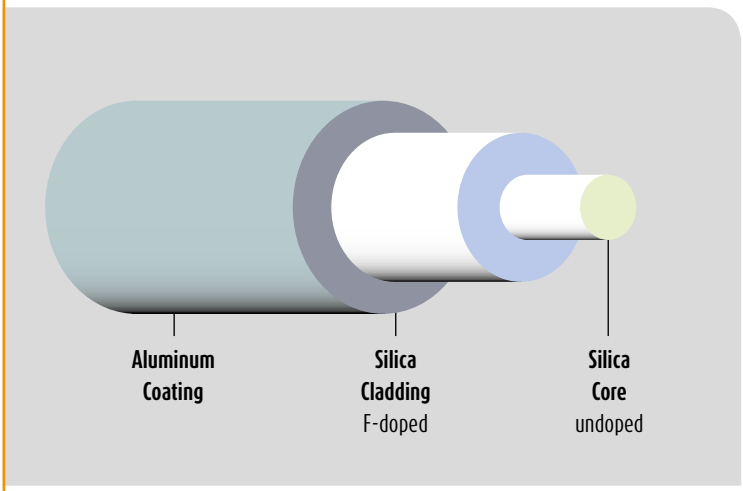


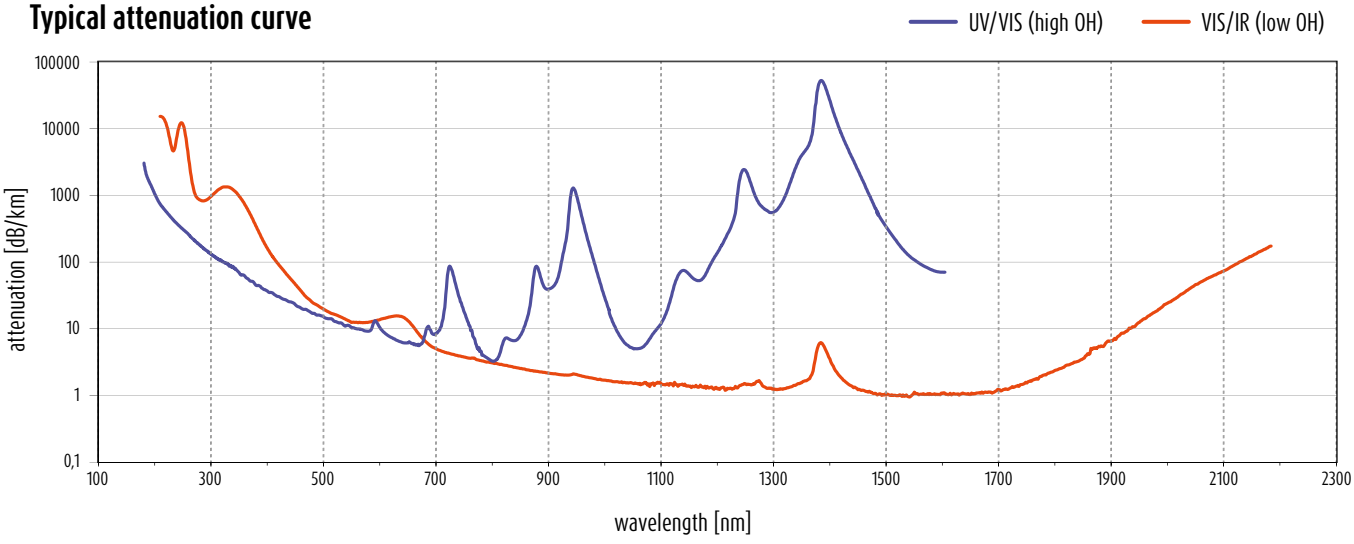


Step Index Multimode Fibers Metal Coated Series: Aluminum

Pure fused silica step index multimode fibers (SIMM), optimised for applications in the UV/VIS and VIS/IR wavelengths.

The fiber is protected with a 99.99 % Aluminum coating. Aluminum coatings not only enable the fiber to be used in applications of a wider temperature range, but also offers excellent protection at extended stress levels. As an electric conductor this type of coating provides the user with the ability to terminate the fiber directly onto the coating, supporting a hermetically sealed assembly. The manufacturing process utilized in the production of these fibers results in a superior strength optical fiber, with improved long term reliability especially under extreme bend radius applications. Unlike polymers, metal coatings such as Aluminum have very low outgassing of volatile components.
All Aluminum coated fibers are 100 % quality tested to Heracle's stringent test procedures in accordance with the Telecommunications Industry Association (TIA/EIA) and international Fiber Optic Test Procedures (FOTP). Custom specific tests to verify application requirements are available.

Typical attenuation curve



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Specialty optical fiber solutions

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Physical Characteristics	VIS/IR	UV/VIS
Core material:	Pure fused silica	Pure fused silica
Core OH content:	0.7 ppm (low OH)	1200 ppm (high OH)
Cladding material:	Fluorine doped SiO_2	Fluorine doped SiO_2
Core/cladding offset:	≤ 1 % of φ core	≤ 1 % of φ core
Coating material:	99,99 % Aluminum	99,99 % Aluminum
Cladding/core ratios:	1.1, 1.2, 1.4, and 2.5	1.1, 1.2, 1.4, and 2.5

Optical Characteristics	VIS/IR	UV/VIS
Wavelength range:	400 – 2400 nm	200 – 1200 nm
Numerical aperture:	0.22 +/- 0.02	0.22 +/- 0.02
Typical attenuation @ 850 nm:	≤ 16 dB/km	≤ 20 dB/km
Index of refraction @ 850 nm:	1.45250	1.45250

Mechanical Characteristics	VIS/IR	UV/VIS
Proof test level:	≥ 100 kpsi	≥ 100 kpsi
Median tensile strength:	≥ 5.3 GPa	≥ 5.3 GPa
Corrosion parameter:	≥ 100	≥ 100
Young's modulus:	71.7 GPa	71.7 GPa
Operating temp. range:	-269° C to 400° C	-269° C to 400° C
Bend radius short term:	200x fiber radius	200x fiber radius
Bend radius long term:	400x fiber radius	400x fiber radius

Applications

Aluminum coated step index multimode optical fibers are typically used under extreme conditions such as:

- Aircraft, missile, rocket, turbine & jet engine monitoring
- Radiation, caustic & corrosive environments
- Material fatigue sensing applications
- High power laser delivery systems
- Ultra high vacuum applications
- Semiconductor manufacturing

Features

- Wide operating temperature range (from cryogenic up to 400° C)
- Hermetic & sterilizable
- Directly solderable for vacuum feedthroughs & laser diode pigtailing
- Radiation resistant
- Low outgassing
- Resistant to organic solvents

Fiber name	Wavelength	Core [µm] ± 2 %	Cladding [µm] ± 2 %	Coating [µm] ± 10 %	Fiber name	Wavelength	Core [µm] ± 2 %	Cladding [µm] ± 2 %	Coating [µm] ± 10 %
AS 50/125 IRMA 175	VIS/IR	50	125	175	AS 50/125 UVMA 175	UV/VIS	50	125	175
AS 100/110 IRMA 150	VIS/IR	100	110	150	AS 100/110 UVMA 150	UV/VIS	100	110	150
AS 105/125 IRMA 175	VIS/IR	105	125	175	AS 105/125 UVMA 175	UV/VIS	105	125	175
AS 200/220 IRMA 280	VIS/IR	200	220	280	AS 200/220 UVMA 280	UV/VIS	200	220	280
AS 300/330 IRMA 430	VIS/IR	300	330	430	AS 300/330 UVMA 430	UV/VIS	300	330	430
AS 400/440 IRMA 530	VIS/IR	400	440	530	AS 400/440 UVMA 530	UV/VIS	400	440	530

Note: The items listed in these tables are standard configurations. Other configurations are available on special request.

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