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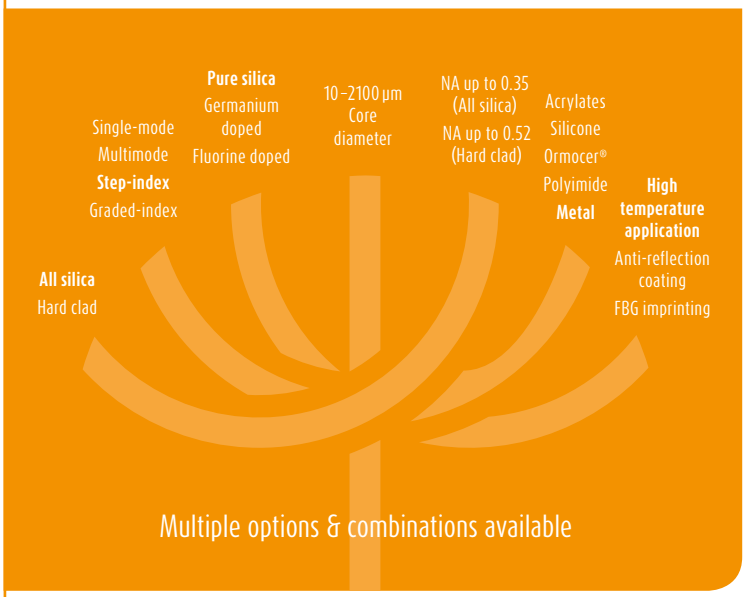
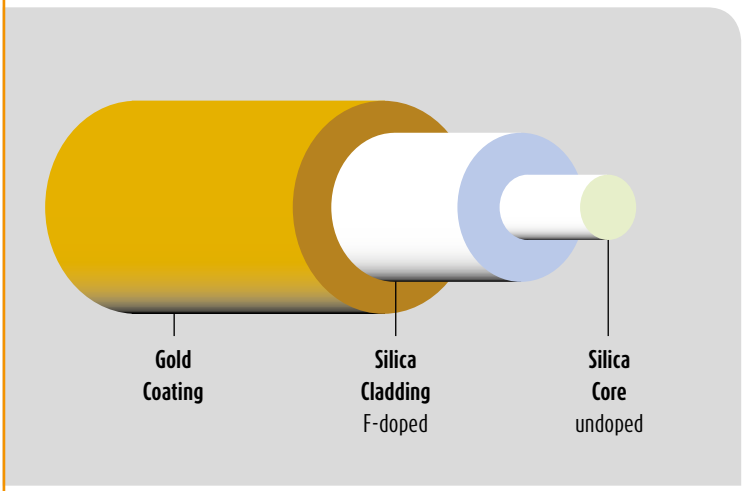


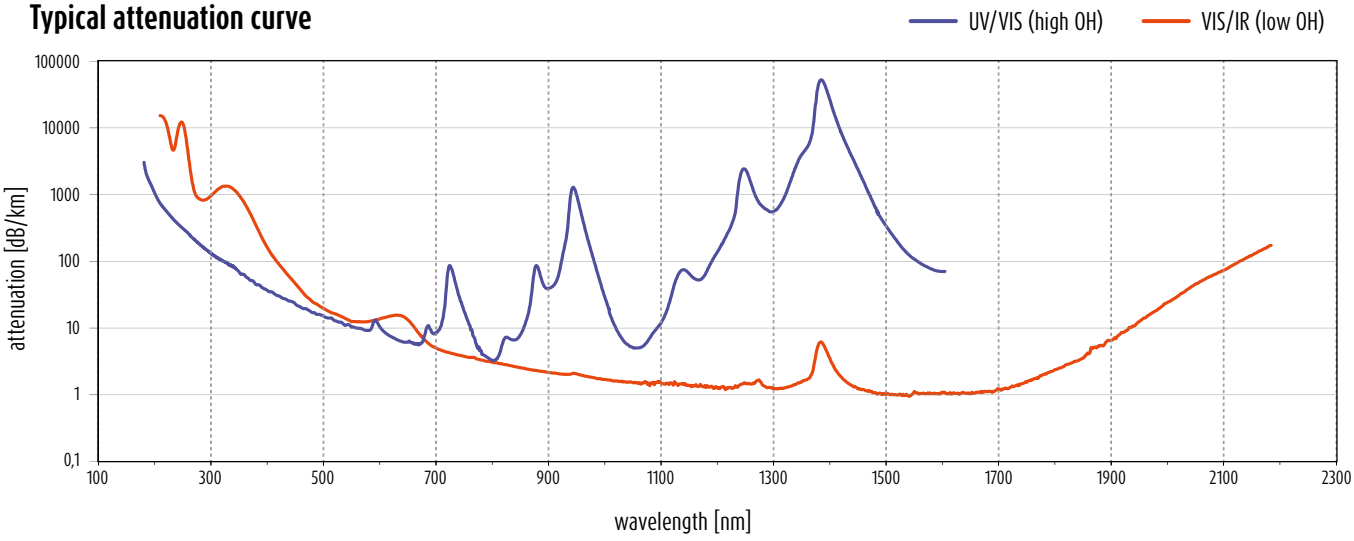


Step Index Multimode Fibers Metal Coated Series: Gold

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 % 24 kt Gold coating. Gold coatings not only enable the fiber to perform in challenging applications, but also in a wider temperature range than conventional polymer coatings. They also offer excellent protection against chemical corrosion & mechanical stress. The gold coated fiber is capable of withstanding extreme temperatures and harsh environments. As an electric conductor, this type of coating provides the user with the ability to terminate the fiber directly onto the coating, resulting in a hermetically sealed assembly. The manufacturing process utilized in the production of these fibers results in a lower stress corrosion susceptibility, and thus offering an improved mechanical protection to the optical fiber when used in the most challenging harsh environments. Unlike polymers, metal coatings such as Gold have very low outgassing of volatile components. All gold 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



heracle GmbH, Hans-Knöll-Str. 6, 07745 Jena, Germany, www.heracle.de, heracle@heracle.de
Tel. +49 (0) 3641-52 778 25, Fax +49 (0) 3212-14 15 014

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 % 24 kt Gold	99.99 % 24 kt Gold
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:	≤ 12 dB/km	≤ 14 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:	≥ 3.3 GPa	≥ 3.3 GPa
Corrosion parameter:	≥ 50	≥ 50
Young's modulus:	71.7 GPa	71.7 GPa
Operating temp. range:	-269° C to 700° C	-269° C to 700° C
Bend radius short term:	200x fiber radius	200x fiber radius
Bend radius long term:	400x fiber radius	400x fiber radius

Applications

Gold 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

Features

- Widest operating temperature range (from cryogenic to 700° C)
- Hermetic & sterilizable
- Directly solderable for vacuum feedthroughs & laser diode pigtailing
- Radiation resistant
- Low outgassing
- Non-contaminating & non-oxidizing
- Resistant to chemical corrosion

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 IRMG 155	VIS/IR	50	125	155	AS 50/125 UVMG 155	UV/VIS	50	125	155
AS 105/125 IRMG 155	VIS/IR	105	125	155	AS 105/125 UVMG 155	UV/VIS	105	125	155
AS 200/220 IRMG 255	VIS/IR	200	220	255	AS 200/220 UVMG 255	UV/VIS	200	220	255
AS 300/330 IRMG 380	VIS/IR	300	330	380	AS 300/330 UVMG 380	UV/VIS	300	330	380
AS 400/440 IRMG 510	VIS/IR	400	440	510	AS 400/440 UVMG 510	UV/VIS	400	440	510

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

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