



Metal-coated silica fibres offer higher mechanical and chemical robustness than polymer-coated fibres for many applications in harsh environment conditions (high temperature, radiation...).

Main characteristics

- Custom multimode or singlemode silica fibres
- Handling wide temperature/radiative ranges
- Water/hydrogen sealing barrier
- Drawing of customer's preform available

Applications

- Signal transmission in harsh environment
- High power active fibre cooling
- Distributive temperature sensing

Fibre specification ⁽¹⁾

Fibre type	SM-1550-125-014-AL	MMGI-50-125-020-AL
Optical parameters	SINGLEMODE	MULTIMODE
Operating wavelength (nm)	1300 - 1650	800 - 1400
Cutoff wavelength (nm)	$1150 \leq \lambda_c \leq 1275$	N/A
Attenuation (dB/km)	≤ 20 @1310 nm & 1550 nm	≤ 25 @850 nm & 1300 nm
Mode field diameter (µm)	7.8 ± 0.5 @1310 nm 9 ± 0.5 @1550 nm	N/A
Numerical aperture	0.14 ± 0.01	0.20 ± 0.02
Physical/Material parameters		
Core diameter (µm)	6.8 typical	50 ± 2
Core concentricity error (µm)	≤ 1	
Cladding diameter (µm)	125 ± 2	
Coating outside diameter (µm)	170 ± 10	
Coating material	Aluminum	
Proof test level (kpsi)	100	
Operating temperature range (°C)	-269 to +400	
Bend radius (mm)	Short term: 15 Long term: 30	

⁽¹⁾ Off the shelf fibres developed in collaboration with Exail. Other versions available on request.

Microscope view of the Aluminum coating surface

