METAL-COATED SILICA FIBERS
(Excellent long life fibers for harsh environmental applications)

Hermetically sealed metal-coated optical fibers have all the benefits of silica-silica fibers. Additional significant improvements include increased mechanical strength and greater fatigue resistance compared to non-hermetic and polymer-clad fibers (PCS). Their transmittance covers a spectral range of 200 to 2400 nm, and also remains stable in corrosive chemicals that normally react to silica glass. The temperature range is from -196°C to +600°C and a humidity range of up to 100%. Hermetically metal-coated optical fibers are the optimum candidate when used in high vacuum and harsh environmental conditions

Features:

- Greatly enhanced resistance to high power laser radiation.
- Higher core-to-clad ratio and enlarged NA optimised for coupling to high-energy lasers.
- Better fiber cooling due to the heat-conducting metal coating.
- Excellent mechanical strength and flexibility compared to polymer coated fibers.
- Radiation resistant construction.
- Sterilizable using ETO, steam, e-beam or gamma radiation methods.
- Capability to feed the fibers into a high vacuum: the metal coating can be soldered and will not outgas.

Fiber Specifications

Core material	pure synthetic silica (low OH or high OH)	
Clad material	doped silica	
Clad/core ratios	1.05; 1.1; 1.2; 1.4	
Numerical Aperture (NA)	0.22 ± 0.02 (another on request)	
Minimal bend radius	40 times the fiber radius (long term)	
Material of additional polymer jacket	on request	
Material of hermetic protective coating (Coating material)	**Al**	**Cu**
Coating thickness, µm	15 to 150	15 to 150
Fiber diameter, µm	100 to 1200	100 to 800
Static fatigue parameter n	>100	>100
Min operating temperature, °C	-196	-196
Max operating temperature, °C	400	600

Other parameters are available on the request

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