# 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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