ArmD[®] UV-SRC Silica/silica fiber with hermetic carbon layer

Armadillo is pleased to introduce a new product designed for the UVC spectral range. Enhanced solarization resistance and increased stability in our UV-SRC fiber expand its application possibilities across a wide range of scenarios.

Wavelength

ArmD [®] UV-SRC	180 - 2100 nm
ArmD [®] UV-SR	190 - 2100 nm

Numerical Aperture (NA)

Low	0.12 ± 0.02 0,15 ± 0,02
Standard	0.22 ± 0.02
High	0.26 ± 0.02 0,28 ± 0,02

Advantages

• Significantly improved deep UV solarization resistance

- Hermetic coating
- Customizable Numerical Aperture (NA)
- from 0.12 to 0.30 available upon request
- Very low NA expansion
- Biocompatible material
- Manufactured at GMP and ISO 9001 compliant facility

Jacketing - Polyimide

Fluorine - doped silica cladding

Hermetic carbon laye

Silica glass core

Technical data

Operating temperature	- 190 to + 150 °C
Core diameter	Available from 90 to 1000 μm
Standard core / cladding ratios	1 : 1,06 1 : 1,1 1 : 1,2 1 : 1,4 or customised
OH Content	High (> 700 ppm)
Standard prooftest	70 kpsi (polyimide jacket)
Minimum bending radius	50 × cladding diameter (short-term mechanical stress) 300 × core diameter (during use with high laser power)



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Attenuation values

The following diagrams provide an overview of attenuation values in relation to wavelengths



Comparison of Solarization Resistance



Transmission Comparison

Attenuation caused by radiation with ArF laser/1000j/cm2



Transmission changes of 2 m of fiber at 214 nm | Irradiating by D2 lamp with CaF2 lenses Using D2 lamp and CaF2 lenses we undergo our UV-SRC fiber UV radiation which has maximal intensity from 180 to 240 nm. Solarization dynamics comparison for ArmD^{*} UV and ArmD^{*} UV-SRC at wavelength 214 nm you can see above.

xposure time (min)

Applications

The primary selection for various applications such as spectroscopy, medical diagnostics, medical technology, laser delivery systems, and more.



armadillosia.com +1-408-900-8883 info@armadillosia.com

