

ArmD™ Fiber Taper Products



ArmD™ fused tapered fibers are versatile, suitable for deployment across the entire spectrum from deep UV to NIR. These taper products become essential when there is a variance in input and output diameters. Armadillo provides a diverse array of options, catering to specific applications and ensuring flexibility for specialized needs. Armadillo's fused tapered fibers are versatile, suitable for deployment across the entire spectrum from deep UV to NIR. These taper products become essential when there is a variance in input and output diameters. Armadillo provides a diverse array of options, catering to specific applications and ensuring flexibility for specialized needs.

Advantages

- Broad temperature tolerance
- Excellent resistance to laser damage
- Special jackets available for high-temperatures, high-vacuum and harsh chemical environments
- High core/cladding ratio
- Consistent core/cladding ratio across the entire fiber
- Dielectric and non-magnetic design
- Sterilizable using ETO and other methods
- Biocompatible material

Formula

A tapered optical fiber acts as a beam diameter and numerical aperture converter, with the input beam being converted according to the following formula:

$$NA_2 = \frac{D_1}{D_2} NA_1$$

NA1: Input NA | NA2: Output NA

D1: Input diameter | D2: Output diameter

The output NA is constrained by the NA of the fiber employed, potentially leading to a loss of light.

Technical data

Available fibers	ArmD™ UV ArmD™ WF ArmD™ Plus UV ArmD™ Plus WF ArmD™ WFGE
Wavelength	From deep UV to NIR
Core diameter	Available from 50 to 1000 μm
Standard taper ratios	2 : 1 3 : 1 4 : 1 5 : 1 or customized
Standard proof test	100 kpsi
Minimum bending radius	5 - 100 mm (depending on the selected fiber diameter)

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