



## Verrillon® VHS400 Series Harsh Environment Fibers

Verrillon VHS400 Fiber Series is a pure silica core single-mode fiber designed to operate at both 1310 and 1550 nm. These Harsh Environment Fibers from AFL are available in a broad range of coatings including Mid-Temp Dual Acrylates, Polyimide and Carbon. Typically, these fibers are used in sensing applications such as DTS, DSS and DAS.

### Features

- Dual-wavelength (1310/1550 nm) single-mode design
- Optical properties matching standard SMF for low splice loss
- Pure silica core provides excellent resistance to H<sub>2</sub> and moisture in harsh environments
- Wide range of protective coatings available, depending on application requirements

### Specifications

PART NO.	SMF-400-CP-125-1	SMF-400-P-125-1
Description	125/155 μm Carbon/Polyimide Pure Silica Core, Single-mode fiber, 0.12NA, 100 kpsi, 1310/1550 nm Dual Window Operating Wavelength	125/155 μm Polyimide Pure Silica Core, Single-mode fiber, 0.12NA, 100 kpsi, 1310/1550 nm Dual Window Operating Wavelength
<b>PARAMETER</b>	<b>VALUE</b>	
<b>Material</b>		
Hermetic Coating	Carbon	—
Coating	Polyimide	Polyimide
<b>Geometry</b>		
Clad Diameter (μm)	125 ± 2	125 ± 2
Core/Clad Offset (μm)	≤ 1.5	≤ 1.5
Coating Diameter (μm)	155 ± 5	155 ± 5
Polyimide Coating Concentricity <sup>1</sup> (%)	≥ 80	≥ 80
<b>Optical</b>		
NA (nominal)	0.12	0.12
Attenuation <sup>2</sup> @ 1310 nm (dB/km)	≤ 0.8	≤ 0.8
Attenuation <sup>2</sup> @ 1550 nm (dB/km)	≤ 0.8	≤ 0.8
Cutoff Wavelength (nm)	1250 ± 50	1250 ± 50
Mode Field Diameter <sup>3</sup> @ 1310 nm (μm)	9.2 ± 0.6	9.2 ± 0.6
Mode Field Diameter <sup>3</sup> @ 1550 nm (μm)	10.4 ± 0.8	10.4 ± 0.8
<b>Mechanical</b>		
Proof Test (kpsi)	≥ 100	≥ 100
Operating Temperature (°C)	-65 to +300	-65 to +300

<sup>1</sup> Measured as (Min. Wall/Max. Wall) x 100

<sup>2</sup> Measured on loose coil    <sup>3</sup> Petermann II Definition

# Verrillon®

## VHS400 Series Harsh Environment Fibers

### Specifications

PART NO.	SMF-400-MTDA-125-1	SMF-400-CMTDA-125-1
Description	125/245 µm Mid-Temp Dual Acrylate coated, Single-mode fiber, 0.12NA, 100 kpsi, 1310/1550 nm Dual Window Operating Wavelength	125/245 µm Carbon/Mid-Temp Dual Acrylate coated, Single-mode fiber, 0.12NA, 100 kpsi, 1310/1550 nm Dual Window Operating Wavelength
<b>PARAMETER</b>	<b>VALUE</b>	
<b>Material</b>		
Hermetic Coating	—	Carbon
Primary Coating	Mid-Temp Dual Acrylate	Mid-Temp Dual Acrylate
Secondary Coating	Mid-Temp Dual Acrylate	Mid-Temp Dual Acrylate
<b>Geometry</b>		
Clad Diameter (µm)	125 ± 2	125 ± 2
Core/Clad Offset (µm)	≤ 1.5	≤ 1.5
Coating Diameter (µm)	245 ± 10	245 ± 10
<b>Optical</b>		
NA (nominal)	0.12	0.12
Attenuation <sup>1</sup> @ 1310 nm (dB/km)	≤ 0.8	≤ 0.8
Attenuation <sup>1</sup> @ 1550 nm (dB/km)	≤ 0.8	≤ 0.8
Cutoff Wavelength (nm)	1250 ± 50	1250 ± 50
Mode Field Diameter <sup>2</sup> @ 1310 nm (µm)	9.2 ± 0.6	9.2 ± 0.6
Mode Field Diameter <sup>2</sup> @ 1550 nm (µm)	10.4 ± 0.8	10.4 ± 0.8
<b>Mechanical</b>		
Proof Test (kpsi)	≥ 100	≥ 100
Operating Temperature (°C)	-40 to +150	-40 to +150

<sup>1</sup> Measured on loose coil    <sup>2</sup> Petermann II Definition