Verrillon®
VHS300 Series Harsh Environment Fibers

Verrillon VHS300 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 Acrylates, Polyimide, Silicone-PFA 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_2 and moisture in harsh environments
- Wide range of protective coatings available, depending on application requirements

Specifications

PART NO.	SMF-40-CP-125-1	SMF-40-P-125-1
Description	125/155 µm Carbon/Polyimide Pure Silica Core, Single-mode fiber, 0.12NA, 100 kpsi	125/155 µm Polyimide Pure Silica Core, Single-mode fiber, 0.12NA, 100 kpsi
PARAMETER	**VALUE**	
Material		
Hermetic Coating	Carbon	—
Coating	Polyimide	Polyimide
Geometry		
Clad Diameter (µm)	125 ± 2	125 ± 2
Core/Clad Offset (µm)	≤ 0.5	≤ 0.5
Coating Diameter (µm)	155 ± 5	155 ± 5
Polyimide Coating Concentricity[1] (%)	≥ 80	≥ 80
Optical		
NA (nominal)	0.12	0.12
Attenuation[2] @ 1310 nm (dB/km)	≤ 0.8	≤ 0.8
Attenuation[2] @ 1550 nm (dB/km)	≤ 0.8	≤ 0.8
Cutoff Wavelength (nm)	1250 ± 50	1250 ± 50
Mode Field Diameter[3] @ 1310 nm (µm)	9.2 ± 0.6	9.2 ± 0.6
Mode Field Diameter[3] @ 1550 nm (µm)	10.4 ± 0.8	10.4 ± 0.8
Mechanical		
Proof Test (kpsi)	≥ 100	≥ 100
Operating Temperature (°C)	-65 to +300	-65 to +300

[1] Measured as (Min. Wall/Max. Wall) x 100 [2] Measured on Zero Tension spool [3] Petermann II Definition

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Specifications

PART NO.	SMF-40-CSPFA-125-5
Description	125/400 µm Carbon/Silicone/PFA coated, Single-mode fiber, 0.12NA, 100 kpsi, 1310/1550 nm Operating Wavelength
PARAMETER	**VALUE**
Material	
Hermetic Coating	Carbon
Primary Coating	Silicone
Secondary Coating	PFA
Geometry	
Clad Diameter (µm)	125 ± 2
Core/Clad Offset (µm)	≤ 0.5
Coating Diameter (µm)	400 ± 50
Optical	
NA (nominal)	0.12
Attenuation[1] @ 1310 nm (dB/km)	≤ 0.8
Attenuation[1] @ 1550 nm (dB/km)	≤ 0.8
Cutoff Wavelength (nm)	1250 ±50
Mode Field Diameter[2] @ 1310 nm (µm)	9.2 ± 0.6
Mode Field Diameter[2] @ 1550 nm (µm)	10.4 ± 0.8
Mechanical	
Proof Test (kpsi)	≥ 100
Operating Temperature (°C)	-40 to +200

[1] Measured on loose [2] Petermann II Definition