



Verrillon® VSS200 Series—Coupler Fiber

Verrillon Harsh Environment Fibers from AFL are available in a number of designs. Starting with fiber design, we offer both single-mode and multimode optical fibers having coatings and coating combinations, including Polyimide, Silicone-PFA and Carbon, which can be applied in conjunction with any of these outer coatings. Typically, these fibers are used in down-hole data logging, distributed sensing and imaging applications.

Verrillon carbon-coated optical fibers provide exceptionally high levels of hermeticity compared to commercial fibers. We provide extensive data that demonstrates the performance of our fiber. In addition, we provide one-stop shopping for customers requiring multi-count cabled hermetic fibers, if required, in metal jacketing tubes.

Consistent with our founding principles, we specialize in application optimized fibers, providing our customers unmatched flexibility in the their system design and performance.

Features

- Exhibits lower excess loss
- High numerical aperture design for low bend loss
- Fully qualified to Telcordia GR-20

Specifications—Coupler Fiber

PART NO.	CF-2-125-0	CF-4-125-20-1	CF-5-125-2
Description	980 nm Acrylate coated, Coupler Fiber, 0.16 NA, 200 kpsi	980 nm Acrylate Coated, Coupler Fiber, 0.20 NA, 200 kpsi	1310/1550 nm Acrylate Coated, Coupler Fiber, 0.13 NA, 200 kpsi
PARAMETER	VALUE		
Material			
Coating	Dual UV Acrylate	Dual UV Acrylate	Dual UV Acrylate
Geometry			
Clad Diameter (µm)	125 ± 1	125 ± 1	125 ± 1
Clad Non-Circularity (%)	—	≤ 2	—
Core/Clad Offset (µm)	≤ 0.3	≤ 0.3	≤ 0.5
Coat Diameter (µm)	245 ± 15	245 ± 15	245 ± 15
Optical			
NA (nominal)	0.16	0.20	0.13
Attenuation			
@ 980 nm (dB/m)	≤ 3.0	≤ 3.5	—
@ 1310 nm (dB/km)	—	—	≤ 0.5
@ 1550 nm (dB/km)	—	—	≤ 0.5
Cutoff Wavelength (nm)	≤ 960	≤ 960	1250 ± 40
Mode Field Diameter ¹			
@ 980 nm (µm)	5.0 ± 0.3	4.2 ± 0.3	—
@ 1310 nm (µm)	—	—	8.6 ± 0.5
@ 1550 nm (µm)	—	—	9.7 ± 0.5
Bend Loss ²			
@ 1310 nm (µm)	—	—	≤ 0.25
@ 1550 nm (µm)	—	—	≤ 0.25
Mechanical			
Tensile Strength (kpsi)	≥ 200	≥ 200	≥ 200
Operating Temperature (°C)	-40 to +85	-40 to +85	-40 to +85

¹ Petermann II Definition

² 10 turns of fiber on a 30 mm diameter mandrel