



Verrillon® Medical Sensing Fibers

Verrillon® Medical Sensing Series is a family of multimode and single-mode optical fibers designed for advanced devices used in a variety of atraumatic medical procedures such as diagnostic, visualization and tissue ablation applications. These fibers are offered with polyimide coating, as well as other coatings for use in a broader range of temperatures. Additionally, Verrillon Medical Sensing Fibers are available in 80 μm and 125 μm cladding diameters with numerical apertures (NA) from 0.10 to 0.30, as well as custom index profiles.

Features

- Available in reduced diameter for Small Form Factor medical devices used in minimally-invasive interventions
- High numerical apertures provide extremely low bend-loss for tight bend requirements in small footprint, compact packaging
- Multimode and Single-Mode designs available
- Custom index profiles and cladding diameters available

Specifications

PART NO.	MEDICAL SENSING OPTICAL FIBERS			
	MMF-62.51P801001	MMF-50-3-P-125-1	SMF-37-P-125-3	F-124-A-245
Description	62.5/80/100, 0.29 NA, Graded-Index, Polyimide-coated, reduced cladding diameter for small form factor devices	50/125/155, 0.20 NA, Graded-Index, Polyimide-coated Multimode Fiber	9/125/155 Highly Bend-Insensitive Singlemode Fiber, 0.21 NA, Polyimide-coated	125 OD Pure Silica Coreless Dual-Acrylate coated
PARAMETER				
Material				
Core	Ge-doped Silica	Ge-doped Silica	Ge-doped Silica	Pure Silica
Cladding	Pure Silica	Pure Silica	Pure Silica	N/A
Coating	Polyimide	Polyimide	Polyimide	Dual-Acrylate
Geometry				
Core Diameter (μm)	62.5 ± 3	50 ± 3	-	124 ± 1
Clad Diameter (μm)	79 ± 1	125 ± 2	125 ± 2	245 ± 5
Core Non-Circularity (%)	≤ 5	≤ 5	-	-
Clad Non-Circularity (%)	≤ 1	≤ 1	≤ 2	-
Core/Clad Offset (μm)	≤ 1.5	≤ 1.5	≤ 1.0	-
Coat Diameter (μm)	100 ± 7	155 ± 5	155 ± 5	-
Coating Concentricity * (%)	-	≥ 80	≥ 80	-
Optical				
NA (nominal)	0.29	0.2	0.21	-
Attenuation (dB/km) @ 850 nm	≤ 5.0	≤ 3	-	-
Attenuation (dB/km) @ 1310 nm	≤ 1.5	≤ 1.2	≤ 1.2	-
Attenuation (dB/km) @ 1550 nm	-	-	≤ 0.9	-
Bandwidth (MHz*km) @ 850 nm	≥ 100	-	-	-
Bandwidth (MHz*km) @ 1310 nm	≥ 200	-	-	-
Cutoff Wavelength (nm)	-	-	≤ 1290	-
Mode Field Diameter @ 1310 nm (μm)	-	-	5.1 ± 1.0	-
Mode Field Diameter @ 1550 nm (μm)	-	-	5.8 ± 1.0	-
Short-Term / Long-Term Bend Radius (mm)	-	-	≥ 10 / ≥ 17	-
Mechanical				
Proofstress (kpsi)	≥ 100	≥ 100	≥ 100	-
Operating Temperature (°C)	-65 to +300	-65 to +300	-65 to +300	-