

1310 Optical Coherence Tomography (OCT) Fibers



Since its inception in the early 1990s, OCT has evolved beyond ophthalmologic imaging of the retina to recent advances in the dual-modality diagnosis of coronary artery disease using fiber optic probes. OCT catheters designed for semi-invasive in vivo intervention require small form factor optical fibers, dispersion control, bend insensitivity, and high proof strength for superior mechanical reliability. Our OCT offerings also include pure silica core waveguides supporting sterilization by radiation as well as thin biocompatible coatings such as polyimide when form factor and reliability are paramount.

Typical Applications

- Endoscopic OCT
- Cardiology
- Oncology
- Ophthalmology
- Gastroenterology

Features & Benefits

- Dispersion-controlled single mode waveguides
- Exceptional bend loss performance
- Cladding diameters from 80 μm to 125 μm
- Biocompatible coatings: polyimide, acrylate
- Compatible for ETO and radiation sterilization

Optical Specifications

	1310-OCT-P 1398975	1310-80-OCT-P 1398976	1310-GDF-OCT 1398977	1310-GGF-OCT 1398978
Operating Wavelength	1250 – 1600 nm	1250 – 1600 nm	1250 – 1600 nm	1250 – 1600 nm
Core NA	0.12	0.120	0.13	0.130
First Cladding NA (50%)	N/A	N/A	N/A	≥ 0.20
Mode Field Diameter	$9.3 \pm 0.5 \mu\text{m}$ @ 1310 nm	$9.3 \pm 0.5 \mu\text{m}$ @ 1310 nm	$8.6 \pm 0.5 \mu\text{m}$ @ 1310 nm	$8.6 \pm 0.5 \mu\text{m}$ @ 1310 nm
Cutoff	1200 ± 50 nm	1200 ± 50 nm	1200 ± 50 nm	1200 ± 50 nm
Core Attenuation	≤ 1 dB/km @ 1310 nm	≤ 3.00 dB/km @ 1310 nm	≤ 1 dB/km @ 1310 nm	≤ 1.0 dB/km @ 1310 nm

Geometrical & Mechanical Specifications

Cladding Diameter	$125 \pm 1 \mu\text{m}$	$80.0 \pm 1.0 \mu\text{m}$	$125 \pm 1 \mu\text{m}$	$125.0 \pm 1.0 \mu\text{m}$
Core Diameter	$8 \mu\text{m}$	$8.0 \mu\text{m}$	$7 \mu\text{m}$	$7.0 \mu\text{m}$
Coating Diameter	$150 \pm 5 \mu\text{m}$	$100.0 \pm 5.0 \mu\text{m}$	$175 \pm 15 \mu\text{m}$	$175.0 \pm 15.0 \mu\text{m}$
Coating Concentricity	$< 2 \mu\text{m}$	$< 1.5 \mu\text{m}$	$< 5 \mu\text{m}$	$< 5.0 \mu\text{m}$
Core/Clad Offset	$\leq 1 \mu\text{m}$	$\leq 0.50 \mu\text{m}$	$\leq 1 \mu\text{m}$	$\leq 1.00 \mu\text{m}$
Coating Material	Polyimide	Polyimide	Low Index Acrylate	Acrylate
Operating Temperature Range	- 65 to 300 °C	-65 to 300 °C	- 55 to 85 °C	-55 to 85 °C
Proof Test Level	$\geq 200 - 220$ kpsi	$\geq 200 - 220$ kpsi	$\geq 100 - 160$ kpsi	$\geq 100 - 160$ kpsi

*Instrumentation grade fibers for each of the cited fibers are also available

**MM-S105/125-22A available as a complement to single clad OCT fibers in catheters



7 Airport Park Road, East Granby, CT 06026 • 860.408.5000 • E-mail eb_info@coherent.com • www.nufern.com • Products are manufactured under an ISO 9001:2008 certified quality management system.



Custom developed fiber (FUD) specifications are subject to change without notice. Other configurations such as alternative form factors, optimized cut-off and UV cured color coating may be available. Let us know how Nufern can assist with your requirements.

NU0329- 07/15/2019