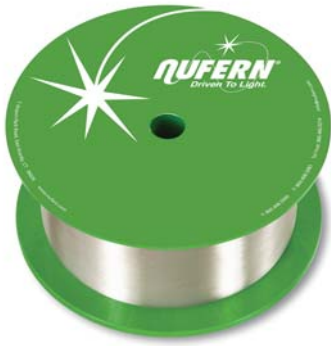


# Specialty Multi-Mode Radiation Resistant Fibers



Nufern's radiation resistant specialty multi-mode fibers are designed to operate for extended periods of time on low earth orbits, near and deep space, and in applications where risk of exposure to man-made radiation is great. As with the traditional Nufern MM fiber, these fibers are capable of withstanding extreme environments and large and fast temperature swings. Features include step index and graded index configurations, numerical apertures from 0.06 to 0.45 and core sizes from 10  $\mu\text{m}$  to 700  $\mu\text{m}$ . All fibers are available with a high temperature acrylate, silicone, or polyimide coating.

## Typical Applications

- Airframe, spacecraft, missile and UAV optical interconnects
- Large bandwidth tactical cables
- Robust duty in extreme military and classified environments

## Features & Benefits

- Radiation resistance — Useful in radiation environments.
- Operate over wide frequency range — One fiber serves broad applications
- Exceptional uniformity and core/clad concentricity — Minimize fiber induced signal artifacts
- Higher proof test levels — Longest life expectancy
- Tight diameter control — Lowest cost deployments

## Optical Specifications

Operating Wavelength (nominal)	
Numerical Aperture	
Bandwidth	
Bandwidth	
Attenuation	
Attenuation	

## GR-50/125-23HTA

800 – 1350 nm
$0.23 \pm 0.015$
$\geq 1000$ MHz-km @ 850 nm
$\geq 300$ MHz-km @ 1300 nm
$\leq 3.5$ dB/km @ 850 nm
$\leq 1.2$ dB/km @ 1300 nm

## GR-62.5/125-27HTA

800 – 1350 nm
$0.275 \pm 0.015$
$\geq 160$ MHz-km @ 850 nm
$\geq 500$ MHz-km @ 1300 nm
$\leq 3.5$ dB/km @ 850 nm
$\leq 0.9$ dB/km @ 1300 nm

## GR-100/140-24HTA

800 – 1350 nm
$0.24 \pm 0.02$
$\geq 200$ MHz-km @ 850 nm
$\geq 200$ MHz-km @ 1300 nm
$\leq 7.0$ dB/km @ 850 nm
$\leq 5.0$ dB/km @ 1300 nm

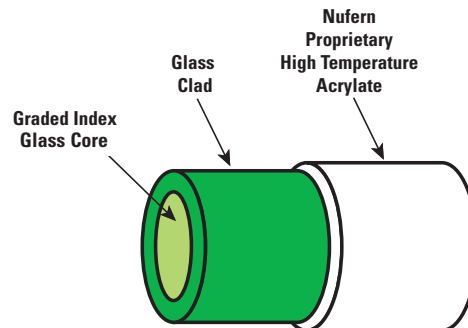
## Geometrical & Mechanical Specifications

Core Diameter	
Clad Diameter	
Coating Diameter	
Core-Clad Concentricity	
Coating Material	
Core Type	
Operating Temperature	
Short-Term Bend Radius	
Long-Term Bend Radius	
Proof Test Level	

$50 \pm 3$ $\mu\text{m}$
$125 \pm 2$ $\mu\text{m}$
$245 \pm 15$ $\mu\text{m}$
$< 3$ $\mu\text{m}$
Dual Layer, High Temperature Acrylate
Graded Index, Radiation Resistant
- 55 to + 125 C
$\geq 12$ mm
$\geq 25$ mm
$\geq 100$ kpsi (0.7 GN/m <sup>2</sup> )

$62.5 \pm 3$ $\mu\text{m}$
$125 \pm 2$ $\mu\text{m}$
$245 \pm 15$ $\mu\text{m}$
$< 3$ $\mu\text{m}$
Dual Layer, High Temperature Acrylate
Graded Index, Radiation Resistant
- 55 to + 125 C
$\geq 12$ mm
$\geq 25$ mm
$\geq 100$ kpsi (0.7 GN/m <sup>2</sup> )

$100 \pm 4$ $\mu\text{m}$
$140 \pm 3$ $\mu\text{m}$
$245 \pm 15$ $\mu\text{m}$
$< 5$ $\mu\text{m}$
Dual Layer, High Temperature Acrylate
Graded Index, Radiation Resistant
- 55 to + 125 C
$\geq 14$ mm
$\geq 30$ mm
$\geq 100$ kpsi (0.7 GN/m <sup>2</sup> )



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Standard specifications and design parameters are listed above. 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.



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