

# Radiation Hardened Multimode Fiber

## Made by j-fiber - Your individual Solution

Making fibers is our business and our competence. In the global data and telecommunication industries the name j-fiber Jena is associated with the manufacturing of high performance optical fibers for standard as well as specialty applications.

j-fiber offers Specialty Multimode fiber capabilities for military, aerospace, and industrial applications. Designed to withstand hazards of radiation threatened environments, j-fiber's radiation hardened Specialty Multimode fibers are offered in graded-index configurations and in core sizes of 50 $\mu$ m, 62.5 $\mu$ m and 100 $\mu$ m.

## Applications

- Military
- Aerospace
- Sensor
- Industrial

## Features

- Lowest attenuation changes under radiation exposure
- High bandwidth, suitable for high data rates
- Easy handling and splicing
- Available in standard Multimode fiber designs
- Optional larger coating of 500 $\mu$ m available for harsh environments

## Fiber Specification

Graded Index Multimode Fiber	Spec. Values		Unit
Core/Clad Diameter	50/125	62.5/125	$\mu$ m
Coating Diameter	245 or 500	245 or 500	$\mu$ m
Attenuation @ 850/1300nm <sup>1</sup>	2.5/0.6	2.8/0.7	dB/km
Bandwidth @ 850/1300nm <sup>1</sup>	400/400	200/500	MHz-km
Numerical Aperture	0.200/0.230 $\pm$ 0.015	0.275 $\pm$ 0.015	

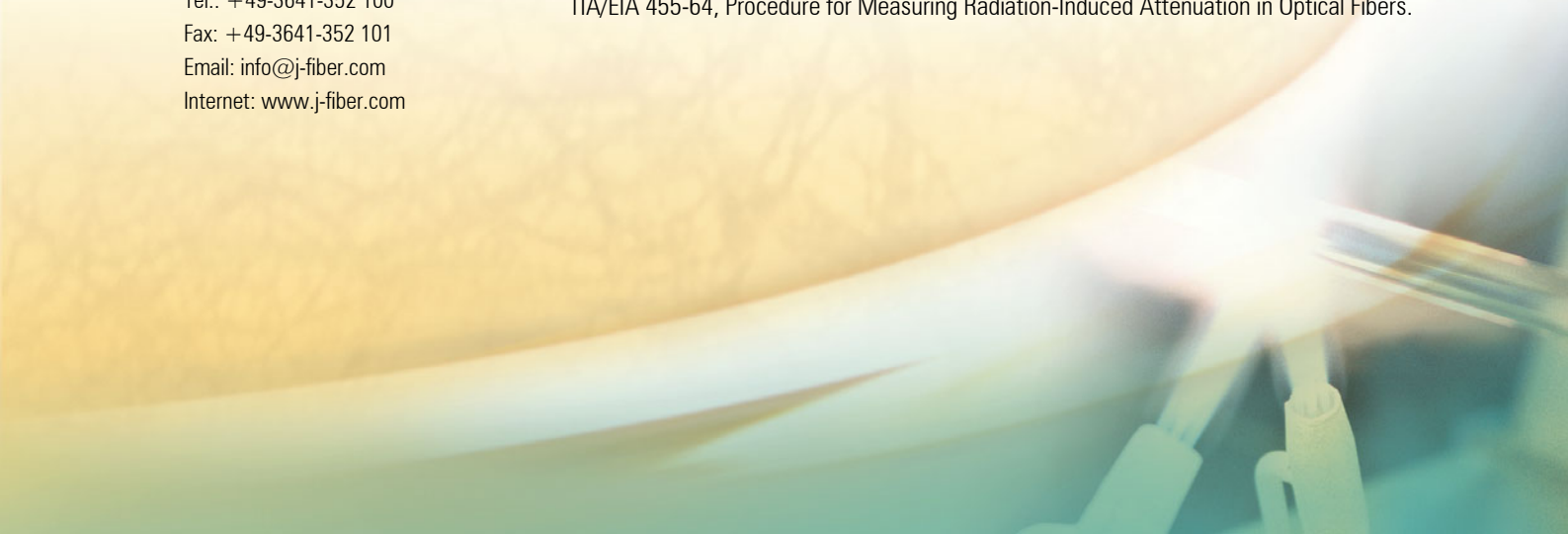
For further information about our Singlemode Fiber and other j-fiber products and services, please contact us:

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<sup>1</sup>Standard specifications and design parameters are as listed in the tables. Other configurations, such as customized bandwidth and attenuation combinations are available upon request.

## Fiber Qualification

All j-fiber radiation hardened fibers comply with or exceed the ITU recommendation G.651 or the IEC 60793-2-10 Optical Fiber Specifications. Each fiber is 100% quality measured according to IEC 60793. The radiation resistance of the fiber has been tested according to TIA/EIA 455-64, Procedure for Measuring Radiation-Induced Attenuation in Optical Fibers.



## Applicable Specification

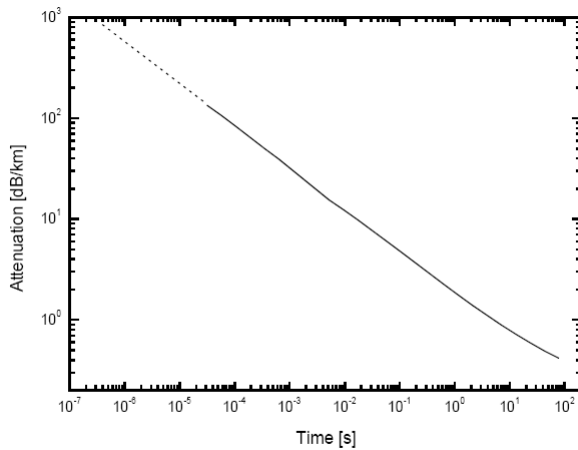
according to MIL-F-49291/6B (MMF 62.5/125)  
according to MIL-F-49291/1B (MMF 50/125)

### Radiation Resistance

Pulsed Irradiation	Spec. Values
Irradiation dose	2700rad/27Gy
Pulse duration	50ns
Wavelength	1310nm
Temperature range	room temperature
Light power	about 1 $\mu$ W
Induced attenuation (1 min after irradiation)	< 0.5dB/km

Continuous Irradiation	Spec. Values
Irradiation dose	23rad/s
Max. dose	1·10 <sup>6</sup> rad/1·10 <sup>4</sup> Gy
Temperature Range	room temperature
Light Power	about 1 $\mu$ W
Induced attenuation Wavelength 835nm	< 1450dB/km
Wavelength 1296nm	< 40dB/km

The test reports (for both fiber types Multimode 50/125 and 62.5/125) are available upon request.



Radiation-induced attenuation of a j-fiber 62.5/125/500  $\mu$ m radiation resistant Multimode fiber after pulsed irradiation with 2700 rad, Wavelength: 1310 nm (LED), Light power: about 1  $\mu$ W

## Ordering Information

To order j-fiber radiation hardened Multimode optical fiber please call, fax or email us and specify the following parameters:

Fiber Type:	j-fiber radiation hardened Multimode Fiber 50/125 $\mu$ m or 62.5/125 $\mu$ m
Desired Coating:	245 $\mu$ m/500 $\mu$ m
Desired Attenuation, Bandwidth:	at 850nm/1300nm
Fiber Quantity:	kms
Other:	desired ship date, reel length, special requests

All fibers and preforms are subject to j-fiber's ongoing process and quality improvement programs ensuring excellent performance and high reliability. We reserve the right to make changes to the above specification without notice.

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