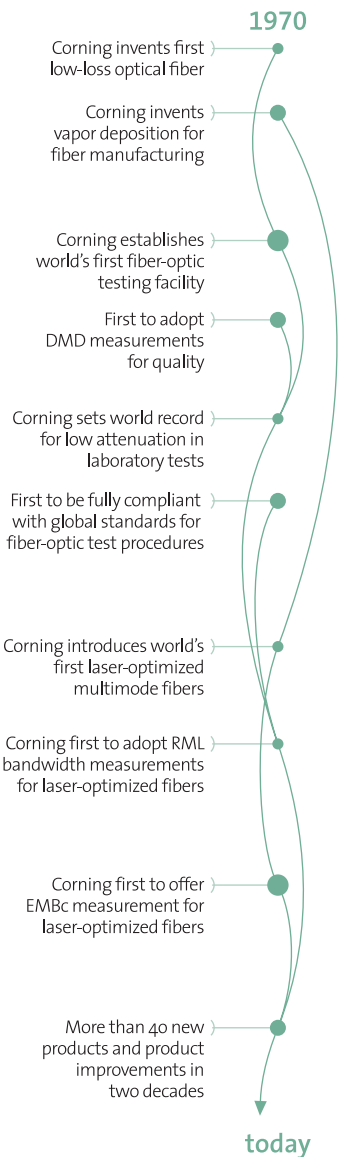


# Corning® InfiniCor® 62.5 μm Optical Fibers

## Product Information



### How Do You Measure Trust? Gb/s Works for Us.

In today's enterprise networks, bandwidth demands are growing – rapidly. That's because end-user productivity is increasingly dependent on instant accessibility and high throughput of information. Narrow bandwidth constricts your capacity to succeed. Corning's 62.5 μm InfiniCor® fibers, the world's first laser-optimized™ 62.5 μm multimode fibers, help you to stay ahead of escalating network demands with:

- \* Greater distance capability at data rates up to 1 Gb/s in both the 850 and 1300 nm windows
- \* Higher data aggregation in the backbone, riser and horizontal, compared with non-laser-optimized fibers
- \* Full compatibility with the broad range of laser-based and legacy protocols and applications
- \* Superior measurement technology and manufacturing control
- \* Industry-leading CPC® coating for superior microbend and environmental performance

	InfiniCor® CL™ 1000 fiber	InfiniCor® 300 fiber
Optimized Data Rate over Distance	1 Gb/s over 500 m at 850 nm 1 Gb/s over 1000 m at 1300 nm	1 Gb/s over 300 m at 850 nm 1 Gb/s over 550 m at 1300 nm
Standards Compliance*		
ISO/IEC 11801	type OM1 fiber	type OM1 fiber
IEC 60793-2-10	type A1b fiber	type A1b fiber
TIA/EIA	492AAAA-A	492AAAA-A

\*Corning InfiniCor 62.5 μm laser-optimized™ fibers meet or exceed standards requirements for the fiber specifications listed.

## *Real Value for Your Network*

Harnessing Corning's superior measurement technology and manufacturing control of the refractive index profile, InfiniCor 62.5  $\mu\text{m}$  optical fibers offer flexible enterprise network solutions, with high performance in both the 850 nm and 1300 nm operating windows. Whether your local area network operates with low-cost 850 nm vertical cavity surface emitting lasers (VCSELs) or 1300nm Fabry Perot lasers, InfiniCor 62.5  $\mu\text{m}$  fibers optimize laser performance.

## *Thoroughly Measured for Performance You Can Count On*

Corning is a world leader in developing and using the most advanced measurement techniques for laser-optimized multimode fibers. In fact, InfiniCor fibers are more thoroughly measured than any other multimode fiber on the market. Corning uses direct manufacturing process controls and final product measurements for all InfiniCor fibers to ensure performance in laser-based systems.

We provide restricted mode launch (RML) bandwidth measurements for our InfiniCor 62.5  $\mu\text{m}$  optical fibers. The RML bandwidth metric is a standards-defined method that predicts intermediate-bandwidth, laser-based system performance. Corning was the first optical fiber manufacturer to offer RML measurements for its laser-optimized multimode fibers.

## *Corning® Optical Fiber – The Measure of Trust*

### **Service Advantage**

Corning Optical Fiber delivers the world's most comprehensive package of innovative products and services, including:

- \* Worldwide sales support and door-to-door customer service
- \* Full range of fibers and special order capabilities
- \* Specialized support from technical experts
- \* Extensive fiber delivery capabilities with proven success rates
- \* Real-time, Web-based customer information
- \* Dedicated account support for our long-term supply customers
- \* Fiber support services and technical information for end-customers

### **Product Advantage**

Our enhanced, dual acrylate CPC® coatings provide excellent protection. Designed to be mechanically stripped, with an outside diameter of 245  $\mu\text{m}$ , they are optimized for many single- and multi-fiber cable designs, including loose tube, ribbon, slotted core and tight buffer cables.

At Corning Optical Fiber, we strive to provide the best possible customer service and technical support – before, during and after the sale. As a customer, you'll benefit from our established and extensive support infrastructure that's ready to meet your specific needs.

Corning is committed to product excellence and meeting the evolving needs of our customers. As updates to fiber characteristics or performance specifications become available, they will be posted on the Corning Optical Fiber website at [www.corning.com/opticalfiber](http://www.corning.com/opticalfiber)

## Optical Specifications

### Bandwidth

	Intermediate Performance EMB*	Legacy Performance EMB**	
	(MHz•km)	(MHz•km)	
Corning Optical Fiber	850 nm Only	850 nm	1300 nm
InfiniCor CL 1000 fiber	385	200	500
InfiniCor 300 fiber	220	200	500

\*RML BW, per TIA/EIA 455-204 and IEC 60793-1-41, for *intermediate performance laser-based* systems (typically up to 1 Gb/s).

\*\*OFL BW, per TIA/EIA 455-204 and IEC 60793-1-41, for *legacy and LED-based* systems (typically up to 100 Mb/s).

### Attenuation

Wavelength (nm)	Maximum Value (dB/km)
850	≤2.9
1300	≤0.6

No point discontinuity greater than 0.2 dB.

Attenuation at 1380 nm does not exceed the attenuation at 1300 nm by more than 1.0 dB/km.

Induced attenuation from 100 turns around a 75 mm mandrel shall be ≤ 0.5 dB at 850 nm and 1300 nm.

### Numerical Aperture

0.275 ± 0.015

## Dimensional Specifications

### Glass Geometry

Core Diameter	62.5 ± 2.5 μm
Cladding Diameter	125.0 ± 2.0 μm
Core-Clad Concentricity	≤ 1.5 μm
Cladding Non-Circularity	≤ 1.0%
Core Non-Circularity	≤ 5%

### Coating Geometry

Coating Diameter	245 ± 5 μm
Coating-Cladding Concentricity	<12 μm

## Environmental Specifications

Environmental Test	Test Condition	Induced Attenuation 850 and 1300 nm (dB/km)
Temperature Dependence	-60°C to +85°C	≤0.10
Temperature Humidity Cycling	-10°C to +85°C and 4% to 98% RH	≤0.10
Water Immersion	23°C ± 2°C	≤0.20
Heat Aging	85°C ± 2°C	≤0.20
Damp Heat	85°C at 85% RH	≤0.20

Operating Temperature Range: -60°C to +85°C

## Mechanical Specifications

### Proof Test

The entire fiber length is subjected to a tensile stress ≥100 kpsi (0.7 GN/m<sup>2</sup>)\*.

\*Higher proof test levels available.

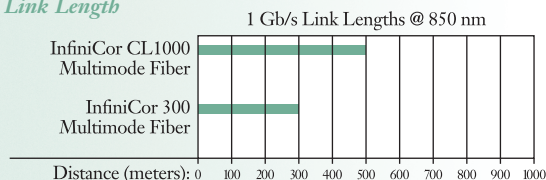
### Length

Fiber lengths available up to 17.6 km/spool.

## Performance Characterizations

Characterized parameters are typical values.

### Link Length



Link Lengths as characterized in IEEE 802.3z (Gigabit Ethernet) for product-specific bandwidth metrics and values provided in this document.

**Refractive Index Difference** 2%

### Effective Group Index of Refraction ( $N_{eff}$ )

850 nm: 1.496  
1300 nm: 1.491

$N_{eff}$  was empirically derived to the third decimal place using a specific commercially available OTDR.

### Fatigue Resistance Parameter ( $N_d$ )

20

### Coating Strip Force

Dry: 0.6 lbs. (2.7N)  
Wet, 14 days in 23°C water soak:  
0.6 lbs. (2.7N)

### Rayleigh Backscatter Coefficient (for 1 ns Pulse Width)

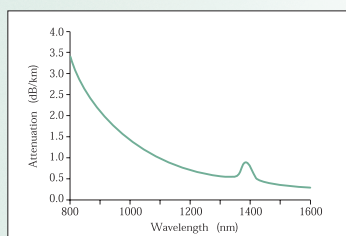
850 nm: -68 dB  
1300 nm: -76 dB

### Chromatic Dispersion

Zero Dispersion Wavelength ( $\lambda_0$ ):  $1332 \text{ nm} \leq \lambda_0 \leq 1354 \text{ nm}$

Zero Dispersion Slope ( $S_0$ ):  $\leq 0.097 \text{ ps}/(\text{nm}^2 \cdot \text{km})$

### Spectral Attenuation (Typical Fiber)



## Formulas

### Dispersion

$$\text{Dispersion} = D(\lambda) \approx \frac{S_0}{4} \left[ \lambda - \frac{\lambda_0^4}{\lambda^3} \right] \text{ps}/(\text{nm} \cdot \text{km}),$$

for  $750 \text{ nm} \leq \lambda \leq 1450 \text{ nm}$

$\lambda$  = Operating Wavelength

### Cladding Non-Circularity

$$\text{Non-Circularity} = \left[ 1 - \frac{\text{Min. Cladding Diameter}}{\text{Max. Cladding Diameter}} \right] \times 100$$

## How to Order

Contact your sales representative, or call the Optical Fiber Customer Service Department:

Ph: 607-248-2000 (U.S. and Canada)  
+44-1244-287-437 (Europe)

Email: [opticalfibers@corning.com](mailto:opticalfibers@corning.com)

Please specify the fiber type, attenuation and quantity when ordering.

### Corning Incorporated [www.corning.com/opticalfiber](http://www.corning.com/opticalfiber)

One Riverfront Plaza  
Corning, NY 14831  
U.S.A.

Ph: 800-525-2524 (U.S. and Canada)  
607-786-8125 (International)

Fx: 800-539-3632 (U.S. and Canada)  
607-786-8344 (International)

Email: [cocic@corning.com](mailto:cocic@corning.com)

### Europe

Ph: 00 800 6620 6621 (U.K., Ireland, Italy, France, Germany, The Netherlands, Spain and Sweden)

+1 607 786 8125 (All other countries)

Fx: +1 607 786 8344

### Asia Pacific

#### Australia

Ph: 1-800-148-690  
Fx: 1-800-148-568

#### Indonesia

Ph: 001-803-015-721-1261  
Fx: 001-803-015-721-1262

#### Malaysia

Ph: 1-800-80-3156  
Fx: 1-800-80-3155

#### Philippines

Ph: 1-800-1-116-0338  
Fx: 1-800-1-116-0339

#### Singapore

Ph: 800-1300-955  
Fx: 800-1300-956

#### Thailand

Ph: 001-800-1-3-721-1263  
Fx: 001-800-1-3-721-1264

### Latin America

#### Brazil

Ph: 000817-762-4732  
Fx: 000817-762-4996

#### Mexico

Ph: 001-800-235-1719  
Fx: 001-800-339-1472

#### Venezuela

Ph: 800-1-4418  
Fx: 800-1-4419

### Greater China

Email: [GCCocic@corning.com](mailto:GCCocic@corning.com)

#### Beijing

Ph: (86) 10-6505-5066  
Fx: (86) 10-6505-5077

#### Hong Kong

Ph: (852) 2807-2723  
Fx: (852) 2807-2152

#### Shanghai

Ph: (86) 21-5467-4666  
Fx: (86) 21-5407-5173

#### Taiwan

Ph: (886) 2-2716-0338  
Fx: (886) 2-2716-0339

Corning and InfiniCor are registered trademarks of Corning Incorporated, Corning, N.Y.

Any warranty of any nature relating to any Corning optical fiber is only contained in the written agreement between Corning Incorporated and the direct purchaser of such fiber.

©2005, Corning Incorporated