Corning® 62.5/125 Optical Fiber
Product Information

Corning Multimode Optical Fiber

Corning® 62.5/125 optical fiber is part of Corning’s line of standard multimode fibers. It is a graded-index 62.5/125 µm nominal multimode fiber with a 62.5 µm core diameter and a 125 µm cladding diameter. Corning 62.5/125 fiber offers full compatibility with legacy systems.

Versatility

Corning 62.5/125 fiber is suitable for installation in all premises applications including backbone, riser, and horizontal. Typical applications are local area and campus-wide networks carrying data, voice, and/or video services using light emitting diodes (LEDs), 850 nm vertical cavity surface emitting lasers (VCSELs), 780 nm CD lasers, and 1300 nm Fabry-Perot lasers. This product is specified by industry standards for fiber-optic network protocols, including Ethernet, Token Ring, fiber distributed data interface (FDDI), asynchronous transfer mode (ATM) and Fibre Channel.

Coating

Corning fiber is protected for long-term performance and reliability by the CPC® coating system. Corning’s enhanced, dual acrylate CPC coatings provide excellent fiber protection and are easy to work with. CPC coatings are designed to be mechanically stripped and have a nominal outside diameter of 245 µm. CPC coatings are optimized for use in many single and multi-fiber cable designs including loose tube, ribbon, slotted core and tight buffer cables.

Quality, Consistency, Reliability

Corning 62.5/125 fiber offers consistent performance and proven reliability based on 150 years of glassmaking experience and 30 years of fiber manufacturing. Every meter of fiber is taken though Corning’s rigorous Quality Architecture Program and is produced by state-of-the-art manufacturing. Corning 62.5/125 fiber is backed by Corning’s Center for Fiber Testing, a world leading resource for qualifying new products, system testing and customer support.
Corning leads the industry in standards development through its cooperative efforts with standards organizations worldwide. These include Telecommunications Industry Association (TIA), the Institute of Electrical and Electronics Engineers, Inc. (IEEE), ATM Forum and Fibre Channel.

Technical Support
Every reel of Corning fiber is supported by hundreds of technical experts, ready to address any concerns related to optical fiber and its deployment. Corning's state-of-the-art tracking systems provide answers to specific questions on every reel of fiber produced and purchased.

Optical Specifications

Attenuation
\[ \leq 3.0/0.7 \text{ dB/km} \text{ @ } 850/1300 \text{ nm} \]
- No point discontinuity greater than 0.2 dB
- The attenuation at 1380 nm does not exceed the attenuation at 1300 nm by more than 1.0 dB/km
- The induced attenuation caused by wrapping the fiber 100 turns around a 75 mm mandrel shall not exceed 0.5 dB at 850 nm and 1300 nm

Special attenuation cells available upon request.

Bandwidth

<table>
<thead>
<tr>
<th>Standard Bandwidth Cells</th>
</tr>
</thead>
<tbody>
<tr>
<td>850/1300 nm (MHz•km)</td>
</tr>
<tr>
<td>160/500</td>
</tr>
<tr>
<td>200/500</td>
</tr>
</tbody>
</table>

Other bandwidth cells available upon request.

Chromatic Dispersion
- Zero Dispersion Wavelength \( (\lambda_0) \): 1332 nm \( \leq \lambda_0 \leq 1354 \text{ nm} \)
- Zero Dispersion Slope \( (S_0) \): \( \leq 0.097 \text{ ps/(nm}^2 \text{•km}) \)

\[
\text{Dispersion} = D(\lambda) = \frac{S_0}{4} \left[ \frac{\lambda - \frac{\lambda_0}{2}}{\lambda_0^3} \right] \text{ps/(nm} \text{•km)}
\]

For 750 nm \( \leq \lambda \leq 1450 \text{ nm} \), \( \lambda = \) Operating Wavelength

Core Diameter
- \( 62.5 \pm 3.0 \text{ µm} \)

Numerical Aperture
- \( 0.275 \pm 0.015 \)

Environmental Specifications

<table>
<thead>
<tr>
<th>Environmental Test Condition</th>
<th>Induced Attenuation (dB/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Dependence -60°C to +85°C</td>
<td>( \leq 0.20 ) ( \leq 0.20 )</td>
</tr>
<tr>
<td>Temperature - Humidity Cycling -10°C to +85°C and 4% to 98% RH</td>
<td>( \leq 0.20 ) ( \leq 0.20 )</td>
</tr>
</tbody>
</table>

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

Dimensional Specifications

Standard Length (km/reel)
- 2.2 - 8.8
Special lengths available upon request.

Glass Geometry
- Cladding Diameter: \( 125.0 \pm 2.0 \text{ µm} \)
- Core-Clad Concentricity: \( \leq 3.0 \text{ µm} \)
- Cladding Non-Circularity: \( < 2.0\% \)
- Core Non-Circularity: \( \leq 5\% \)

Non-Circularity is defined as:
\[
\left[ 1 - \frac{\text{Min. Cladding Diameter}}{\text{Max. Cladding Diameter}} \right] \times 100
\]

Coating Geometry
- Coating Diameter: \( 245 \pm 5 \text{ µm} \)
- Coating-Cladding Concentricity: \( < 12 \text{ µm} \)

Mechanical Specifications

Proof Test
- The entire length of fiber is subjected to a tensile proof stress \( \geq 100 \text{ kpsi} \) (0.7 GN/m²)

Performance Characterizations
Characterized parameters are typical values.

Effective Group Index of Refraction \( (N_{eff}) \)
- 1.496 at 850 nm
- 1.491 at 1300 nm

\( N_{eff} \) 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 (2.7 N)
- Wet: 14 days in 23°C water soak: 0.6 lbs (2.7 N)

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**Refractive Index Profile (typical fiber)**

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**Spectral Attenuation (typical fiber)**

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>Attenuation (dB/km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>800</td>
<td>4.0</td>
</tr>
<tr>
<td>1000</td>
<td>3.5</td>
</tr>
<tr>
<td>1200</td>
<td>3.0</td>
</tr>
<tr>
<td>1400</td>
<td>2.5</td>
</tr>
<tr>
<td>1600</td>
<td>2.0</td>
</tr>
</tbody>
</table>

| a    | 850   | 2.72  |
| b    | 1300  | 0.52  |
| c    | 1380  | 0.92  |
| d    | 1550  | 0.29  |

**Ordering Information**

To order Corning® 62.5/125 optical fiber, contact your sales representative, or call the Optical Fiber Customer Service Department at **607-248-2000** or **+44-1244-287-437** in Europe. Please specify the following parameters when ordering.

**Fiber Type:** 62.5/125 µm Multimode Fiber

**Fiber Quantity:** kms

**Proof Test:** 100 kpsi (0.7 GN/m²)

**Other:** (Requested ship date, desired attenuation cell, desired bandwidth cell, etc.)
Greater China
Beijing
Phone: (86) 10-6505-5066
Fax: (86) 10-6505-5077

Hong Kong
Phone: (852) 2807-2723
Fax: (852) 2807-2152

Shanghai
Phone: (86) 21-3222-4668
Fax: (86) 21-6288-1575

Taiwan
Phone: (886) 2-2716-0338
Fax: (886) 2-2716-0339
E-mail: GCCofic@corning.com

Asia Pacific
Australia
Phone: 1-800-148-690
Fax: 1-800-148-568

Indonesia
Phone: 001-803-015-721-1261
Fax: 001-803-015-721-1262

Malaysia
Phone: 1-800-80-3156
Fax: 1-800-80-3155

Philippines
Phone: 1-800-1-116-0338
Fax: 1-800-1-116-0339

Singapore
Phone: 800-1300-955
Fax: 800-1300-956

Thailand
Phone: 001-800-1-3-721-1263
Fax: 001-800-1-3-721-1264

Latin America
Brazil
Phone: 000817-762-4732
Fax: 000817-762-4996

Mexico
Phone: 001-800-235-1719
Fax: 001-800-339-1472

Venezuela
Phone: 800-1-4418
Fax: 800-1-4419

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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.

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