Corning® Multimode Optical Fiber

50/125 Fiber

Product Information

Corning® 50/125 fiber is part of Corning's line of standard multimode fibers. It is a graded-index 50/125 µm nominal multimode fiber with a 50 µm core diameter and a 125 µm cladding diameter. Corning 50/125 fiber offers full compatability with legacy systems.

Versatility

Corning 50/125 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 LEDs, 850 nm 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, FDDI, 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 50/125 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 50/125 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.

CORNING

PI359
Issued: 6/00
ISO 9001 Registered

CORNING Fiber

Optical Specifications

Attenuation

≤ 2.5/0.8 dB/km @ 850/1300 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 3.0 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

Standard Bandwidth Cells
400/600
400/1200
600/600
600/1000

Other bandwidth cells available upon request.

Chromatic Dispersion

- Zero Dispersion Wavelength (λ_0): 1300 nm ≤ λ_0 ≤ 1320 nm
- Zero Dispersion Slope (S_0):

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

For 750 nm ≤ λ ≤ 1450 nm, λ = Operating Wavelength

≤ 0.101 ps/(nm^2•km)

Core Diameter

- 50.0 ± 3.0 µm

Numerical Aperture

- 0.200 ± 0.015

Environmental Specifications

Environmental Test Condition	Induced Attenuation (dB/km) 850 nm	1300 nm
Temperature Dependence -60°C to +85°C	≤ 0.20	≤ 0.20
Temperature - Humidity Cycling -10°C to +85°C and 4% to 98% RH	≤ 0.20	≤ 0.20
Operating Temperature Range -60°C to +85°C		

Dimensional Specifications

Standard Length (km/reel)

- 1.1 - 4.4 kms
  Special lengths available upon request.

Glass Geometry

- Cladding Diameter: 125.0 ± 2.0 µm
- Core-Clad Concentricity: < 3.0 µm
- Cladding Non-Circularity: < 2.0%
- Core Non-Circularity: ≤ 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 ± 5 µm
- Coating-Cladding Concentricity: < 12 µm

Mechanical Specifications

Proof Test

- The entire length of fiber is subjected to a tensile proof stress ≥ 100 kpsi (0.7 GN/m^2).

Performance Characterizations

Characterized parameters are typical values.

Effective Group Index of Refraction (N_{eff})

- 1.490 at 850 nm
- 1.486 at 1300 nm

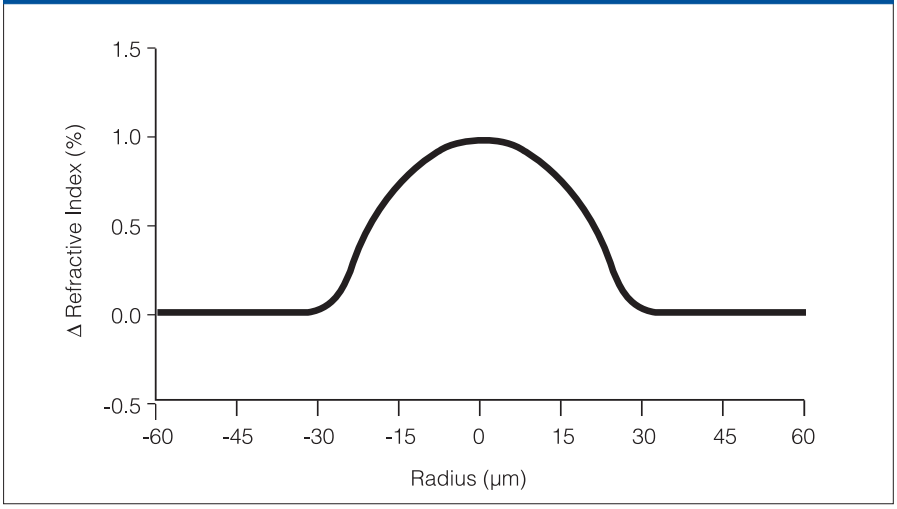
N_{eff} was empirically derived to the third decimal place using a specific commercially available OTDR.

Fatigue Resistance Parameter (n_d): 20

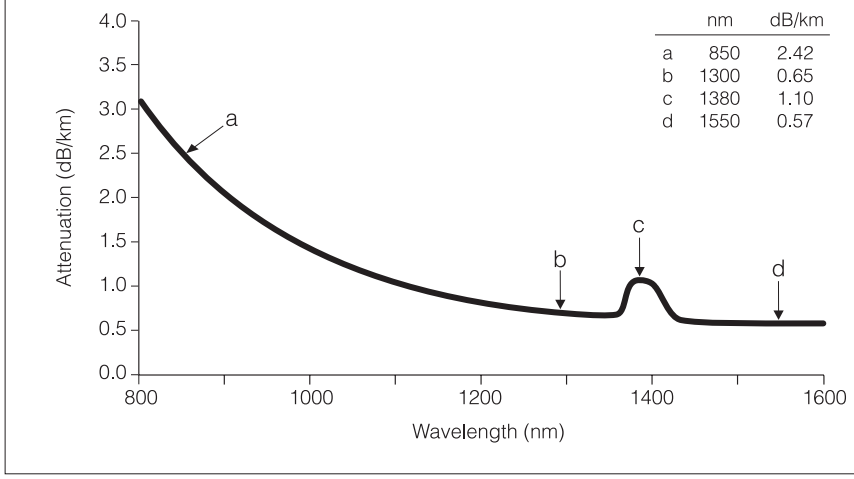
Coating Strip Force

- Dry: 0.7 lbs (3.2 N)
- Wet: 14 days in 23°C water soak: 0.7 lbs (3.2 N)

Refractive Index Profile (typical fiber)



Spectral Attenuation (typical fiber)



	nm	dB/km
a	850	2.42
b	1300	0.65
c	1380	1.10
d	1550	0.57

Ordering Information

To order Corning® 50/125 optical fiber, contact your sales representative, or call the Telecommunications Products Division Customer Service Department at **910-395-7659** (North America) and **+1 607-974-7174** (outside of North America). Please specify the following parameters when ordering:

Fiber Type: 50/125 µm Multimode Fiber

Reel Lengths: 1.1, 1.7, 2.2, 3.3 and 4.4 kms

Fiber Quantity: kms

Other: (Requested ship date, desired attenuation cell, desired bandwidth cell, etc.)

Corning Incorporated
Telecommunications Products Division
Corning, NY 14831

Tel: 800-525-2524 (North America)
Tel: +1 607-786-8125 (International)

Fax: 800-539-3632 (North America)
Fax: +1 607-786-8344 (International)

E-mail: info@corningfiber.com
Internet: www.corningfiber.com