# Corning® SMF-28® Contour Pro Optical Fiber

## Product Information

CORNING

SMF-28® Contour Pro fiber delivers superior bend performance for high density cables and connectivity. This 190 micron diameter fiber has a 9.2 micron mode field diameter for installation compatibility. It is suitable for challenging conditions in hyperscale data centers, in-building networks, and fiber-to-the-home, providing bend-protected connectivity in tight spaces. SMF-28® Contour Pro fiber meets Recommendation ITU-T G.657.A2 and is compatible and fully compliant with Recommendation ITU-T G.652.D.

## Optical Specifications

### Attenuation Options

| Wavelength (nm) | Maximum Value (dB/km) |
|---|---|
| 1310 | ≤ 0.32 - 0.34 |
| 1383* | ≤ 0.32 - 0.34 |
| 1490 | ≤ 0.21 - 0.22 |
| 1550 | ≤ 0.18 - 0.20 |
| 1625 | ≤ 0.20 - 0.22 |

*Attenuation values at this wavelength represent post-hydrogen aging performance.

### Attenuation vs. Wavelength

| Range (nm) | Ref. λ (nm) | Max. α Difference (dB/km) |
|---|---|---|
| 1285 – 1330 | 1310 | 0.03 |
| 1525 – 1575 | 1550 | 0.02 |

The attenuation in a given wavelength range does not exceed the attenuation of the reference wavelength (λ) by more than the value α.

### Macrobend Loss

| Mandrel Radius (mm) | Number of Turns | Wavelength (nm) | Induced Attenuation* (dB) |
|---|---|---|---|
| 7.5 | 1 | 1550 | ≤ 0.5 |
| 7.5 | 1 | 1625 | ≤ 1.0 |
| 10 | 1 | 1550 | ≤ 0.1 |
| 10 | 1 | 1625 | ≤ 0.2 |
| 15 | 10 | 1550 | ≤ 0.03 |
| 15 | 10 | 1625 | ≤ 0.1 |

*The induced attenuation due to fiber wrapped around a mandrel of a specified radius.

### Point Discontinuity

| Wavelength (nm) | Point Discontinuity (dB) |
|---|---|
| 1310 | ≤ 0.05 |
| 1550 | ≤ 0.05 |

### Cable Cutoff Wavelength ($\lambda_{cc}$)

$\lambda_{cc}$ ≤ 1260 nm

### Mode Field Diameter

| Wavelength (nm) | Mode Field Diameter (μm) |
|---|---|
| 1310 | 9.2 ± 0.4 |
| 1550 | 10.4 ± 0.5 |

### Dispersion

| Wavelength (nm) | Dispersion Value [ps/(nm•km)] |
|---|---|
| 1550 | ≤ 18.6 |
| 1625 | ≤ 23.7 |

Zero Dispersion Wavelength ($\lambda_0$): 1300 nm ≤ $\lambda_0$ ≤ 1324 nm
Zero Dispersion Slope ($S_0$): ≤ 0.092 ps/(nm²•km)

### Polarization Mode Dispersion (PMD)

| | Value (ps/√km) |
|---|---|
| PMD Link Design Value | ≤ 0.04* |
| Maximum Individual Fiber PMD | ≤ 0.1 |

*Complies with ITU-T G.650-2 Appendix IV, (m = 20, Q = 0.01%), August 2015.

The PMD link design value is a term used to describe the PMD of concatenated lengths of fiber (also known as $PMD_Q$). This value represents a statistical upper limit for total link PMD. Individual PMD values may change when fiber is cabled.

### ColorPro® Identification Technology

SMF-28® Contour Pro fiber is also available in colored and ringmarked variants, enabled by ColorPro® identification technology. Corning fibers with ColorPro® identification technology deliver better efficiency in cable manufacturing, simplify inventory management, and leverage an enhanced fiber product offering.

### How to Order

Contact your sales representative, or call the Optical Fiber Customer Service Department:
Ph: 1-607-248-2000 (U.S./Can.)
+44-1244-525-320 (Europe)
Email: cofic@corning.com
Please specify the fiber type, attenuation, and quantity when ordering.

## Dimensional Specifications

Glass Geometry

| | |
|---|---|
| Fiber Curl | ≥ 4.0 m radius of curvature |
| Cladding Diameter | 125.0 ± 0.7 µm |
| Core-Clad Concentricity | ≤ 0.5 µm |
| Cladding Non-Circularity | ≤ 0.7% |

Coating Geometry

| | |
|---|---|
| Uncolored Coating Diameter | 188 ± 5 µm |
| Coating-Cladding Concentricity | ≤ 10 µm |

## Environmental Specifications

| Environmental Test | Test Condition | Induced Attenuation 1310 nm, 1550 nm, and 1625 nm (dB/km) |
|---|---|---|
| Temperature Dependence | -60°C to +85°C* | ≤ 0.05 |
| Temperature Humidity Cycling | -10°C to +85°C up to 98% RH | ≤ 0.05 |
| Water Immersion | 23°C ± 2°C | ≤ 0.05 |
| Heat Aging | 85°C ± 2°C | ≤ 0.05 |
| Damp Heat | 85°C at 85% RH | ≤ 0.05 |

Operating Temperature Range: -60°C to +85°C
*Reference temperature = +23°C

## Mechanical Specifications

### Proof Test

The entire fiber length is subjected to a tensile stress ≥ 100 kpsi (0.69 GPa). Higher proof test levels are available.

### Length

Fiber lengths available up to 50.4 km/spool.

## Performance Characterizations

Characterized parameters are typical values.

| | |
|---|---|
| Numerical Aperture | 0.14<br>NA is measured at the one percent power level of a one-dimensional far-field scan at 1310 nm. |
| Effective Group Index of Refraction ($n_{eff}$) | 1310 nm: 1.4673<br>1550 nm: 1.4680 |
| Fatigue Resistance Parameter ($n_d$) | 20 |
| Coating Strip Force | Dry: 0.5 lbs. (2 N)<br>Wet, 14-day room temperature: 0.5 lbs. (2 N) |
| Rayleigh Backscatter Coefficient (for 1 ns Pulse Width) | 1310 nm: -77 dB<br>1550 nm: -82 dB |

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