

Corning® Vascade® EX3000 Optical Fiber

Product Information



Vascade® EX3000 optical fiber is a silica-core fiber that combines ultra-low attenuation with very large effective area (153 μm^2 typical), which is ITU-T G.654.D compliant. This product is primarily intended for ultra-long, submarine systems that maximize capacity per fiber, which require ultimate levels of generalized signal to noise ratio (GSNR). Vascade EX3000 fiber is suitable for use in a wide range of submarine cable designs.

Optical Specifications

Attenuation

Wavelength (nm)	Typical Value* (dB/km)
1550	0.150

*Alternate attenuation offerings available upon request.

Macrobend Loss

Mandrel Radius (mm)	Number of Turns	Wavelength (nm)	Induced Attenuation* (dB)
25	1	1550	≤ 0.02
30	10	1550	≤ 0.02
30	100	1625	≤ 2.0

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

Point Discontinuity

Wavelength (nm)	Point Discontinuity (dB)
1550	≤ 0.10

Cable Cutoff Wavelength (λ_{cc})

$\lambda_{cc} \leq 1520$ nm

Mode Field Diameter

Wavelength (nm)	Mode Field Diameter (μm)
1550	13.20 to 14.25

Dispersion

Wavelength (nm)	Dispersion Value [ps/(nm·km)]
1550	≤ 22.4

Polarization Mode Dispersion (PMD)

	Value (ps/√km)
PMD Link Design Value	$\leq 0.08^*$
Maximum Individual Fiber PMD	≤ 0.1

*Complies with IEC 60794-3 (m = 24, Q = 0.1%)

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

ColorPro® Identification Technology

Vascade EX3000 fiber is also available in colored 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 ± 1.0 μm
Core-Clad Concentricity	≤ 0.8 μm
Cladding Non-Circularity	≤ 1.0%

Coating Geometry

Standard Offering

Coating Diameter	250 ± 5 μm
Coating-Cladding Concentricity	< 12 μm

Environmental Specifications

Environmental Test	Test Condition	Induced Attenuation 1550 nm (dB/km)
Temperature Dependence	-30°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

Operating Temperature Range: -30°C to +85°C

*Reference temperature = +23°C

Mechanical Specifications

Proof Test

The entire fiber length is subjected to a tensile stress ≥ 200 kpsi.

Length

Constituent fiber lengths available up to 50.4 km/spool. Spliced span configurations up to 100 km/spool.

Performance Characterizations

Characterized parameters are typical values.

Effective Group Index of Refraction (n_{eff})	1550 nm: 1.4634
Fatigue Resistance Parameter (n_d)	20
Coating Strip Force	3 N
Rayleigh Backscatter Coefficient (for 1 ns Pulse Width)	1550 nm: -86 dB