



Draka

Specialty Fiber

DrakaElite™ 500µm-coated Graded-Index Multimode Optical Fiber 50 µm and 62.5 µm Multimode Fibers with 500 µm coating for improved protection



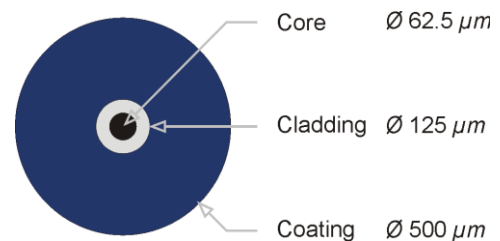
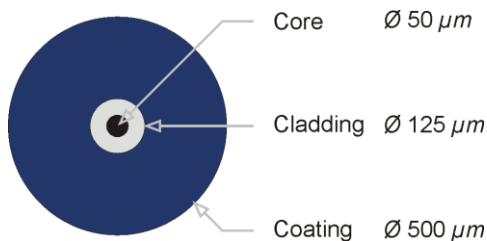
Issue date: 08/10
Supersedes: 12/09

Draka Communications offers standard 50/125µm and 62.5/125µm Multimode fibers also in 500µm coating diameter for improved protection.

These fibers are optimized for special use applications, like industry, aerospace, transport, military. The Draka's 500µm coated Multimode fibers comply with the IEC 60793-2-10 type A1a and A1b Optical Fiber Specification.

In addition, the fibers meet the optical and mechanical requirements of Telcordia Generic Requirements documents GR-20-CORE and GR-409-CORE.

Features	Advantages
Produced by the PCVD process, the ultimate process for graded-index multimode fibers	PCVD produced multimode fibers show excellent modal bandwidth performance
Coated with the dual layer UV Acrylate	<ul style="list-style-type: none"> • Optimized performance in tight-buffer cable applications • High resistance to micro-bending • Stable performance over a wide range of environmental conditions • Improved and easier stripability of tight buffer coatings
Excellent high temperature resistant Acrylate coating manufacturing process	Superior geometry, uniformity and homogeneity of coating



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DrakaElite™ 500µm-coated Graded-Index Multimode Optical Fiber

50 µm and 62.5 µm Multimode Fibers with 500 µm coating for improved protection

Product Type: 50 / 125 / 500 µm and 62.5 / 125 / 500 µm
Coating Type: 500 µm Dual Layer Primary Coating (DLPC2)

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Characteristics	Conditions	Specified Values		Units
		50 µm	62.5 µm	
Optical Specifications (Uncabled fiber)				
Attenuation Coefficient	850 nm	≤ 2.5	≤ 3.0	dB/km
	1300 nm	≤ 0.7	≤ 0.7	dB/km
Numerical Aperture		0.200 ± 0.015	0.275 ± 0.015	
Chromatic Dispersion ¹				
Zero Dispersion Wavelength, λ_0		1295 ≤ λ_0 ≤ 1340	1320 ≤ λ_0 ≤ 1365	nm
Overfilled Modal Bandwidth ²	850 nm	400 to ≥ 1000	160 to ≥ 300	MHz.km
	1300 nm	400 to ≥ 1500	500 to ≥ 1000	MHz.km
Bending Loss	850 nm, 1300 nm / 100 turns, R=75 mm;	≤ 0.5		dB
Backscatter Characteristics ³				
Point Discontinuity ⁴	850 nm, 1300 nm	≤ 0.1		dB
Irregularities over fiber length	850 nm, 1300 nm	≤ 0.1		dB
Reflections		Not Allowed		
Group Index of Refraction (Typical)	850 nm	1.482	1.496	
	1300 nm	1.477	1.491	

Geometrical Specifications

Core Diameter		50 ± 2.5	62.5 ± 2.5	µm
Core Non-Circularity		≤ 5		%
Core/Cladding Concentricity Error		≤ 1.5		µm
Cladding Diameter		125.0 ± 1.0		µm
Cladding Non-Circularity		≤ 1.0		%
Coating Diameter		500 ± 15		µm
Coating Non-Circularity		≤ 5		%
Coating/Cladding Concentricity Error		≤ 20		µm
Length (<i>Other lengths available on request</i>)	Standard lengths up to	4.4		km

Mechanical Specifications

Proof Test	Off line	> 0.7 (100)		GPa (kpsi)
Dynamic Tensile Strength (median value)	0.5 meter gauge length unaged and aged ⁵	> 3.8 (550)		GPa (kpsi)
Fatigue Parameter	Dynamic fatigue, unaged and aged ⁵	$n_d > 18$		
Coating Strip Force (Typical)	Average strip force, unaged and aged ⁶	2		N
	Peak strip force, unaged and aged ⁶	1.3 to 8.9		N

Environmental Specifications

Temperature Cycling	850 nm, 1300 nm; -60°C to +85°C	≤ 0.2		dB/km
Temperature-Humidity Cycling	850 nm, 1300 nm; -10°C to +85°C, 4-98% RH	≤ 0.2		dB/km
Water Immersion	850 nm, 1300 nm; 23°C, 30 days	≤ 0.2		dB/km
Dry Heat	850 nm, 1300 nm; 85°C, 30 days	≤ 0.2		dB/km
Damp Heat	850 nm, 1300 nm; 85°C; 85% RH, 30 days	≤ 0.2		dB/km

- 1). Refer to regular datasheet for further information
- 2). The modal bandwidth is linearly normalized to 1 km according to IEC 60793-2-10
- 3). OTDR measurement with 0.5 µs pulse width.
- 4). Mean of bi-directional measurement.
- 5). Aging at 85°C, 85% RH, 30 days
- 6). Aging:
 - 23°C, 0°C and 45°C
 - 30 days at 85°C and 85% RH
 - 14 days water immersion at 23°C

