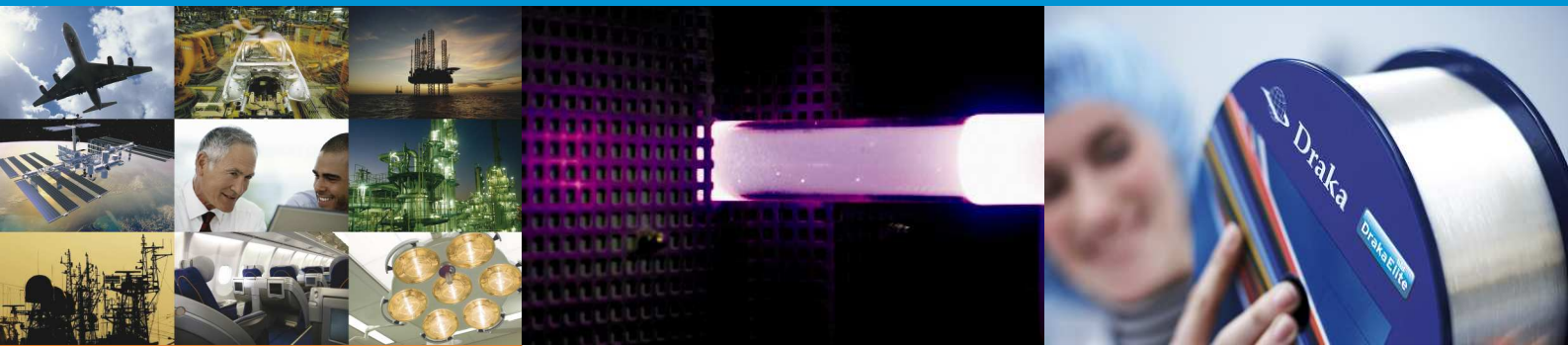


Ideal for industrial, military and transport applications



Specialty Fiber



Issue date: 12/09  
Supersedes: 09/09

For data transmission and communication in harsh environments

- Aeronautics and Transport
- Military/Defense/Aerospace
- Marine, Oil and Gas



Value Innovation is a way of looking at the world. How we can help our customers do more, make more, save more, achieve more.



**Product Type: 100 / 125 μm**

**Coating Type: Dual Layer Primary Coating (DLPC9)**

Draka's 100/125μm Graded-Index Multimode Optical Fiber has a 100μm core diameter, a 125μm cladding diameter and a 0.29 numerical aperture. The fiber is designed to be used in the 850 nm and/or the 1300 nm wavelength window. Its capturing capability for incident optical signal supports use in a variety of applications whereas the standard 125μm quartz diameter facilitates easy connector assembly.

The fiber is coated with a dual layer UV curable Acrylate, type DLPC9. Designed for more stringent tight-buffer cable applications, the fiber also performs perfectly in loose tube buffer constructions and demonstrates a high resistance to micro-bending.

The coating offers an excellent stable coating strip force over a wide range of environmental conditions and coating stripping leaves no residues on the bare glass fiber. In tight buffer applications the entire coating construction (tight buffer and primary coating) can in general very easily be stripped off.

The DLPC9 coated fibers show unique and high stable values for the dynamic stress corrosion susceptibility parameter ( $n_d$ ), which offers a greatly improved mechanical protection to the optical fiber when used in harsh environments.

Features	Benefits
Large core diameter (100 μm) and numerical aperture (0.29)	The combination of these two high parameter values optimizes the fibers for applications where high coupling efficiency with one or multiple sources is necessary
Standard 125 μm cladding diameter	This diameter supports the use of standard connector ferrule dimensions. Apart from the apparent cost benefits, this also enables easier connectivity in special situations in networks or components where different fiber types are used simultaneously
Core produced with the Plasma-activated Chemical Vapor Deposition (PCVD) process	Because of the inherent high quality of the graded refractive index profile, the 100/125 μm fiber shows excellent modal bandwidth performance

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**Optical Specifications**
**Attenuation**

Attenuation at 850 nm	≤ 3.7 dB/km
Attenuation at 1300 nm	≤ 1.0 dB/km
<i>Other values available on request</i>	

**Attenuation uniformity**

No point discontinuity greater than 0.1 dB at 1300 nm

**Attenuation with Bending**

Number of Turns	Mandrel Diameter (mm)	Wavelength (nm)	Induced Attenuation (dB)
100	75	850	≤ 0.5
100	75	1300	≤ 0.5

**Modal Bandwidth\***
**Min. Value (MHz.km)**

Modal Bandwidth at 850 nm	100 – 500
Modal Bandwidth at 1300 nm	100 – 500
<i>Other values available on request</i>	

\* The modal bandwidth is linearly normalized to 1km; according to IEC 60793-2-10

**Numerical Aperture**

NA	0.275 – 0.305
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**Irregularities over fiber length**

No irregularities over fiber length greater than 0.1dB. Reflections not allowed.

**Geometrical Specifications**
**Glass Geometry**

Core Diameter	100 ± 4 μm
Core Non-Circularity	≤ 5.0 %
Cladding Diameter	125.0 ± 1.0 μm
Core/Cladding Concentricity Error	≤ 3 μm
Cladding Non-Circularity	≤ 1.0 %

**Coating Geometry**

Coating Diameter	242 ± 10 μm
Coating/Cladding Concentricity Error	≤ 12 μm
Coating Non-Circularity	≤ 5.0 %
Length (Standard Lengths)	0.8; 1.1; 2.2; 3.3 and 4.4 km

**Mechanical Specifications**
**Proof Test**

The entire length is subjected to a tensile proof stress &gt; 0.7 GPa (100 kpsi); 1% strain equivalent.

**Tensile Strength**

Dynamic tensile strength  
 (0.5 meter gauge length):  
 Aged\*\* and unaged: median > 3.8 GPa (550 kpsi)  
 \*\* Aging at 85°C, 85% RH, 30 days

**Dynamic and Static Fatigue**

Dynamic fatigue, unaged and aged**	$n_d \geq 20$
Static fatigue, aged**	$n_s \geq 23$

**Coating Performance**

Coating strip force:	
- Typical average strip force:	1.7 N
- Peak strip force:	1.3 N (0.2 lbf) to 8.9 N (2.0 lbf)

**Environmental Specifications**

Environmental Test	Test Conditions	Induced Attenuation at 850, 1300 nm (dB/km)
Temperature cycling	- 60°C to 85°C	≤ 0.2
Temperature-Humidity cycling	- 10°C to 85°C, 4-98% RH	≤ 0.2
Water Immersion	30 days; 20°C	≤ 0.2

**Typical Values**

Effective Group Index at 850 nm	1.497
Effective Group Index at 1300 nm	1.492

## How can we be of service to you?

Value Innovation is a way of looking at the world. How can we help our customers do more, make more, save more, achieve more?

Take DrakaElite™. Based on our proprietary manufacturing process and our control of all technological building blocks, we offer an extensive portfolio of specialized optical fibers that have been designed, developed, manufactured

and tested for every environment. Whether you want to guide, amplify, transmit, process, control or sense light, Draka has the fiber you need, whatever your environment. And if for some reason we don't have exactly what you need, well, we'll just make it.

That's Value Innovation in action.

**Draka Communications**

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The Draka Communications policy of continuous improvement may cause in changed specifications without prior notice