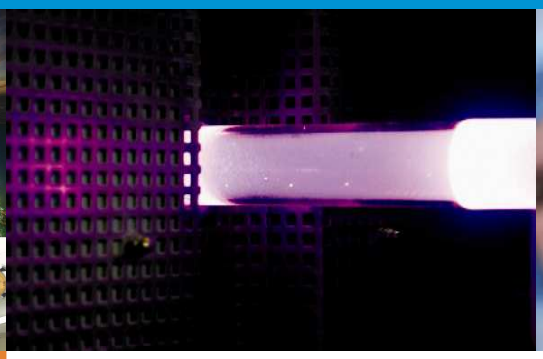
DrakaElite™ 900µm PVDF - High Temperature Acrylate MMF

Optimized for operations in high temperature environments (up to 150℃)



Specialty Fiber

Issue date: 12/09
Supersedes: 09/09

Product Type: 50 / 125 µm and 62.5 / 125 µm
Coating Type/Buffer Type: High Temperature Resistant Acrylate/900 µm PVDF

For data transmission and communication in harsh environments

- Active Optical Components
- Passive Optical Components
- Optical Wiring
- Aeronautics and Transport
- Military/Defense/Aerospace
- Marine, Oil and Gas

VALUE INNOVATION

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

DrakaElite

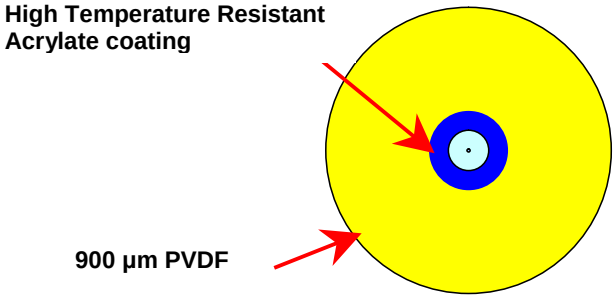
Fiber

DrakaElite 900 µm PVDF High Temperature Acrylate Multimode Fiber provides optimum transmission performance in both the 850 nm and 1300 nm wavelength operating ranges. In spite of their intrinsic strength, optical fibers need coatings to ensure the protection and the maintenance of such strength throughout their lifetime, when exposed to all kinds of stresses which can cause optical fiber fatigue. High temperature is one such cause, which can often be encountered in harsh environments.

Coating

Draka's PVDF 900 µm High Temperature Acrylate Multimode Fiber provides industry leading macro-bending performance in a small, versatile tight buffer. The PVDF material provides excellent resistance to most aggressive substances and solvents and has excellent flame and smoke resistance (UL-94 Class V-0).
The Acrylate coating used by Draka protects the optical fiber during installation and operation in applications exposed to high temperatures, up to 150℃.
The Acrylate coated optical fiber can be used in all cable constructions designed for high temperature environments, including loose tube, metal tube and central tube designs.

Features	Benefits
900 µm PVDF Tight Buffer	• Flexible and durable allowing for easy handling • Excellent chemical resistance • Excellent high and low temperature resistance
UL-94 Flammability Test Class V-0	Excellent flame and smoke resistance
High temperature resistant Acrylate coating manufacturing process	Supports application in environments with both constant high temperature (up to 150℃) and fluctuating temperature
Draka Communications Optical Fiber Proprietary manufacturing process	Superior geometry, uniformity and homogeneity



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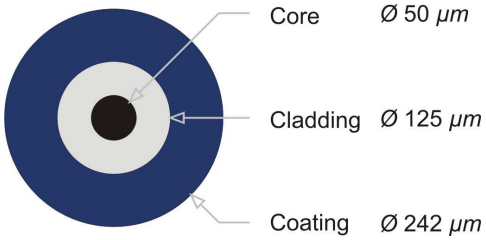

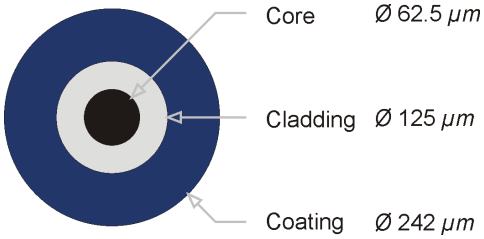

Optical Specifications

Attenuation	50 µm	62.5 µm
Attenuation Coefficient at 850 nm	≤ 2.5 dB/km	≤ 3.0 dB/km
Attenuation Coefficient at 1300 nm	≤ 0.7 dB/km	≤ 0.8 dB/km
Minimum Modal Bandwidth[1]		
Minimum Modal Bandwidth at 850 nm	400 to ≥ 1000 MHz.km	160 to ≥ 300 MHz.km
Minimum Modal Bandwidth at 1300 nm	400 to ≥ 1500 MHz.km	500 to ≥ 1000 MHz.km
Numerical Aperture	0.200 ± 0.015	0.275 ± 0.015
Chromatic Dispersion	FDDI Spec.	FDDI spec.
Backscatter Characteristics[2] (1300 nm)		
Step[3]	≤ 0.1 dB	≤ 0.1 dB
Irregularities over fiber length	≤ 0.1 dB	≤ 0.1 dB
Reflections	Not allowed	Not allowed
Group Index of Refraction (Typical)		
Group Index of Refraction at 850 nm	1.482	1.482
Group Index of Refraction at 1300 nm	1.477	1.477

Geometrical Specifications

Core/Cladding Concentricity Error	≤ 1.5 µm
Cladding Diameter	125.0 ± 1.0 µm
Cladding Non-Circularity	≤ 1.0 %
Coating Material	High Temperature Resistant Acrylate
Coating Diameter (Typical)	242 ± 7 µm
Tight Buffer Diameter	900 ± 50 µm

Mechanical Specifications

Proof Test[4] (Off line)	≥ 1.0 %	≥ 100 kpsi
	≥ 8.8 N	≥ 0.7 GPa
Bending Dependence (850nm, 1300nm)		
Induced Attenuation (100 turns, 75mm diameter)	≤ 0.5 dB	
Dynamic Stress Corrosion		
Susceptibility Parameter (Typical)	≥ 20	
Coating Strip Force (Typical average force)	2.7 N	

Environmental Specifications

Operating Temperature	≥ - 60℃ to ≤ + 150℃
Temperature Dependence (850nm, 1300nm)	
Cycling Induced Attenuation (- 60℃ to + 150℃)	≤ 0.3 dB/km
Temperature and Humidity (850nm, 1300nm)	
(85℃, 85% RH, 30 days)	≤ 0.3 dB/km
Heat Dependence (850nm, 1300nm)	
Induced Attenuation (150℃, 3000h)	≤ 0.3 dB/km

[1] The modal bandwidth is linearly normalized to 1km, according to IEC 60793-2-10

[2] OTDR measurement with 0.5µs pulse width

[3] Mean of bi-directional measurement

[4] Higher proof test level upon request

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.

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