

### Specialty Fiber



Issue date: 09/09  
Supersedes: 05/09

**Product Type:** 9 / 125 µm, G.652.D

**Coating Type:** High Temperature Resistant Silicone

For data transmission and communication in harsh environments

- Fiber Optic sensors
- 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.



DrakaElite™ 200°C Silicone BendBright-Elite provides optimum transmission performance in both the 1310 nm and 1550 nm wavelength operating ranges. It can be used in all cable constructions designed for high temperature environments, including loose tube, metal tube and central tube designs. The Silicone coating used by Draka protects the optical fiber during installation and operation in applications exposed to high temperatures, up to 200°C.

Silicone BendBright-Elite combines high temperature performance with ultra bend-insensitive fiber performance. Thanks to the superior quality of glass and its extreme insensitivity to optical bending loss, Draka's 200°C Silicone BendBright-Elite is able to endure repeated very tight bending. While offering unparalleled performance, Draka's 200°C Silicone BendBright-Elite is still based on conventional technology. It is an all solid silica fibers, with no voids or other hole structures. It can be easily fusion spliced by any commercial splicer and requires no specific connectorization procedure. Because it's manufactured using Draka's Plasma Chemical Vapor Deposition process, 200°C Silicone BendBright-Elite has perfect control of all its characteristics both along the length of the fiber and in any radial direction.

Features	Benefits
High temperature resistant Silicone coating	Supports application in environments with both constant high temperature (up to 200°C) and fluctuating temperature
Excellent macro-bend performance at very low radii (down to 5 mm)	<ul style="list-style-type: none"> <li>• Allows miniaturization of optical components</li> <li>• Permits high power in compact components</li> </ul>
Solid silica structure	<ul style="list-style-type: none"> <li>• No special connectorization procedures</li> <li>• No special mechanical splice procedures</li> <li>• easy to fusion splice with any commercial machine</li> </ul>
Excellent high temperature resistant Silicone coating manufacturing process	Superior geometry, uniformity and homogeneity

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**Optical Specifications**

Attenuation	Specified Value
Attenuation Coefficient at 1310 nm	≤ 0.4 dB/km
Attenuation Coefficient at 1550 nm	≤ 0.25 dB/km

Mode Field Diameter	MFD (µm)
Wavelength (nm)	
1310	8.4 - 9.2
1550	9.3 - 10.3

Attenuation with Bending			
Number of Turns	Mandrel Radius (mm)	Wavelength (nm)	Induced Attenuation (dB)
10	15	1550	≤ 0.03
10	15	1625	≤ 0.1
1	10	1550	≤ 0.03
1	10	1625	≤ 0.1
1	7.5	1550	≤ 0.05
1	7.5	1625	≤ 0.15
1	5.0	1550	≤ 0.1
1	5.0	1625	≤ 0.25

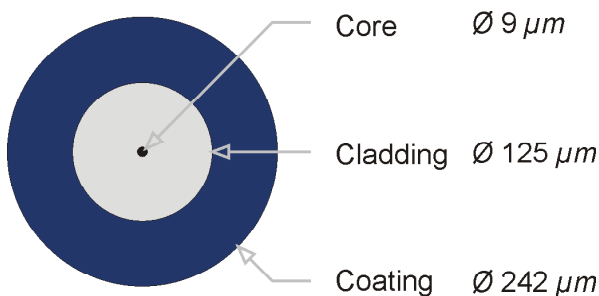
Cutoff Wavelength	
Cable Cut off wavelength	≤ 1260 nm

**Geometrical Specifications**

Core/Cladding Concentricity Error	≤ 0.7 µm
Cladding Diameter	125.0 ± 1.0 µm
Cladding Non-Circularity	≤ 1.0 %

Coating Material (High Temp Resistant Silicone)	
Coating Diameter	242 ± 15 µm

Length Standard Lengths up to 4.4 km


**Mechanical Specifications**

Proof test <sup>1</sup>	Off Line	≥ 1.0[%] ≥ 100 KPSI ≥ 8.8 [N] ≥ 0.7 GPa
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Dynamic Stress Corrosion		
Susceptibility Parameter	Typical	≥ 20

Coating Performance		
Coating Strip Force	Typical Average Force	0.6 N

**Environmental Specifications**

Operating Temperature	≥ - 60 to ≤ +200 °C
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Temperature Dependence (1310 nm, 1550 nm)	
Cycling Induced Attenuation (-60°C to +200°C)	≤ 0.3 dB/km

Temperature and Humidity (1310 nm, 1550 nm)	
Induced Attenuation (85°C, 85% R.H, 30 days)	≤ 0.3 dB/km

Heat Dependence (1310 nm, 1550 nm)	
Induced Attenuation (200°C, 3000h)	≤ 0.3 dB/km

<sup>1</sup> 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.

**Draka Communications**

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