



Draka

Specialty Fiber

DrakaElite™ BendBright-XS Fiber for Patch Cord

Bend-Insensitive Fiber with high precision glass geometry, easy stripability and low microbending



Issue date: 08/10
Supersedes: 12/09

Draka's premium grade BendBright-XS Patch Cord combines three attractive features: excellent low macro-bending sensitivity, Draka's revolutionary DLPC 9 coating and tight glass geometry. Together they create the ideal fiber for all patch cord, interconnect and jumper applications.

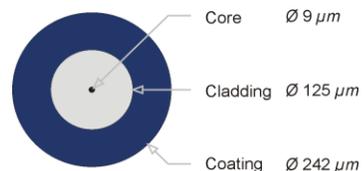
BendBright-XS

The next generation bending behavior has been obtained by adding a trench with a lowered refractive index in the cladding area preventing the optical field to escape. This has been designed in such a way that no compromise has been made with respect to the main transmission parameters. Bend radii in fiber guidance ports can be reduced as well as minimum bend radii in wall and corner mountings.

Precision glass geometry

Based on a special geometry measurement, a tight geometry specification can be guaranteed over the entire length of the fiber, a pre-requisite for automated connectorisation practices.

Features	Advantages
Low macro-bending loss in the 7,5 to 15 mm bend radius	<ul style="list-style-type: none"> Allows shorter radius storage of fiber over length, offering more compact installations Is more forgiving for installation errors in fiber management systems and/or splice protection devices
Low bending loss at partial bends in the mm bend radius	<ul style="list-style-type: none"> Allows for tight in building installations Allows for small volume patch panel installations Prevents fiber coating degradation in case of high power pump systems are used in up-grading scenarios
Low micro-bending loss	Allows for highly demanding cable designs including ribbons
Tight cladding diameter $125.0 \pm 0.4 \mu\text{m}$	Guaranteeing easy, fully automated connectorisation
Tight cladding non-circularity $\leq 0.3 \%$	Guaranteeing easy connectorisation
Tight core/cladding concentricity $\leq 0.3 \mu\text{m}$	Offering low connector loss
DLPC9 coating	Guaranteeing easy stripability



Draka Communications
fibersales@draka.com
www.draka.com/communications

Netherlands: Tel: +31 (0)40 29 58 700 Fax: +31 (0)40 29 58 710
 France: Tel: +33 (0)3 21 79 49 00 Fax: +33 (0)3 21 79 49 33
 USA: Toll free: 800-879-9862 Outside US: +1.828.459.9787 Fax: +1.828.459.8267

DrakaElite™ BendBright-XS Fiber for Patch Cord

Bend-Insensitive Fiber with high precision glass geometry, easy stripability and low microbending

Product Type: G.657.A2, G.657.B2 and G.652.D (2009 editions)

Coating Type: Dual Layer Primary Coating (DLPC9)

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Optical Specifications

Attenuation	
Attenuation at 1310 nm	≤ 0.35 dB/km
Attenuation at 1383 nm*	≤ 0.35 dB/km
Attenuation at 1550 nm	≤ 0.20 dB/km
Attenuation at 1625 nm	≤ 0.21 dB/km

* Including H2-aging according to IEC 60793-2-50, type B.1.3

Attenuation vs. Wavelength

Maximum attenuation change over the window from reference

Wavelength range (nm)	Reference λ (nm)	(dB/km)
1285 – 1330	1310	≤ 0.03
1525 - 1575	1550	≤ 0.02
1460 - 1625	1550	≤ 0.04

Point discontinuities

No point discontinuity greater than 0.05 dB at 1310 nm and 1550 nm.

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	≤ 0.1
1	10	1625	≤ 0.2
1	7.5	1550	≤ 0.5
1	7.5	1625	≤ 1.0

Cutoff Wavelength

Cable Cutoff wavelength (λ _{ccf})	≤ 1280 nm
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Mode Field Diameter

Wavelength (nm)	MFD (μm)
1310	8.5 – 9.3
1550	9.4 – 10.4

Chromatic Dispersion

Wavelength (nm)	Chromatic Dispersion (ps/[nm.km])
Zero Dispersion Wavelength (λ ₀):	1300 - 1324 nm
Slope (S ₀) at λ ₀ :	≤ 0.092 ps/(nm ² .km)

Polarization Mode Dispersion (PMD)

PMD Link Design Value** (ps√km)	≤ 0.08
Max. Individual Fiber (ps√km)	≤ 0.15

** According to IEC 60794-3, Ed 3 (Q=0.01%)

Geometrical Specifications

Glass Geometry	
Cladding Diameter	125.0 ± 0.4 μm
Core/Cladding Concentricity Error	≤ 0.3 μm
Cladding Non-Circularity	≤ 0.3 %
Fiber Curl (Radius)	≥ 4 m
Coating Geometry	
Coating Diameter	242 ± 5 μm
Coating/Cladding Concentricity Error	≤ 12 μm
Coating Non-Circularity	≤ 5.0 %
Length	Standard lengths up to 25.2 km

Mechanical Specifications

Proof Test

The entire length is subjected to a tensile proof stress ≥ 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 ≥ 20

Static fatigue, aged*** n_s ≥ 23

Coating Performance

Coating strip force unaged and aged****:

- Average strip force: 1 N to 3 N

- Peak strip force: 1.2 N to 8.9 N

**** Aging:

- 0°C and 45°C
- 30 days at 85°C and 85% RH
- 14 days water immersion at 23°C
- Wasp spray exposure (Telcordia)

Environmental Specifications

Attenuation

Environmental Test	Test Conditions	Induced Attenuation at 1310, 1550 nm (dB/km)
Temperature cycling	- 60°C to 85°C	≤ 0.05
Temperature-Humidity cycling	- 10°C to 85°C, 4-98% RH	≤ 0.05
Water Immersion	14 days; 23°C	≤ 0.05
Dry Heat	30 days; 85°C	≤ 0.05
Damp Heat	30 days; 85°C; 85% RH	≤ 0.05

Typical Values

Miscellaneous

Nominal Zero Dispersion Slope	0.088 ps/(nm ² .km)
Effective group index @ 1310 nm	1.467
Effective group index @ 1550 nm	1.467
Effective group index @ 1625 nm	1.468
Rayleigh Backscatter Coefficient for 1 ns pulse width:	
@ 1310 nm	- 79.1 dB
@ 1550 nm	- 81.4 dB
@ 1625 nm	- 82.2 dB
Median Dynamic Tensile Strength****	5.3 GPa (750 kpsi)
****(Aged at 85°C, 85% RH, 30 days; 0.5 m gauge length)	