

NuBEAM 50 μm Core Beam Delivery Fibers



Nufern's beam delivery NuBEAM specialty multimode step-index fibers are designed for compatibility with the majority of fiber interconnect systems and diode laser power delivery systems. These fibers feature a 50 micron core diameter, 0.22 NA and are available in three different clad diameters with a silicone coating and a transparent nylon buffer. These fibers are also available with Nufern's proprietary NuCOAT-FA coating for added power confinement or polyimide for high temperature applications. Additional clad diameters and different NAs are available upon request.

Typical Applications

- Fiber coupled diode lasers
- Couplers and pump combiners
- Beam delivery cables
- Spectroscopy and instrumentation

Features & Benefits

- Robust industry standard design — Compatible with majority of fiber interconnect systems
- Exceptional geometric uniformity and core/clad concentricity — Ease of assembly
- Clean room fiber draw — Eliminates coating "hot spots"
- Pure Silica Core — High resistance to optical damage

Optical Specifications

	BD-S50/70/360-STN	BD-S50/70/480-STN	BD-S50/70/660-STN
Operating Wavelength	800 – 2100 nm	800 – 2100 nm	800 – 2100 nm
Core NA	0.220 ± 0.020	0.220 ± 0.020	0.220 ± 0.020
OH Level	Low	Low	Low

Geometrical & Mechanical Specifications

	BD-S50/70/360-STN	BD-S50/70/480-STN	BD-S50/70/660-STN
First Cladding Diameter	72.0 ± 2.0 μm	72.0 ± 2.0 μm	72.0 ± 2.0 μm
Second Cladding Diameter	367.5 ± 7.5 μm	490 ± 10 μm	672.5 ± 12.5 μm
Core Diameter	51.0 ± 1.0 μm	51.0 ± 1.0 μm	51.0 ± 1.0 μm
First Buffer Diameter	460.0 ± 13.0 μm	580 ± 20 μm	780 ± 20 μm
Second Buffer Diameter	650 ± 32 μm	750 ± 37 μm	1100 ± 55 μm
First Buffer Material	Silicone	Silicone	Silicone
Second Buffer Material	Transparent Nylon	Transparent Nylon	Transparent Nylon
Short Term Bend Radius	≥ 18 mm	≥ 24 mm	≥ 66 mm
Long Term Bend Radius	≥ 54 mm	≥ 72 mm	≥ 198 mm
Proofstress Level	≥ 100 kpsi (0.7 GN/m ²)	≥ 100 kpsi (0.7 GN/m ²)	≥ 100 kpsi (0.7 GN/m ²)



Buffer Requirements: Silicone Primary Buffer, Transparent Nylon Outer Buffer
 Low or High -OH Core: Low
 Matched or Depressed Cladding: Depressed
 Special Core Dopants: Pure Silica Core

7 Airport Park Road, East Granby, CT 06026 • 860.408.5000 • Toll-free 866.466.0214 • Fax 860.844.0210 • E-mail info@nufern.com • www.nufern.com • Nufern products are manufactured under an ISO 9001:2008 certified quality management system.



Custom developed fiber (FUD) specifications are subject to change without notice. Other configurations such as alternative form factors, optimized cut-off and UV cured color coating may be available. Let us know how Nufern can assist with your requirements.

NuBEAM 100 μm Core Beam Delivery Fibers



Nufern's beam delivery NuBEAM specialty multimode step-index fibers are designed for compatibility with the majority of fiber interconnect systems and diode laser power delivery systems. These fibers feature a 100 micron core diameter, 0.22 NA and are available in two different clad diameters with a silicone coating and a transparent nylon buffer. These fibers are also available with Nufern's proprietary NuCOAT-FA coating for added power confinement or polyimide for high temperature applications. Additional clad diameters and different NAs are available upon request.

Typical Applications

- Fiber coupled diode lasers
- Couplers and pump combiners
- Beam delivery cables
- Spectroscopy and instrumentation

Features & Benefits

- Robust industry standard design — Compatible with majority of fiber interconnect systems
- Exceptional geometric uniformity and core/clad concentricity — Ease of assembly
- Clean room fiber draw — Eliminates coating "hot spots"
- Pure Silica Core - High resistance to optical damage

Optical Specifications

Operating Wavelength
Core NA
OH Level

BD-S100/120/360-STN

800 – 2100 nm
0.220 ± 0.020
Low

BD-S100/130/480-STN

800 – 2100 nm
0.220 ± 0.020
Low

BD-S100/130/660-STN

800 – 2100 nm
0.220 ± 0.020
Low

Geometrical & Mechanical Specifications

First Cladding Diameter (inner)
Second Cladding Diameter
Core Diameter
First Buffer Diameter
Second Buffer Diameter
First Buffer Material
Second Buffer Material
Short Term Bend Radius
Long Term Bend Radius
Proofstress Level

123.5 ± 3.5 μm
367.5 ± 7.5 μm
102.0 ± 2.0 μm

134 ± 4 μm
490 ± 10 μm
102.00 ± 2.00 μm

134.0 ± 4.0 μm
672.5 ± 12.5 μm
102.0 ± 2.0 μm

460 ± 14 μm
650 ± 33 μm
Silicone

580 ± 20 μm
750 ± 37 μm
Silicone

780.0 ± 20.0 μm
1100 ± 55 μm
Silicone

Transparent Nylon
≥ 18 mm
≥ 54 mm
≥ 100 kpsi (0.7 GN/m²)

Transparent Nylon
≥ 24 mm
≥ 72 mm
≥ 100 kpsi (0.7 GN/m²)

Transparent Nylon
≥ 66 mm
≥ 198 mm
≥ 100 kpsi (0.7 GN/m²)



Buffer Requirements: Silicone Primary Buffer, Transparent Nylon Outer Buffer
Low or High -OH Core: Low
Matched or Depressed Cladding: Depressed
Special Core Dopants: Pure Silica Core

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NuBEAM 150 μm Core Beam Delivery Fiber



Coherent | Nufern's beam delivery NuBEAM specialty multimode step-index fibers are designed for compatibility with the majority of fiber interconnect systems and diode laser power delivery systems. Coherent | Nufern has applied its unique manufacturing facility and capabilities to this product area and has established leading optical, mechanical and geometrical tolerances. This fiber features a 150 micron core diameter, 0.22 NA and is available with a silicone coating and a transparent nylon buffer. All fiber is proof tested to > 100 kpsi to ensure long term reliability.

Typical Applications

- Fiber coupled diode lasers
- Couplers and pump combiners
- Beam delivery cables
- Spectroscopy and instrumentation

Features & Benefits

- Robust industry standard design — Compatible with majority of fiber interconnect systems
- Exceptional geometric uniformity and core/clad concentricity — Ease of assembly
- Clean room fiber draw — Eliminates coating "hot spots"
- Pure silica core — High resistance to optical damage
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

Optical Specifications

Operating Wavelength	700 – 2200 nm
Core NA	0.220 \pm 0.020
OH Level	Low

BD-S150/180/660-STN

Geometrical & Mechanical Specifications

First Cladding Diameter	186 \pm 6 μm
Second Cladding Diameter	673 \pm 13 μm
Core Diameter	153.00 \pm 3.00 μm
First Buffer Diameter	780 \pm 20 μm
Second Buffer Diameter	1100 \pm 55 μm
First Buffer Material	Silicone
Second Buffer Material	Transparent Nylon
Short Term Bend Radius	\geq 34 mm
Long Term Bend Radius	\geq 100 mm
Proof test Level	\geq 100 kpsi (0.7 GN/m ²)



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NuBEAM 200 μm Core Beam Delivery Fibers



Nufern's beam delivery NuBEAM specialty multimode step-index fibers are designed for compatibility with the majority of fiber interconnect systems and diode laser power delivery systems. These fibers feature a 200 micron core diameter, 0.22 NA and are available in three different clad diameters with a silicone coating and a transparent nylon buffer. These fibers are also available with Nufern's proprietary NuCOAT-FA coating for added power confinement or polyimide for high temperature applications. Additional clad diameters and different NAs are available upon request.

Typical Applications

- Fiber coupled diode lasers
- Couplers and pump combiners
- Beam delivery cables
- Spectroscopy and instrumentation

Features & Benefits

- Robust industry standard design — Compatible with majority of fiber interconnect systems
- Exceptional geometric uniformity and core/clad concentricity — Ease of assembly
- Clean room fiber draw — Eliminates coating "hot spots"
- Pure Silica Core — High resistance to optical damage

Optical Specifications

Operating Wavelength
Core NA
OH Level

BD-S200/240-STN

800 – 2100 nm
0.215 ± 0.005
Low

BD-S200/220/360-STN

800 – 2100 nm
0.220 ± 0.020
Low

BD-S200/230/660-STN

800 – 2100 nm
0.220 ± 0.020
Low

Geometrical & Mechanical Specifications

Cladding Diameter (inner)
Second Cladding Diameter
Core Diameter
First Buffer Diameter
Second Buffer Diameter
First Buffer Material
Second Buffer Material
Short Term Bend Radius
Long Term Bend Radius
Proofstress Level

242.0 ± 2.0 μm
N/A
202.0 ± 2.0 μm
335.0 ± 35.0 μm
470 ± 40 μm
Silicone
Transparent Nylon
≥ 12 mm
≥ 36 mm
≥ 100 kpsi (0.7 GN/m²)

226.0 ± 6.0 μm
367.5 ± 7.5 μm
204.0 ± 4.0 μm
460.0 ± 13.0 μm
650 ± 32 μm
Silicone
Transparent Nylon
≥ 18 mm
≥ 54 mm
≥ 100 kpsi (0.7 GN/m²)

237.0 ± 7.0 μm
672.5 ± 12.5 μm
204.0 ± 4.0 μm
780.0 ± 20.0 μm
1100 ± 55 μm
Silicone
Transparent Nylon
≥ 66 mm
≥ 198 mm
≥ 100 kpsi (0.7 GN/m²)



Buffer Requirements: Silicone Primary Buffer, Transparent Nylon Outer Buffer
Low or High -OH Core: Low
Matched or Depressed Cladding: Depressed
Special Core Dopants: Pure Silica Core

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NuBEAM 300 μm Core Beam Delivery Fibers



Nufern's beam delivery NuBEAM specialty multimode step-index fibers are designed for compatibility with the majority of fiber interconnect systems and diode laser power delivery systems. This fiber features a 300 micron core diameter, 0.22 NA and 360 micron clad diameter with a silicone coating and a transparent nylon buffer. This fiber is also available with Nufern's proprietary NuCOAT-FA coating for added power confinement or polyimide for high temperature applications. Additional clad diameters and different NAs are available upon request.

Typical Applications

- Fiber coupled diode lasers
- Couplers and pump combiners
- Beam delivery cables
- Spectroscopy and instrumentation

Features & Benefits

- Robust industry standard design — Compatible with majority of fiber interconnect systems
- Exceptional geometric uniformity and core/clad concentricity — Ease of assembly
- Clean room fiber draw — Eliminates coating "hot spots"
- Pure Silica Core — High resistance to optical damage

Optical Specifications

Operating Wavelength	800 – 2100 nm
Core NA	0.220 \pm 0.020
OH Level	Low

Geometrical & Mechanical Specifications

First Cladding Diameter (inner)	340.5 \pm 10.5 μm
Second Cladding Diameter	367.5 \pm 7.5 μm
Core Diameter	306.0 \pm 6.0 μm
First Buffer Diameter	460 \pm 14 μm
Second Buffer Diameter	650 \pm 33 μm
First Buffer Material	Silicone
Second Buffer Material	Transparent Nylon
Short Term Bend Radius	\geq 18 mm
Long Term Bend Radius	\geq 54 mm
Proof test Level	\geq 100 kpsi (0.7 GN/m ²)

BD-S300/330/360-STN



Buffer Requirements: Silicone Primary Buffer, Transparent Nylon Outer Buffer
 Low or High -OH Core: Low
 Matched or Depressed Cladding: Depressed
 Special Core Dopants: Pure Silica Core

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NuBEAM 400 μm Core Beam Delivery Fiber



Nufern's beam delivery NuBEAM specialty multimode step-index fibers are designed for compatibility with the majority of fiber interconnect systems and diode laser power delivery systems. This fiber features a 400 micron core diameter, 0.22 NA and 660 micron clad diameter with a silicone coating and a transparent nylon buffer. This fiber is also available with Nufern's proprietary NuCOAT-FA coating for added power confinement or polyimide for high temperature applications. Additional clad diameters and different NAs are available upon request.

Typical Applications

- Fiber coupled diode lasers
- Couplers and pump combiners
- Beam delivery cables
- Spectroscopy and instrumentation

Features & Benefits

- Robust industry standard design — Compatible with majority of fiber interconnect systems
- Exceptional geometric uniformity and core/clad concentricity — Ease of assembly
- Clean room fiber draw — Eliminates coating "hot spots"
- Pure Silica Core — High resistance to optical damage

Optical Specifications

Operating Wavelength	800 – 2100 nm
Core NA	0.220 \pm 0.020
OH Level	Low

BD-S400/440/660-STN

Geometrical & Mechanical Specifications

First Cladding Diameter (inner)	453.0 \pm 13.0 μm
Second Cladding Diameter	672.5 \pm 12.5 μm
Core Diameter	408.0 \pm 8.0 μm
First Buffer Diameter	780.0 \pm 20.0 μm
Second Buffer Diameter	1100 \pm 55 μm
First Buffer Material	Silicone
Second Buffer Material	Transparent Nylon
Short Term Bend Radius	\geq 66 mm
Long Term Bend Radius	\geq 198 mm
Proof test Level	\geq 100 kpsi (0.7 GN/m ²)



Buffer Requirements: Silicone Primary Buffer, Transparent Nylon Outer Buffer
 Low or High -OH Core: Low
 Matched or Depressed Cladding: Depressed
 Special Core Dopants: Pure Silica Core

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NuBEAM 600 Micron Core Beam Delivery Fiber



Coherent | Nufern's beam delivery NuBEAM specialty multimode step-index fibers are designed for compatibility with the majority of fiber interconnect systems and diode laser power delivery systems. Coherent | Nufern has applied its unique manufacturing facility and capabilities to this product area and has established leading optical, mechanical and geometric tolerances. This fiber features a 600 micron core diameter, 0.22 NA and 720 micron clad diameter with a silicone coating and a transparent nylon buffer. All fiber is proof tested to > 100 kpsi to ensure long term reliability.

Typical Applications

- Fiber coupled diode lasers
- Couplers and pump combiners
- Beam delivery cables
- Spectroscopy and instrumentation

Features & Benefits

- Robust industry standard design — Compatible with majority of fiber interconnect systems
- Exceptional geometric uniformity and core/clad concentricity — Ease of assembly
- Clean room fiber draw — Eliminates coating "hot spots"
- Pure silica core — High resistance to optical damage
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

Optical Specifications

Operating Wavelength	700 – 2200 nm
Core NA	0.220 ± 0.020
OH Level	Low

BD-S600/660/720-STN

Geometrical & Mechanical Specifications

First Cladding Diameter	680 ± 20 µm
Second Cladding Diameter	735 ± 15 µm
Core Diameter	612.00 ± 12.00 µm
First Buffer Diameter	900 ± 25 µm
Second Buffer Diameter	1100 ± 55 µm
First Buffer Material	Silicone
Second Buffer Material	Transparent Nylon
Short Term Bend Radius	≥ 37 mm
Long Term Bend Radius	≥ 110 mm
Proof test Level	≥ 100 kpsi (0.7 GN/m ²)



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NuBEAM 1000 μm Core Beam Delivery Fiber



Nufern's beam delivery NuBEAM specialty multimode step-index fibers are designed for compatibility with the majority of fiber interconnect systems and diode laser power delivery systems. This fiber features a 1000 micron core diameter, 0.22 NA and 1100 micron clad diameter with a silicone coating and a transparent nylon buffer. This fiber is also available with Nufern's proprietary NuCOAT-FA coating for added power confinement or polyimide for high temperature applications. Additional clad diameters and different NAs are available upon request.

Typical Applications

- Fiber coupled diode lasers
- Couplers and pump combiners
- Beam delivery cables
- Spectroscopy and instrumentation

Features & Benefits

- Robust industry standard design — Compatible with majority of fiber interconnect systems
- Exceptional geometric uniformity and core/clad concentricity — Ease of assembly
- Clean room fiber draw — Eliminates coating "hot spots"
- Pure Silica Core — High resistance to optical damage

Optical Specifications

Operating Wavelength	800 – 2100 nm
Core NA	0.220 ± 0.020
OH Level	Low

Geometrical & Mechanical Specifications

Cladding Diameter	1122.0 ± 22.0 μm
Core Diameter	1020.0 ± 20.0 μm
First Buffer Diameter	1200.0 ± 36.0 μm
Second Buffer Diameter	1400 ± 70 μm
First Buffer Material	Silicone
Second Buffer Material	Transparent Nylon
Short Term Bend Radius	≥ 110 mm
Long Term Bend Radius	≥ 330 mm
Proof test Level	≥ 70 kpsi (0.5 GN/m ²)

BD-S1000/1100-STN



Buffer Requirements: Silicone Primary Buffer, Transparent Nylon Outer Buffer
 Low or High -OH Core: Low
 Matched or Depressed Cladding: Depressed
 Special Core Dopants: Pure Silica Core

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