

NuBEAM 50 μm Core Beam Delivery Fibers



Coherent'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 Coherent'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-S50/70/360-STN

800 – 2100 nm
0.220 \pm 0.020
Low

BD-S50/70/480-STN

800 – 2100 nm
0.220 \pm 0.020
Low

BD-S50/70/660-STN

800 – 2100 nm
0.220 \pm 0.020
Low

Geometrical & Mechanical Specifications

First Cladding Diameter
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
Proof Test Level

72.0 \pm 2.0 μm

367.5 \pm 7.5 μm

51.0 \pm 1.0 μm

460.0 \pm 13.0 μm

650 \pm 32 μm

Silicone

Transparent Nylon

\geq 18 mm

\geq 54 mm

\geq 100 kpsi (0.7 GN/m²)

72.0 \pm 2.0 μm

490 \pm 10 μm

51.0 \pm 1.0 μm

580 \pm 20 μm

750 \pm 37 μm

Silicone

Transparent Nylon

\geq 24 mm

\geq 72 mm

\geq 100 kpsi (0.7 GN/m²)

72.0 \pm 2.0 μm

672.5 \pm 12.5 μm

51.0 \pm 1.0 μm

780 \pm 20 μm

1100 \pm 55 μm

Silicone

Transparent Nylon

\geq 34 mm

\geq 100 mm

\geq 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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www.coherent.com ; www.shop.coherent.com • Coherent 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 Coherent can assist with your requirements.