12/130 Erbium/Ytterbium-Doped Multimode Double Clad Fibers

Coherent's proprietary rare earth doping technology is used to deliver Er:Yb co-doped fibers with industry leading performance and reliability. These fibers demonstrate high pump conversion efficiency and high power operation without rollover due to 1 µm ASE, enabled by the double clad fiber design. The large core of the fiber allows for shorter fiber lengths in high power amplifiers to reduce the impact of non-linear effects.

Typical Applications

- LIDAR
- Eye-safe lasers and amplifiers
- High power pulsed fiber lasers and amplifiers

Features & Benefits

- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- Large core—Enables shorter fiber length for high power pulsed amplifiers
- Double clad design — High power performance and high power conversion efficiency
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

Optical Specifications	**MM-EYDF-12/130-HE**	**PM-EYDF-12/130-HE**
Operating Wavelength	1530 – 1625 nm	1530 – 1625 nm
Core NA	0.200	0.200
First Cladding NA (5%)	≥ 0.46	≥ 0.46
Cladding Attenuation	≤ 30.0 dB/km @ 1095 nm	≤ 30.0 dB/km @ 1095 nm
Normalized Cross Talk	N/A	≤ - 25.0 dB at 10 m @ 1300 nm
Cladding Absorption	3.10 ± 0.50 dB/m at 915 nm	3.30 ± 0.50 dB/m at 915 nm
Core Absorption	70.0 ± 15.0 dB/m near 1530 nm	75.0 ± 15.0 dB/m near 1530 nm
Geometrical & Mechanical Specifications		
Cladding Diameter	N/A	130.0 ± 2.0 µm
Cladding Diameter (flat-to-flat)	130.0 ± 3.0 µm	N/A
Core Diameter	12.0 ± 1.5 µm	12.0 ± 1.5 µm
Coating Diameter	215.0 ± 5.0 µm	215.0 ± 5.0 µm
Coating Material	Low Index Acrylate	Low Index Acrylate
Prooftest Level	≥ 100 kpsi (0.7 GN/m²)	≥ 100 kpsi (0.7 GN/m²)

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The passive version of each fiber is also available.

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12/130 Precision Matched Passive 1550 nm Double Clad Fibers

Coherent's precision matched passive double-clad fibers are available in two-versions — multimoded and PANDA-style, polarization-maintaining (PM). These fibers feature a 12 µm core diameter and a 130 µm clad diameter optimized to match Coherent's active Er/Yb 12/130 µm fibers. This precise matching allows for the lowest splice loss improving performance for all applications including high power pulsed fiber lasers and amplifiers. They utilize the latest fiber design and NuCOAT™ coating technology to ensure excellent preservation of beam quality and extended operating life demanded by today's industrial fiber laser applications.

Typical Applications

- LIDAR
- Eye-safe lasers and amplifiers
- High power pulsed fiber lasers and amplifiers

Features & Benefits

- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- Exceptional uniformity and core/clad concentricity — Low connectorization losses
- Bend insensitive — Survives application in tight confines
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability

Optical Specifications	**PM-GDF-12/130-M**	**MM-GDF-12/130-M**
Operating Wavelength	1530 – 1800 nm	1530 – 1800 nm
Core NA	0.200	0.200
First Cladding NA (5%)	≥ 0.460	≥ 0.460
Normalized Cross Talk	≤ - 25.0 dB at 10 m @ 1300 nm	N/A
Geometrical & Mechanical Specifications		
Cladding Diameter	130.0 ± 1.0 µm	130.0 ± 1.0 µm
Core Diameter	12.0 ± 1.5 µm	12.0 ± 1.5 µm
Coating Diameter	245.0 ± 10.0 µm	245.0 ± 10.0 µm
Coating Concentricity	< 5.0 µm	< 5.0 µm
Core/Clad Offset	≤ 1.00 µm	≤ 1.00 µm
Prooftest Level	≥ 100 kpsi (0.7 GN/m²)	≥ 100 kpsi (0.7 GN/m²)

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Coating Requirements: Low Index Polymer Coating.
Other Requirements: Round fiber. Polarization-maintaining fiber with dual circular stress elements

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