

# CATV Amplifier 6/125 Er/Yb-Doped Double Clad Fibers



Coherent's proprietary rare earth doping technology is used to fabricate Er/Yb co-doped fibers with industry leading tolerances on the key parameters important for fiber based amplifiers. This ensures the essential lot-to-lot reproducibility required for volume manufacturing of high power CATV and telecom optical amplifiers at 1550 nm. Coherent's XP version offers an optimized design for ultra-high efficiency and minimized threshold delivering superior performance. The new -XP fiber is particularly well suited for single-stage amplifiers and lasers requiring high gain factors with limited pump power. Utilizing Coherent's proprietary NuCOAT™ coating technology, these single-mode fibers around 1550 nm offer the best damp and dry heat performance available and ensure extended operating lifetime.

## Typical Applications

- CATV and Telecom amplifiers
- Single-mode applications

## Features & Benefits

- Optimized XP version — Ultra-high efficiency and minimized threshold
- Single-mode core design — Low splice loss to transmission fiber
- Double clad design — High power performance and high power conversion efficiency
- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme operating and storage conditions
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

## Optical Specifications

	SM-EYDF-6/125-XP	SM-EYDF-6/125-HE	PM-EYDF-6/125-HE
Operating Wavelength	1530 – 1625 nm	1530 – 1625 nm	1530 – 1625 nm
Core NA	0.210	0.180	0.180
First Cladding NA (5%)	≥ 0.46	≥ 0.46	≥ 0.46
Mode Field Diameter	6.1 ± 0.5 μm @ 1550 nm 6.1 ± 0.5 μm @ 1550 nm	6.8 ± 0.8 μm @ 1550 nm	6.8 ± 0.8 μm @ 1550 nm
Cutoff	1470 ± 50 nm	1440 ± 80 nm	1440 ± 80 nm
Normalized Cross Talk	N/A	N/A	≤ -25.0 dB at 10 m @ 1300 nm
Cladding Absorption	1.00 ± 0.25 dB/m at 915 nm	0.75 ± 0.15 dB/m at 915 nm	0.75 ± 0.15 dB/m at 915 nm
Core Absorption	1.00 ± 0.25 dB/m at 915 nm 45.0 ± 12.0 dB/m near 1535 nm 45.0 ± 12.0 dB/m near 1535 nm	40.0 ± 10.0 dB/m near 1535 nm	40.0 ± 10.0 dB/m near 1535 nm

## Geometrical & Mechanical Specifications

	SM-EYDF-6/125-XP	SM-EYDF-6/125-HE	PM-EYDF-6/125-HE
Cladding Diameter	N/A	125.0 ± 3.0 μm	125.0 ± 1.0 μm
Cladding Diameter (flat-to-flat)	125.0 ± 2.0 μm	N/A	N/A
Core Diameter	5.5 μm	6.0 μm	6.0 μm
Coating Diameter	245.0 ± 15.0 μm	245.0 ± 15.0 μm	245.0 ± 15.0 μm
Coating Concentricity	< 5.0 μm	N/A	N/A
Core/Clad Offset	≤ 1.00 μm	≤ 1.00 μm	≤ 1.00 μm
Coating Material	Low Index Acrylate	Low Index Acrylate	Low Index Acrylate
Proof test Level	≥ 100 kpsi (0.7 GN/m <sup>2</sup> )	≥ 100 kpsi (0.7 GN/m <sup>2</sup> )	≥ 100 kpsi (0.7 GN/m <sup>2</sup> )



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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.