

SCF-ER35-10/125-12

Erbium-doped single-clad fiber

This single-clad erbium-doped fiber combines high absorption with a large mode field diameter (MFD), making it an excellent choice for multi-stage erbium amplifier designs. Its high absorption enables shorter fiber lengths, improved power conversion efficiency (PCE), reduced reabsorption, particularly for short-wavelength end of the C-band, and lower amplified spontaneous emission (ASE). The large MFD ensures excellent compatibility with standard telecom fibers while providing a comfortable margin against nonlinear effects. These characteristics make this fiber an attractive gain medium for a broad range of fiber-optic applications.

Features & Benefits

- High absorption
- Shorter optimum fiber length
- Lower amplified spontaneous emission
- Excellent compatibility with standard telecom fibers
- Reduced reabsorption and improved gain, particularly at the C-band short-wavelength.
- Reduced sensitivity to nonlinear effects

Applications

- Low-noise EDFAs
- Pre-amplifiers
- Booster amplifiers
- Multi-stage optical amplifiers

Specifications

Optical

Background Loss @1200 nm (dB/km)	≤ 50
Core Absorption @ 1530 nm (dB/m)	35 ± 10
Core Absorption @ 980 nm (dB/m)	17.5 ± 7.5
MFD @ 1550nm (μm)	10.5 ± 0.5
Numerical Aperture - Core	Typ. 0.12

Geometrical & Mechanical

Cladding diameter (μm)	125 ± 1
Coating Diameter (μm)	245 ± 10
Core Diameter (μm)	Typ. 10
Core/Cladding Concentricity Error (μm)	≤ 1
Proof Test (kpsi)	≥ 150

Environmental

Storage Temperature ($^{\circ}\text{C}$)	-40 to +85
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