

Bismuth doped silicon-based optical fiber

Product description

High gain coefficient bismuth doped silicon-based optical fibers are prepared based on unique bismuth element coordination atom control technology and valence state reduction technology. This fiber can be used as a gain medium for O, E, S, L+, and U band fiber amplifiers or fiber lasers, and is widely used in fields such as optical communication, natural environment monitoring, and scientific research

Product Features

- High absorption coefficient
- High precision geometric dimension control
- Low hydroxyl content
- High gain coefficient

Product Application

- Fields such as optical communication, natural environment monitoring, and scientific research
- Fiber amplifiers and lasers
- Tunable light source

Specification

| Fiber optic model | BPF-6/125 | BPF-6/125 | BPF-6/125 |
|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| optical properties | | | |
| Wavelength range (nm) | O+E | O+E | O+E |
| Gain coefficient (dB/m) | 0.11@1325 nm (pump power=800 mW) | 1.07@1430 nm (pump power=524 mW) | 0.48@1750 nm (pump power=936 mW) |
| 3dB amplification range (μm) | 1.30-1.35 | 1.30-1.35 | 1.30-1.35 |
| Fiber core pump absorption (dB/m) | 0.55 ±0.05 (1240 nm) | 1.60 ±0.05 (1320 nm) | 1.15 ±0.05 (1550 nm) |
| Fiber core optical loss (dB/km) | 17.0 ±5.0 (1550 nm) | 160.0 ±5.0 (1150 nm) | 520.0 ±5.0 (1200 nm) |
| Core NA | 0.14 ±0.02 | 0.17 ±0.02 | 0.37 ±0.02 |

Key Geometric, Mechanical and Environmental Specifications

| | | | |
|--|---------------------------------|---------------------------------|---------------------------------|
| Core diameter (μm) | 6.0 ± 1.5 | 8.0 ± 1.5 | 6.0 ± 1.5 |
| Clad diameter (μm) | 125.0 ± 2.0 | 125.0 ± 2.0 | 125.0 ± 2.0 |
| Coating diameter (μm) | 250.0 ± 15.0 | 250.0 ± 15.0 | 250.0 ± 15.0 |
| Concentricity of fiber core cladding (μm) | ≤ 1.0 | ≤ 1.0 | ≤ 1.0 |
| Coating material | Low refractive index coating | Low refractive index coating | Low refractive index coating |
| Proof Test | ≥ 100 kpsi | ≥ 100 kpsi | ≥ 100 kpsi |