

DCF-YB-20/400-065

Yb-Doped Fiber for CW Fiber Lasers

This Yb-doped fiber is designed for operation in the 1 μm region. The DCF-YB-20/400-065 shows excellent photodarkening resistance performance ensuring high reliability and long-term stability. With its output power of up to 2.0kW, this fiber allows the design of laser cavity for industrial applications while reducing limitations by non-linear effects and transverse mode instabilities (TMI)

Features & Benefits

- Very good photodarkening resistance – excellent batch-to-batch consistency
- High cladding absorption – reduces fiber length in order to mitigate nonlinear effects such as SRS
- High fiber laser efficiency (> 80%)
- High stability against pump wavelengths between 915 nm to 976 nm
- Output power up to 2kW -- with power scalable to 2.3kW

Applications

- High-power CW fiber lasers
- Material processing: cutting and welding

Specifications

Optical

Background Loss @1100 nm (dB/km)	≤ 15
Background Loss @1200 nm (dB/km)	≤ 15
Cladding Absorption @ 915 nm (dB/m)	0.4 ± 0.05
Numerical Aperture - Cladding	Min 0.45
Numerical Aperture - Core	0.065 ± 0.005

Geometrical & Mechanical

Cladding diameter (μm)	400 ± 10
Coating Diameter (μm)	550 ± 15
Core/Cladding Concentricity Error (μm)	≤ 1.5
Proof Test (kpsi)	≥ 100

Environmental

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