LUMENTUM

Passive Triple-Clad Fibers for High-Power Applications

Lumentum Advanced Specialty Optical Fiber Family

Key Features

- Exceptional Beam Quality: Engineered for low beam parameter product (BPP) and a high threshold for nonlinear effects
- Reliable Pump Guidance: An all-silica inner cladding combined with high-power-compatible outer coating ensures optimal pump transmission at elevated power levels
- Low-Loss Signal Transmission: Minimizing efficiency losses and preserving excellent signal power quality
- Photosensitivity: Suitable for inscription of Bragg gratings using traditional methods
- Stringent Quality Checks: 100% inspection for glass and coating imperfections guarantees consistency and long-term stability
- Customization: Core NA, geometry, and absorption levels can be tailored to specific application needs.

Lumentum's advanced germanium-doped triple-clad passive fibers are specifically engineered for high-power fiber laser systems and beam-delivery applications. The triple-clad structure and superior coating quality ensure reliable transmission of pump power, while the optimized core geometry supports low-loss signal transmission at powers up to 15 kW and maintains optimal beam brightness.

Each high-power fiber undergoes meticulous inspection for glass and coating imperfections, ensuring dependable performance under the most demanding conditions.

For specialized requirements, Lumentum offers custom fiber designs tailored to specific core numerical apertures (NAs) and geometric properties, enabling seamless integration across a wide range of industrial, scientific, and research applications.

GENERAL INFORMATION	
Mode properties	Single mode, few-mode, multimode
Core material	Ge-doped fused silica
1st cladding material	Pure fused silica
2nd cladding material	Fluorine-doped fused silica
Coating type	Primary: high temperature and low RI; secondary: high-temperature protective acrylate
Typical application	CW lasers, beam delivery, FBG inscription

PERFORMANCE CHARACTERISTICS		
Parameter	***Unit***	***Typical value***
Core attenuation @ 1200 nm	dB/km	< 5
Thermal slope @ 920 nm	°C/kW	< 3

OPTICAL CHARACTERISTICS		
Parameter	***Unit***	***Product range***
Core numerical aperture	-	0.055 – 0.15
1st cladding numerical aperture	-	0.21 – 0.28
2nd cladding numerical aperture	-	0.48 or 0.51

PHYSICAL CHARACTERISTICS		
Parameter	***Unit***	***Product range***
Core diameter	µm	12 – 125
1st cladding diameter	µm	200 – 660
2nd cladding diameter	µm	220 – 700
Secondary coating diameter	µm	330 – 820

Ordering Information

For more information on this or other products and their availability, please contact your local Lumentum account manager or Lumentum directly at customer.service@lumentum.com.

P - ___ / ___ / ___ - **NA** ___ - **TCF**

1 2 3 4

1	Type: Passive
2	Dimensions in µm: Core / 1st cladding / 2nd cladding
3	NA of the core (/ optionally also NA of the 1st and 2nd cladding)
4	Additional info: TCF – triple clad fiber

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