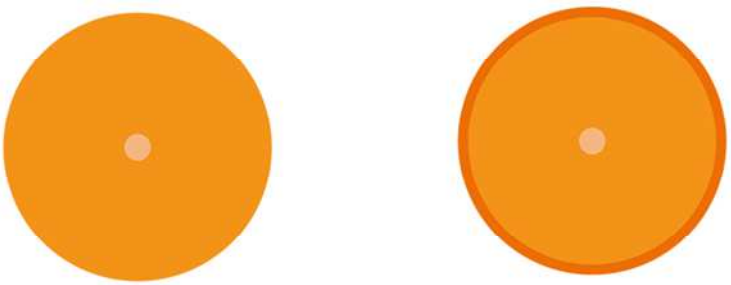
Passive High Power Double or Triple Clad Fibers

Drawing of fiber cross section:



Description:

Heracle's germanium-doped passive fibers - available as double-clad single-mode and triple-clad variants - are engineered for high-power fiber-laser and beam-delivery applications. Optimized core geometries ensure low-loss signal transmission up to 15 kW while preserving optimal beam brightness.
The double-clad single-mode fibers maintain diffraction-limited output and can be precisely mode-matched to active counterparts to minimize splice losses. Enhanced photosensitivity options are available to accelerate FBG inscription.
The triple-clad fibers feature an all-silica inner cladding and high-power compatible outer coating; the triple-cladding structure and high-power compatible coating ensure reliable pump-power transmission at elevated power levels.

Key Features:

High Power Handling:	All-silica inner cladding and high-power-compatible outer coating; optional triple-clad architecture enhances reliable pump transmission and guidance at elevated power levels.
Exceptional Beam Quality:	Engineered for low beam parameter product (BPP) and a high threshold for nonlinear effects.
Optimized Coiling Performance:	Accurately engineered for selected coil diameters to minimize bend loss of the fundamental mode and reject higher-order modes.
Photosensitivity / FBG Ready:	Suitable for Bragg grating inscription using traditional methods; enhanced photosensitivity options available to speed inscription.
Customization:	Core NA, geometry, and absorption levels can be tailored to specific application needs.

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General Information:			
Product Type		**Passive Double Clad**	**Passive Triple Clad**
Mode Properties		Single Mode, Few Mode, Multi Mode	
Core Material		Ge-Doped fused silica	
Inner Cladding Material		Pure fused silica	
Outer Cladding Material		-	Fluorine-doped fused silica
Coating Type		High-temp low RI primary and high-temp protective secondary	
Typical Application		Beam delivery	Beam delivery, FBG
Performance Properties			
Parameter	**Unit**	**Specification**	
Thermal Slope @ 920 nm	°C/kW	-	< 3
Optical Properties			
Core Attenuation @ 1200 nm	dB/km	< 5	
Core NA	-	0.060 – 0.12	0.055 – 0.12
1st Cladding NA	-	0.48 or 0.51	0.21 – 0.28
2nd Cladding NA	-	-	0.48 or 0.51
Geometrical Properties			
Core Diameter	µm	12 – 70	12 – 125
Core-to-Clad offset	µm	< 2	-
Inner Cladding Diameter	µm	400 – 700	200 – 660
Outer Cladding Diameter	µm	-	220 – 700
Secondary Coating Diameter	µm	480 – 800	330 – 820

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