Homogenized Fiber

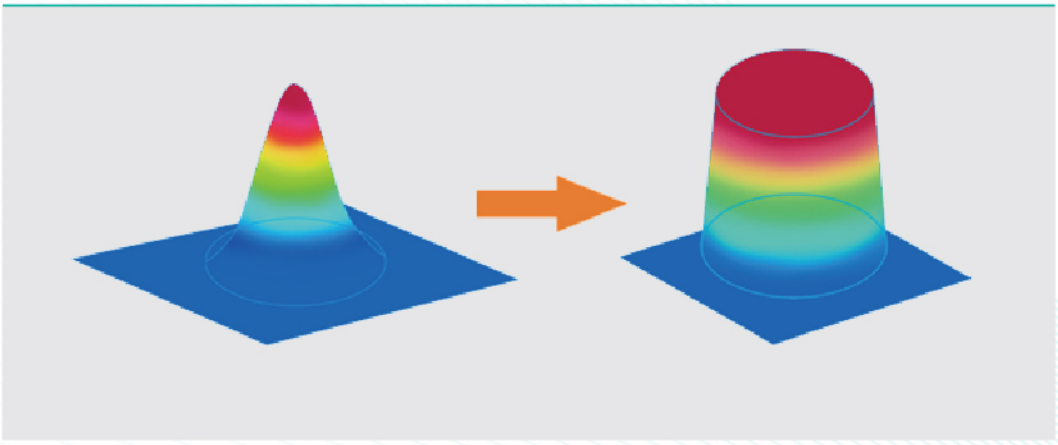
Everfoton's Homogenized Fiber adopts a special waveguide and structure design, which can be highly compatible with traditional fibers. With special design, the propagation mode in the fiber core can be adjusted to convert the input beam into a uniform flat-top beam profile while maintaining efficient optical propagation and an ultra-low insertion loss. The homogenized fiber can be efficiently integrated with existing optical systems, and used in laser cladding, laser cleaning, laser welding, uniform illumination, spectroscopy, power supply, medical care and other fields.

Characteristics

- Flat-top beam profile
- Beam uniformity-reduces hot spots
- Ultra-low insertion loss
- Effective brightness conservation
- Excellent compatibility-compatible with most optical fiber interconnection systems
- Products can be used at different power levels

Applications

- Laser beam shaping
- Flat-top beam demands in material processing applications
- All-fiber solutions of flat-top beam shaping
- Laser-assisted surgery



Specifications-1 (Single Cladding)

Fiber Type	YH105/ 125-22/250	YH 200/ 220-22/320	YH 400/ 440-22/730	YH 400/ 440-26/730	YH 600/ 660-26/960
Part No.	YH2010-E	YH2010-E	YH2010-F	YH2010-B	YH2010-D
Optical Properties					
Operating Wavelength (nm)			500~1200		
Cladding NA	0.22±0.02	0.22±0.02	0.22±0.02	0.26±0.02	0.26±0.02
Geometrical/Mechanical Properties					
Core Diameter (μm)	105.0±4.0	200.0±4.0	400.0±10.0	400.0±10.0	600.0±30.0
Cladding Diameter (μm)	125.0±3.0	220.0±3.0	440.0±10.0	440.0±10.0	660.0±30.0
Coating Diameter (μm)	250.0±15.0	320.0±15.0	730.0±30.0	730.0±30.0	960.0±50.0
Core/Cladding Concentricity (μm)	≤3.0	≤2.0	≤3.0	≤3.0	≤8.0
Cladding Non-circularity (%)	≤2.0	≤2.0	≤2.0	≤2.0	≤2.0
Proof Test (kpsi)	≥100	≥100	≥100	≥100	≥100
Coating Material	Acrylic Resin	Acrylic Resin	Acrylic Resin	Acrylic Resin	Acrylic Resin

Specifications-2 (Double Cladding)

Fiber Type	YH 200/220 -22/350(DC)	YH 70/90/360 -15/540(DC)	YH 100/120/360 -15/540(DC)	YH 50/70/360 -22/540(DC)	YH 100/120/360 -22/540(DC)	YH 1000/1100 -22/1350(DC)
Part No.	YH2110-A	YH2111-A	YH2111-B	YH2110-B	YH 2110-A	YH2110-B
Optical Properties						
Operating Wavelength (nm)	500-1200					
Inner Cladding NA	0.22±0.02	0.15 ± 0.02	0.15 ± 0.02	0.22±0.02	0.22±0.02	0.22±0.02
Inner Coating NA	≥0.46	≥0.46	≥0.46	≥0.46	≥0.46	≥0.46
Geometrical/Mechanical Properties						
Core Diameter (μm)	200.0 ± 4.0	72.0 ± 2.0	100.0 ± 2.0	52.0±3.5	100.0±2.0	1000.0 ± 20.0
Cladding Diameter (μm)	220.0 ± 3.0	-	-	-	-	1100.0 ± 22.0
Inner Cladding Diameter (μm)	-	93.0 ± 3.0	123.0 ± 4.0	73.0±4.0	123.0±4.0	-
Outer Cladding Diameter (μm)	-	367.5 ± 7.5	365.0 ± 5.0	365.0±5.0	365.0±5.0	-
Coating Diameter (μm)	350.0 ± 20.0	540.0±15.0	540.0 ± 15.0	540.0±15.0	540.0±15.0	1350 ± 50
Core/Outer Cladding Concentricity (μm)	≤2.0	≤2.0	≤2.0	≤2.0	≤2.0	≤10.0
Cladding Non-circularity (%)	≤2.0	≤2.0	≤2.0	≤2.0	≤2.0	≤2.0
Proof Test (kpsi)	≥100	≥100	≥100	≥100	≥100	≥70
Inner Coating Material	Low RefractiveIndex Coating					
Outer Coating Material	Acrylic Resin					