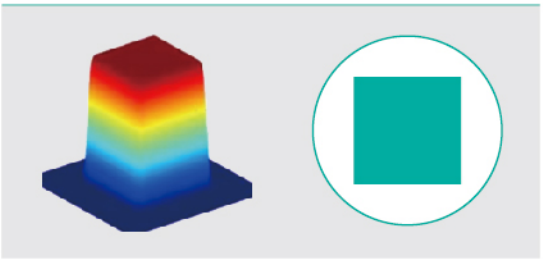
Square Core Fiber

Everfoton's Square Core Fiber with special optical spot shaping requirements is developed using the independent patented manufacturing platform. Compared with circular core fibers, the square-core fiber produces output beams that are close to square-shaped. This shape allows for a more uniform treatment of output spot energy, making it particularly suitable for high-efficiency welding and heat treatment.



Characteristics

- Perfect fiber geometries and low transmission loss
- Standard symmetrical square shape with adjustable square core corner radius
- Homogeneous beam output of the square core
- Customized shape and size requirements

Applications

- Coupled transmission required by special beam shapes
- High-power laser beam shaping
- Square diode laser and detector connection
- Imaging and medicine

Specifications

Fiber Type	SI 50*50/250 -12/400(DC)	SI 100*100/400 -12/540(DC)	SI 100*100/400 -22/540(DC)	SI 200*200/400 -22/540(DC)	SI 300*300/500 -22/620(DC)	SI 400*400/660 -22/840(DC)
Part No.	SI2118-F	SI2118-D	SI2118-G	SI2118-A	SI2118-H	SI2118-E
Optical Properties						
Operating Wavelength (nm)	900~1100					
Core NA	0.12±0.02	0.12±0.02	0.22± 0.02	0.22±0.02	0.22±0.02	0.22±0.02
Cladding NA	≥0.46	≥0.46	≥0.46	≥0.46	≥0.46	≥0.46
Cladding Attenuation @1095nm (dB/km)	≤15.0	≤15.0	≤15.0	≤15.0	≤15.0	≤15.0
Geometrical Properties						
Side Length of Core (μm)	50.0±3.0	100.0±5.0	100.0±5.0	200.0±6.0	305.0 ± 6.0	400.0±8.0
Cladding Diameter (μm)	250.0±5.0	400.0±10.0	400.0±10.0	400.0±10.0	500.0 ± 10.0	660.0±10.0
Coating Diameter (μm)	400.0±15.0	540.0±20.0	540.0±20.0	540.0±20.0	620.0±10.0	840.0±20.0
Material Properties						
Proof Test (kpsi)	≥100	≥100	≥100	≥100	≥100	≥100
Inner Coating Material	Low RefractiveIndex Coating					
Outer Coating Material	Acrylic Resin					