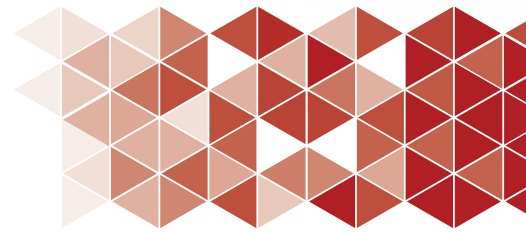


# IIVI

[www.iiviinfrared.com](http://www.iiviinfrared.com)

## FUSED SILICA ASPHERES

1 $\mu$ m Laser Optics



TOLL FREE 888.558.1504 (USA and Canada)  
TEL. 724.352.1504 FAX. 724.352.4980

VOL. SE 14

## Fused Silica Aspheres

II-VI Infrared, the world leader in laser optics, introduces customized fused silica aspheres for direct diode and fiber or disk laser applications at powers greater than 1kW. Fused silica aspheres are designed to be diffraction limited and achieve smaller spot sizes than typical spherical lenses. Whether for welding or cutting, II-VI offers low-absorbing, high quality lenses using industry-leading manufacturing resources and superior coating technology.



### Capabilities

- 15-200mm diameter optics
- Custom optical designs (i.e. axicons, spherical lenses, etc.) available upon request
- Ion-Beam Sputtered (IBS) coatings available; Ion-Assisted Deposition (IAD) also available

### High Power Grade

- Low-absorbing across larger wavelength band
- Lowest OH content
- Recommended for direct diode laser applications

Wavelength Range	Total Absorption (ppm/cm)
1030nm-1080nm	≤ 10ppm at 1064nm*

### Standard Grade

- Low-absorbing from 1030nm-1080nm
- Low OH content
- Recommended for mid-power fiber laser applications

Wavelength Range	Typical Absorption (ppm/cm)
1030nm-1080nm	≤ 30ppm at 1064nm*

\*Total absorption based on 5mm thick witness sample





**II-VI QUALITY**

*3D metrology capabilities*

*Total absorption measurements available*

*PCI testing capabilities*

**Manufacturing Capabilities**

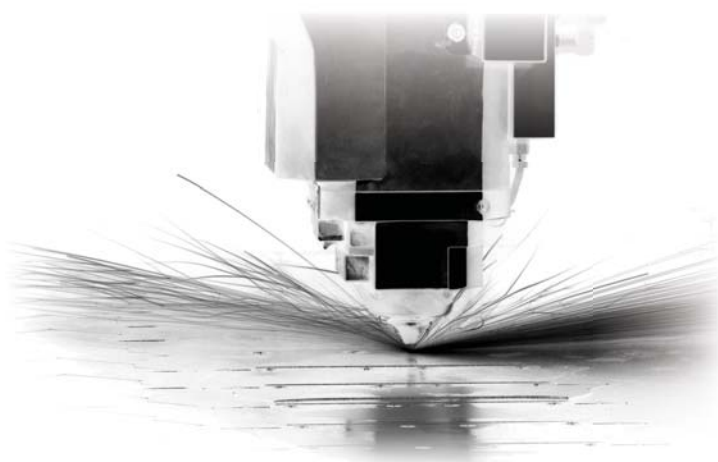
Diameter/Thickness	+/-50µm
ETV	≤10µm
Asphere Power	≤2fr at 632.8nm
Asphere Irregularity	≤1fr at 632.8nm
Surface Roughness	≤3nm RMS
Surface Quality	20/10 or better
Clear Aperture	≥90%
Focal Length	≤0.1%
Reflectivity	≤0.2% per surface 1030nm-1080nm

**Mechanical Properties**

Density	2.20g/cm <sup>3</sup>
Young's Modulus	70-73 GPa
Poisson's Ratio	0.16-0.17
Knoop Hardness	500-650kg/mm <sup>2</sup>

**Thermal Properties**

Thermal Conductivity	1.38W/mK (20°C)
Thermal Expansion	0.58x10 <sup>-6</sup> ppm/C





## WORLDWIDE SALES OFFICES

To place an order, contact a II-VI sales representative at any of the following locations, or visit [www.ii-vi.com/contact](http://www.ii-vi.com/contact) for our most complete and up-to-date contact information.

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**II-VI WEST**

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F. 951.926.1984  
[info@ii-vi.com](mailto:info@ii-vi.com)

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