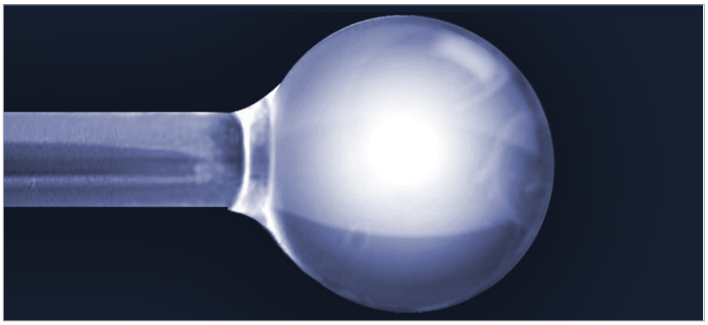
GLASS PROCESSING SOLUTIONS

Timbercon offers glass processing solutions, enabling you to better control beam characterization to suit your specific fiber or fiber-laser application needs. Customized ball lenses, end caps, axicon probes, tapers and more allow you to collimate, diverge or converge your beam, giving you greater control of spot size, focal length, numerical aperture and power density.

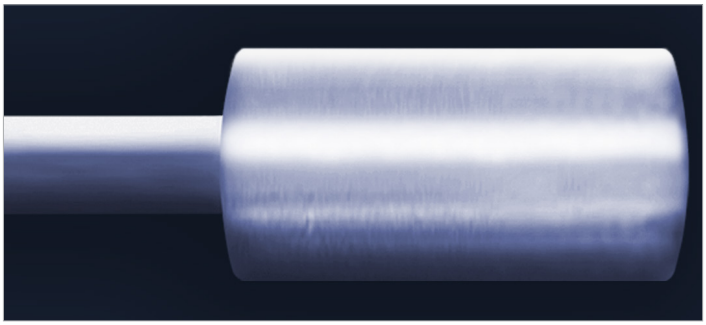
BALL LENSES

- Ideal for coupling light into fiber
- Can focus or collimate light, depending upon the geometry of the input source
- Back focal length increases as the collimated light input beam diameter to ball lens diameter increases (d/D ratio)
- Manufactured from a single substrate of glass
- Used for increased coupling and collimation efficiency



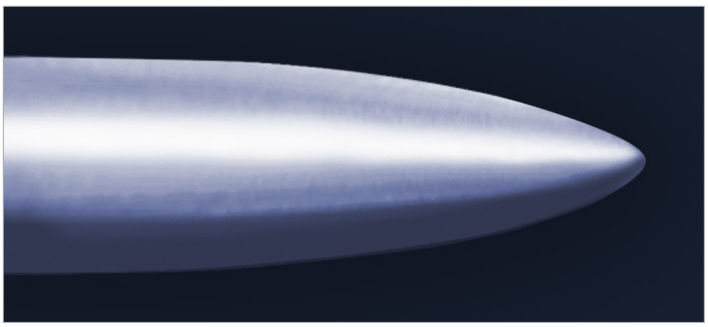
END CAPS

- Increases power handling by reducing laser power density to below damage threshold at the fiber end
- Decreased power density, increased spot size
- Expands laser beam inside fiber and is designed for high power fiber laser output termination and fiber amplifier
- Pigtail process to produce high power fiber collimators
- Coreless end cap integrated with end face of optical fibers



AXICON PROBES

- Specialized lens with conical surface
- Small focal length
- Small spot size, very high power density and very quick light diversion
- Images a point source as a line along the optic axis; a laser beam is transformed into a ring while passing through an axicon lens



TAPERS

- Cause optical mode mixing that tends to homogenize spatial power distribution
- Large input core diameter prevents input damage and allows smaller diameter pigtail for a wide range of optical applications
- Efficient power coupling between differing fibers
- Abidatic taper