

Aspherical Lenses

Product Information

Due to the unique profile, aspherical lenses eliminate monochromatic aberrations (e.g. spherical aberrations) and lead to a better overall image quality. They are increasingly used to replace multi-spherical element assemblies resulting in a weight reduction as well as in a more compact design.

Advantages

- SCHOTT masters the entire value chain from raw glass to aspherical coated lenses
- Custom designed products at competitive prices
- 1 piece to series production levels
- Coating: all lenses can be coated to a specific custom design



Materials

- All types of optical glass
- Fused silica
- Other materials on request

Applications

- High power laser lenses collimation
- Focusing optics for Head Up Displays
- Endoscopy
- Microscopy
- Digital projection, camera, binocular

Attribute	CNC machining and polishing			Molded (Low Tg glasses only)
	Commercial	Precision	High Precision	
Diameter	15 – 180 mm	15 – 160 mm	15 – 140 mm	1.5 – 35 mm
Diameter tolerance*	± 0.1 mm	± 0.05 mm	± 0.02 mm	± 0.05 mm
Center thickness*	3 – 40 mm	3 – 40 mm	5 – 40 mm	0.5 – 10 mm
Radius of curvature convex*	> 10 mm	> 20 mm	> 30 mm	> 3 mm
Radius of curvature concave*	On request	On request	On request	> 5 mm
Tolerance on radius of curvature*	± 0.5 %	± 0.1 %	± 0.05 %	± 0.5 %
Surface flatness (PV, asph. side)*	2 µm	0.5 µm	0.2 µm	< 0.5 µm
Irregularity (PV, spherical side)*	1 µm	0.2 µm	0.1 µm	< 0.5 µm
Tilt from asph. side to other side*	< 6 arc min	< 3 arc min	< 1 arc min	< 1 arc min
Surface roughness – Rq*	< 5 nm	< 3 nm	< 1.5 nm	< 15 nm
Surface quality (scratch & dig) (5/NxA)*	60/40 5/6 x 0.25	40/20 5/3 x 0.25	10/5 5/3 x 0.025	40/20 5/3 x 0.16
Typical volume*	From 1 piece to series production			> 200 pcs

* Depending on customer's specifications. Please call sales representative.



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