

# Aspherical Lenses

## Product Information

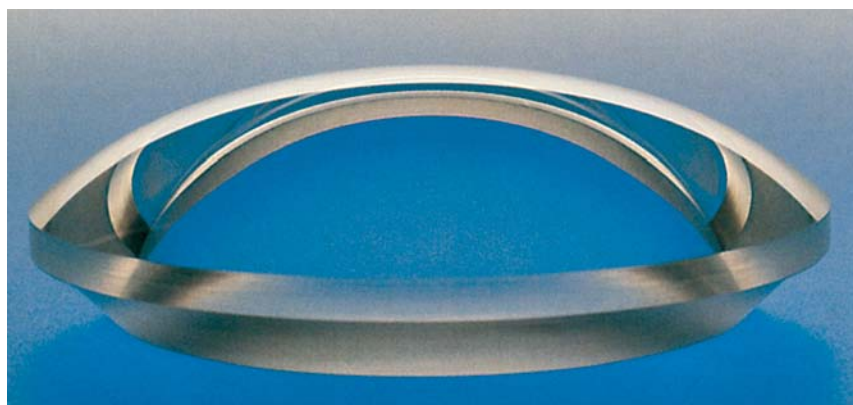
Due to the unique profile, aspherical lenses eliminate monochromatic aberrations (e.g. spherical aberrations) and lead to a better overall image quality. They are increasingly used to replace multi-spherical element assemblies resulting in a weight reduction as well as in a more compact design.

## 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<br>5/6 x 0.25               | 40/20<br>5/3 x 0.25 | 10/5<br>5/3 x 0.025 | 40/20<br>5/3 x 0.16          |
| Typical volume*                          | From 1 piece to series production |                     |                     | > 200 pcs                    |

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

For more information please contact:

Advanced Optics  
**SCHOTT AG**  
 Hattenbergstrasse 10  
 55122 Mainz  
 Germany

Phone: +49 (0)6131/66-1812  
 Fax: +49 (0)3641/2888-9047  
 info.optics@schott.com  
 www.schott.com/advanced\_optics

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