

ASPHERIC & ASPHERIC DIFFRACTIVE LENSES

Optics

	Silicon		Zinc Selenide		Germanium	
	Typical	Mfg Limit	Typical	Mfg Limit	Typical	Mfg Limit
Surface Tolerances						
Polished surface quality (scratch-dig)	40-20	10-5	40-20	20-10	40-20	10-5
Polished surface roughness (Å, RMS)	10	5	10	5	10	5
Polished surface power (waves, P-V @ 633 nm)	$\lambda/4$	$\lambda/20$	$\lambda/4$	$\lambda/20$	$\lambda/4$	$\lambda/20$
Polished surface irregularity (waves, P-V @ 633 nm)	$\lambda/4$	$\lambda/20$	$\lambda/4$	$\lambda/20$	$\lambda/4$	$\lambda/20$
Spherical radius accuracy (% radius)	0.10	0.02	0.10	0.02	0.10	0.02
Diamond Turned Surface roughness (Å, RMS)	50	20	60	30	40	10
Surface sag deviation from nominal aspheric shape (FR)	1.0	0.5	1.0	0.5	1.0	0.5
Dimensional Tolerances						
Diameter (mm)	± 0.1	+0.00/-0.013	± 0.1	+0.00/-0.013	± 0.1	+0.00/-0.013
Center Thickness (mm)	± 0.1	± 0.01	± 0.1	± 0.01	± 0.1	± 0.01
Wedge (arc seconds)	30	1	30	1	30	1
Clear aperture (%)	90	98	90	98	90	98

- Color correction
- Reduced system complexity, fewer lenses
- Higher performance systems
- Deterministic manufacturing processes
- Durable BBAR coatings

Lens Types

Plano-Concave
 Plano-Convex
 Bi-Convex
 Bi-Concave
 Meniscus

Material Types

CaF₂
 Si
 ZnS
 AMTIR
 ZnSe
 Ge



The general tolerance specifications above provide a guideline regarding manufacturing capabilities for uncoated optics ranging in size up to 250 mm. The manufacturing limits are not absolute and may vary depending on material; tighter tolerances may be possible. Part specific tolerances may vary. All specifications do not need to be from single column.