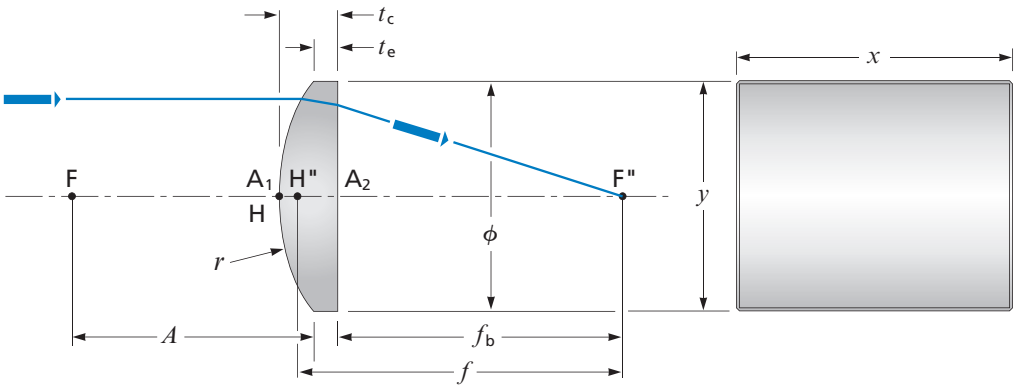
Optics | CYLINDRICAL LENSES

Surface Tolerances	Precision	Laser Grade	Manufacturing Limit
Surface quality (scratch-dig)	40-20	20-10	10-5
Surface roughness (Å, RMS)	20	5	2.5
Surface irregularity (waves, P-V @ 633 nm)			
per cm along Y-axis	1λ	λ/2	λ/10
per cm along X-axis	1λ	λ/4	λ/10
Radius (fringes)	5	3	0.5
Flat irregularity (waves, P-V @ 633 nm)	λ/2	λ/10	λ/20

Dimensional Tolerances	Commercial	Precision	Manufacturing Limit
Diameter (mm)	+0.000/-0.250	+0.000/-0.025	+0.000/-0.005
Length & Width (mm)	±0.050	+0.000/-0.025	+0.000/-0.010
Thickness (mm)	±0.250	±0.050	±0.005
Centration (edge thickness difference, mm)	0.05	0.01	0.005
Clear aperture (%)	85	90	95

- Metrology confirmed with computer generated holograms (CGH)
- High laser damage threshold
- Manufacturing dimensions up to 600 mm
- For materials see pgs 6-7



The general tolerance specifications above provide a guideline regarding manufacturing capabilities for uncoated optics ranging in size from 3-100 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.