

Aluminium

1. General

Aluminium 6061 (AlMgSi alloy) or RSA is the preferred material for optical applications. Its low density makes it an ideal material for all lightweight applications.

2. Material properties

Chemical symbol:	Al
Atomic number:	13
Atomic weight:	26.981
Density:	2.7 g/cm ³
Melting point:	585 °C
Heat capacity:	897 J kg ⁻¹ K ⁻¹
Thermal conductivity:	170-200 W m ⁻¹ K ⁻¹

3. Standard tolerances:

Diameter: +/- 0.1 mm
Thickness: +/- 0.1 mm
Parallelism: < 3 arc min

4. Surface quality:

Figure: up to 1/10
Roughness: < 10 nm Ra

5. Delivery forms

- planar
- spherical / aspherical
- toric
- cylindrical

6. Options

- Weight reduction pattern as desired
- Bore pattern as desired

7. Coatings

- a) Metallic
 - Gold for IR systems
 - Silver / Aluminium
- b) Laserline coatings
 - CO₂ laser mirrors
 - YAG/fibre/diode laser mirrors

Free aperture: 90 % of diameter