

SILICON MIRROR

1. General

Silicon is generally used for laser mirrors and IR-windows. The low density is ideal for weighty optical designs.

Our mirrors are coated for maximum reflectivity. PLEIGER's manufacturing capability covers optics for CO₂-lasers and optical instruments.

Silicon mirrors are available plano and spherical.

2. Material Properties

| | |
|-----------------------|--------------------------------------|
| Density: | 2,33 g/cm ³ |
| Thermal conductivity: | 163 W/mK |
| Heat capacity: | 703 J/kg K |
| Thermal expansion: | 2,6 10 ⁻⁶ K ⁻¹ |

3. Surfaces

- plano
- spherical

4. Standard Dimensional tolerances:

| | |
|-----------------|------------------|
| Diameter: | +/- 0,1 mm |
| Thickness: | +/- 0,2 mm |
| Parallelism: | < 3 arc min |
| Clear aperture: | 90 % of diameter |

5. Surface Quality:

| | |
|---------|------------------------|
| Figure: | 1/40 wave @ 10,6 µm |
| S-D: | 40-20 |

6. Coatings

- a) Broadband coatings
 - Protected Gold
 - Protected Silver
 - Protected Aluminium
- b) Enhanced coatings
 - Enhanced Gold
 - Enhanced Silver
 - Enhanced Aluminium
- c) High power laser coatings
 - CO₂ laser
 - YAG/fiber laser line
 - fs laser