# Reasonable Aluminum Flat Mirrors | S-TFA   RoHS

An economic general use mirror suitable for an illumination optical system and a simple experiments. It has the same reflectance and surface flatness as our aluminum mirrors (TFA) designed for use with a laser, but lower surface quality.

● The dirt on the surface of the mirror can be wiped because the scratch-resistant protection is coated on the aluminum coating.
● Reflectance of less variation can be obtained in a wide wavelength range from visible to near-infrared.
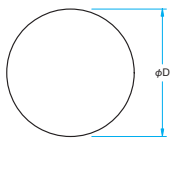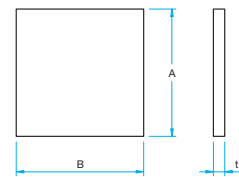
Schematic

Rear surface: Ground or Polished
Shape: Circle or square, rectangle
Front surface: Al + MgF$_2$
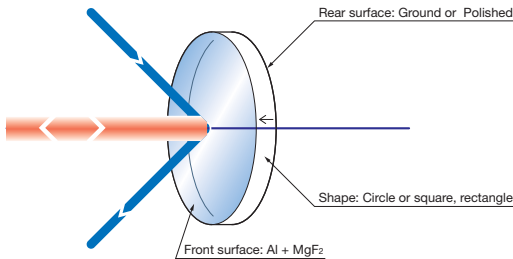
Outline Drawing   (in mm)

● Circle   ● Square / Rectangle

φD   A   B   t

●Tolerance
Diameter   φD$^{+0}_{-0.1}$
Length   A$^{+0}_{-0.1}$ B$^{+0}_{-0.1}$
Thickness   t ±0.1

Specifications

| Material	BK7
Coating	Al + MgF$_2$
Parallelism	<3′
Incident angle	45°
Laser Damage Threshold	0.25J/cm^2 (pulse width 10ns, repetition frequency 20Hz)
Surface Quality (Scratch–Dig)	60–40
Clear aperture	90% of actual aperture or circle or ellipse that contacts 90% square of dimension

Attention

▶ When a laser is transmitted with multiple mirrors installed, there will be loss of a large amount of light caused by the absorption of the aluminum coating. Please switch to dielectric multi-layer mirrors (TFM) for improved performance.
▶ Reflectance specification is represented by the average of the reflectance of P polarized light and S polarized light. Reflectance may vary depending on the polarization state of the incident beam.
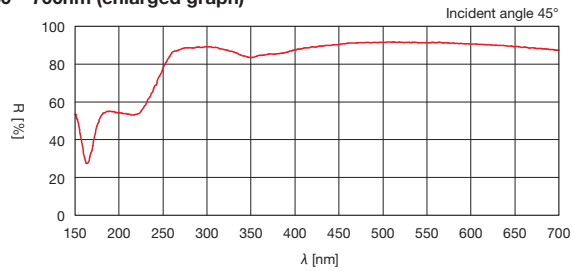
Typical Reflectance Data   R: Reflectance

100 – 1200nm
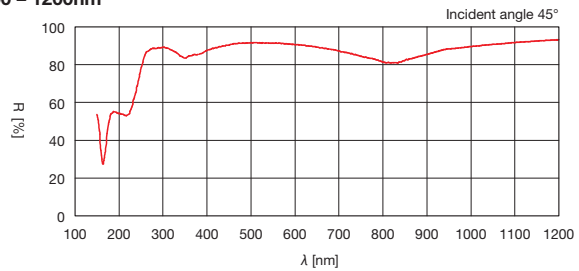
150 – 700nm (enlarged graph)

Circle

Part Number	Diameter φD [mm]	Thickness t [mm]	Surface flatness	Rear surface
S-TFA-10C03-10	φ10	3	λ/10	Ground
S-TFA-10C05-10	φ10	5	λ/10	Ground
S-TFA-15C03-10	φ15	3	λ/10	Ground
S-TFA-15C05-10	φ15	5	λ/10	Ground
S-TFA-20C03-10	φ20	3	λ/10	Ground
S-TFA-20C05-10	φ20	5	λ/10	Ground
S-TFA-25C05-1	φ25	5	λ	Polished
S-TFA-25C05-10	φ25	5	λ/10	Polished
S-TFA-30C05-1	φ30	5	λ	Polished
S-TFA-30C05-10	φ30	5	λ/10	Polished
S-TFA-40C06-1	φ40	6	λ	Polished
S-TFA-40C06-10	φ40	6	λ/10	Polished
S-TFA-50C08-1	φ50	8	λ	Polished
S-TFA-50C08-10	φ50	8	λ/10	Polished

Square / Rectangle

Part Number	Length A × B [mm]	Thickness t [mm]	Surface flatness	Rear surface
S-TFA-10S03-10	10×10	3	λ/10	Ground
S-TFA-15S03-10	15×15	3	λ/10	Ground
S-TFA-20S03-10	20×20	3	λ/10	Ground
S-TFA-20S05-4	20×20	5	λ/4	Ground
S-TFA-20S05-10	20×20	5	λ/10	Ground
S-TFA-25S05-10	25×25	5	λ/10	Ground
S-TFA-30S05-1	30×30	5	λ	Ground
S-TFA-30S05-10	30×30	5	λ/10	Ground
S-TFA-1015R03-10	10×15	3	λ/10	Ground
S-TFA-1015R05-10	10×15	5	λ/10	Ground
S-TFA-1525R03-10	15×25	3	λ/10	Ground
S-TFA-1525R05-10	15×25	5	λ/10	Ground
S-TFA-2030R05-10	20×30	5	λ/10	Ground
S-TFA-2535R05-10	25×35	5	λ/10	Ground

Compatible Optic Mounts ▶

MHG-HS25-NL, -HS30-NL / MHG-MP50-NL / MAD-30-10 + MHL-30S / BSHL-15-2 / MHF-20 / MHAN-40S

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Ultra Broadband
Dielectric Coating
Aluminum Coating
Gold Coating