

Dielectric Mirrors for High Power Laser

TFMHP

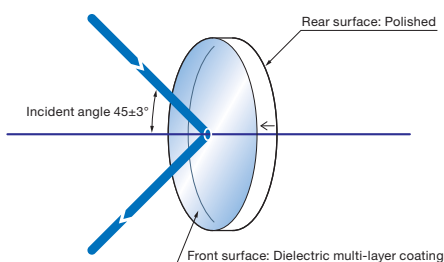
RoHS

All dielectric coating designs are much more resistant to laser damage than typical mirrors and are suitable for use with high power laser systems.

- All Dielectric Mirrors for High Power Laser are manufactured using dielectric multi-layer coatings of alternating high and low index layers.
- The Mirrors are specifically designed for use at 45 degrees (AOI).
- All dielectric coating designs are much more resistant to laser damage than typical mirrors and are suitable for use with high power laser systems.
- Mirrors for YAG lasers are also available.

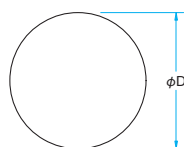


Schematic



Outline Drawing

(in mm)



- Tolerance
Diameter $\phi D_{\pm 0.1}$
Thickness $t \pm 0.1$

Specifications

Material	BK7
Coating	Dielectric multi-layer coating
Incident angle	$45^\circ \pm 3^\circ$
Surface Flatness	$\lambda/10$
Parallelism	$<3'$
Surface Quality (Scratch-Dig)	10-5
Clear aperture	90% of Actual Aperture
Rear Surface	Polished

Guide

- ▶ Please consult our Sales Division for assistance in your selection and for customized products. (customized on outer diameter, wavelength characteristic, etc.) Please use the inquiry sheet.
- ▶ Also available are our surface flatness guarantee (HTFM) mirrors with accuracy guarantee after surface coating.

Attention

- ▶ Reflectance of dielectric mirrors will vary according to the polarization of the input beams.
- ▶ The un-coated rear surface of the mirror is polished and the arrow on the side of the substrate points towards the coated surface.
- ▶ Reflectance of laser line mirrors are different according to the polarization of input beams. S-polarization has the high reflectance and the wide reflective bandwidth compared with p-polarization. The reflectance in the specifications list is that of random polarization or (p-polarization reflectance + s-polarization reflectance) / 2.
- ▶ The reflectance curves are based on actual measurements and may vary with production lots.
- ▶ Be sure to wear laser safety goggles when checking optical path and adjusting optical axis.
- ▶ The surface flatness is the reflected surface wavefront distortion before coating.

Specifications

Part Number	Wavelength Range [nm]	Diameter ϕD [mm]	Thickness t [mm]	Reflectance [%]	Laser Damage Threshold* [J/cm ²]
TFMHP-25.4C05-193	193	$\phi 25.4$	5	>95	2
TFMHP-30C05-193	193	$\phi 30$	5	>95	2
TFMHP-50C08-193	193	$\phi 50$	8	>95	2
TFMHP-25.4C05-248	248	$\phi 25.4$	5	>98	4
TFMHP-30C05-248	248	$\phi 30$	5	>98	4
TFMHP-50C08-248	248	$\phi 50$	8	>98	4
TFMHP-25.4C05-266	266	$\phi 25.4$	5	>98	5
TFMHP-30C05-266	266	$\phi 30$	5	>98	5
TFMHP-50C08-266	266	$\phi 50$	8	>98	5
TFMHP-25.4C05-355	355	$\phi 25.4$	5	>99	8
TFMHP-30C05-355	355	$\phi 30$	5	>99	8
TFMHP-50C08-355	355	$\phi 50$	8	>99	8
TFMHP-25.4C05-532	532	$\phi 25.4$	5	>99	26.5
TFMHP-30C05-532	532	$\phi 30$	5	>99	26.5
TFMHP-50C08-532	532	$\phi 50$	8	>99	26.5
TFMHP-25.4C05-1064	1064	$\phi 25.4$	5	>99	28
TFMHP-30C05-1064	1064	$\phi 30$	5	>99	28
TFMHP-50C08-1064	1064	$\phi 50$	8	>99	28

* Angle of incidence 0°, laser pulse width 10ns (TFMHP-193: 20ns), repetition frequency 20Hz

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Frameless

Accuracy Guarantee

High Power

Ultra Broadband

Dielectric Coating

Aluminum Coating

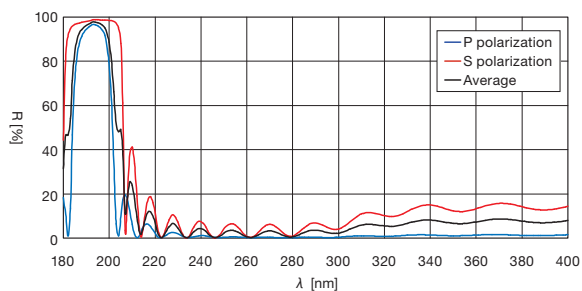
Gold Coating



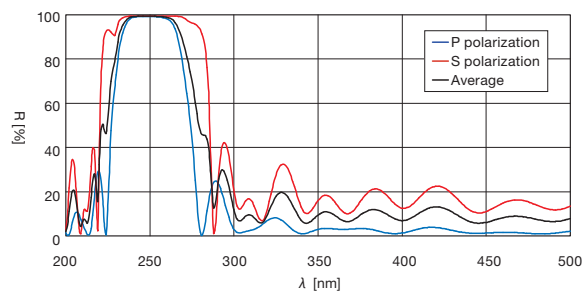
Typical Reflectance Data

R: Reflectance

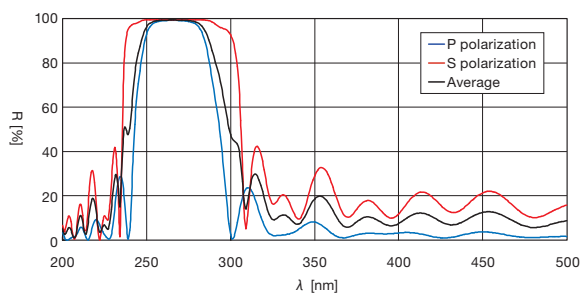
TFMHP-193



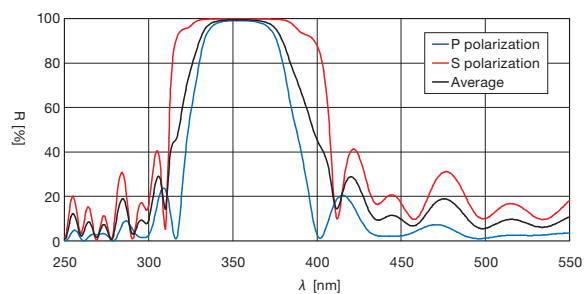
TFMHP-248



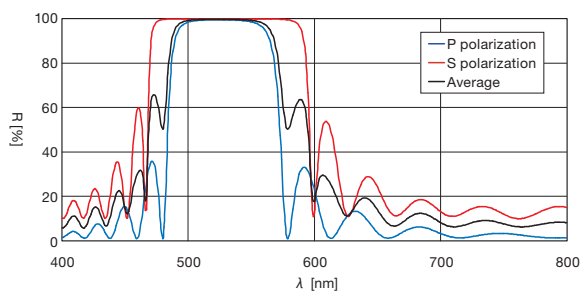
TFMHP-266



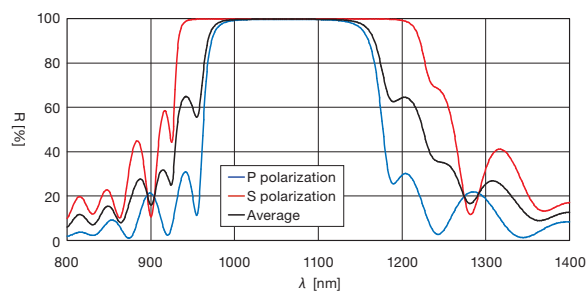
TFMHP-355



TFMHP-532



TFMHP-1064



Compatible Optic Mounts

MHG-HS25-NL, -HS30-NL / MHG-MP50-NL / MHAN-25.4S, -30S, -50S

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