0-45° Wide Incidence Dielectric Mirrors | WIDM

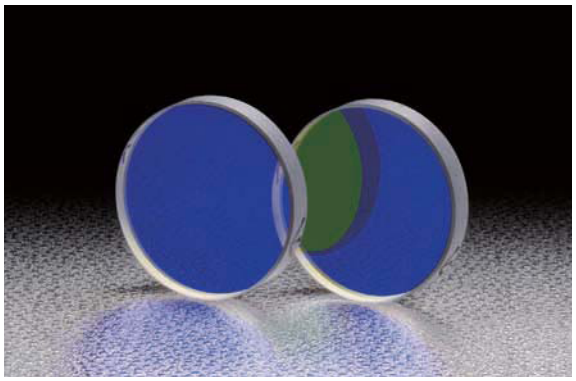
RoHS

Application Systems
Machine Vision
Manual Positions
Motion Control Products
Optical & Mirror Holder
F A Parts
Measurement &Control
FA Electrical Parts
Tool & Measure
Cleanroom & AntiStatic
Index

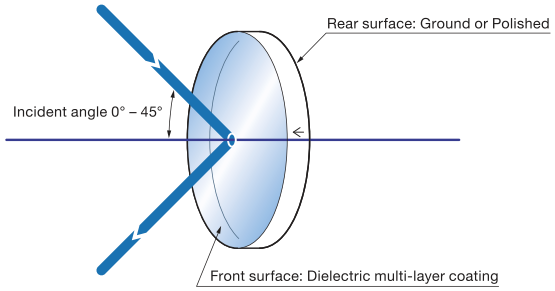
Mirrors
Beamsplitters
Filters
Polarizers
Lenses
Multi-Element Optics
Prisms
Substrates & Windows
Holder & Vibration isolator

Laser Line Mirrors are total reflection mirrors multi-layer-coated with dielectrics of different refractive index by turns on BK7 substrates of λ/10 flatness.
Laser line mirrors designed can be used at 0 to 45 degrees of incident angles.

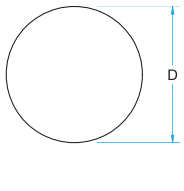
- Dielectric multi-layer coating does not have any absorption properties and the reflectance can be more than 99% except for mirrors in 193nm.
- These coatings are much stronger than Al+MgF_2 coating against high-power lasers.
- The wavelength (range) of reflectance depends on incident angles.



Schematic



Outline Drawing (in mm)



●Tolerance
Diameter $D^{0}_{-0.1}$
Thickness t ±0.1

Specifications

Material	BK7
Coating	Dielectric multi-layer coating
Incident angle	0° – 45°
Surface Flatness	λ/10
Parallelism	<3′
Surface Quality (Scratch–Dig)	10–5
Clear aperture	90% of Actual Aperture

Guide

- Please contact our International Sales Division for customized products. (customized on diameter,wavelength characteristic, etc.) Please use the inquiry sheet. Reference C036
- Also available are our surface flatness guarantee (HTFM) mirrors with accuracy guarantee after surface coating. Reference C012

Attention

- The un-coated rear surface of the mirror is polished and is indicated with an arrow on the side of the substrate.
- Reflectance of laser line mirrors are different according to the polarization of input beams. S-Polarization has high reflectance with a wide reflective bandwidth compared with P-Polarization.
- The reflectance in the specification list is at random polarization or (P-Polarization reflectance + S-Polarization reflectance) / 2. The reflectance curves are based on actual measurements and may be different 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.

400 – 830nm

Part Number	Wavelength Range [nm]	Diameter D [mm]	Thickness t [mm]	Reflectance [%]	Laser Damage Threshold* [J/cm²]	Rear Surface
WIDM-15C03-405	405	ϕ15	3	>99	0.5	Ground
WIDM-25.4C05-405	405	ϕ25.4	5	>99	0.5	Polished
WIDM-30C05-405	405	ϕ30	5	>99	0.5	Polished
WIDM-50C08-405	405	ϕ50	8	>99	0.5	Polished
WIDM-25.4C05-532	532	ϕ25.4	5	>99	8	Polished
WIDM-30C05-532	532	ϕ30	5	>99	8	Polished
WIDM-50C08-532	532	ϕ50	8	>99	8	Polished
WIDM-15C03-VIS	400 – 700	ϕ15	3	>99	0.5	Ground
WIDM-25.4C05-VIS	400 – 700	ϕ25.4	5	>99	0.5	Polished
WIDM-30C05-VIS	400 – 700	ϕ30	5	>99	0.5	Polished
WIDM-50C08-VIS	400 – 700	ϕ50	8	>99	0.5	Polished
WIDM-15C03-780	780	ϕ15	3	>99	0.5	Ground
WIDM-25.4C05-780	780	ϕ25.4	5	>99	0.5	Polished
WIDM-30C05-780	780	ϕ30	5	>99	0.5	Polished
WIDM-15C03-830	830	ϕ15	3	>99	0.5	Ground
WIDM-25.4C05-830	830	ϕ25.4	5	>99	0.5	Polished
WIDM-30C05-830	830	ϕ30	5	>99	0.5	Polished

* Laser pulse width 10ns, repetition frequency 20Hz

1064 – 1550nm						
Part Number	Wavelength Range [nm]	Diameter D [mm]	Thickness t [mm]	Reflectance [%]	Laser Damage Threshold* [J/cm²]	Rear Surface
WIDM-25.4C05-1064	1064	ϕ25.4	5	>99	20	Polished
WIDM-30C05-1064	1064	ϕ30	5	>99	20	Polished
WIDM-50C08-1064	1064	ϕ50	8	>99	20	Polished
WIDM-15C03-1300	1300	ϕ15	3	>99	1	Ground
WIDM-25.4C05-1300	1300	ϕ25.4	5	>99	1	Polished
WIDM-30C05-1300	1300	ϕ30	5	>99	1	Polished
WIDM-15C03-1550	1550	ϕ15	3	>99	1	Ground
WIDM-25.4C05-1550	1550	ϕ25.4	5	>99	1	Polished
WIDM-30C05-1550	1550	ϕ30	5	>99	1	Polished

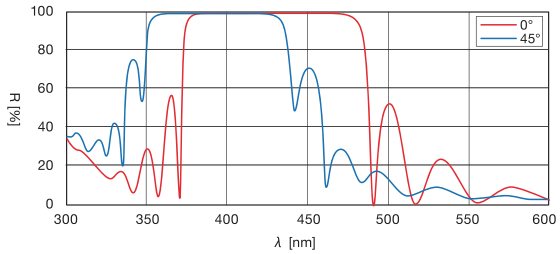
* Laser pulse width 10ns, repetition frequency 20Hz

Typical Reflectance Data

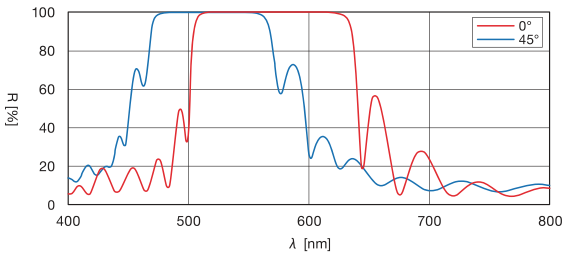
R: Reflectance

45° is average value of P polarization and S polarization

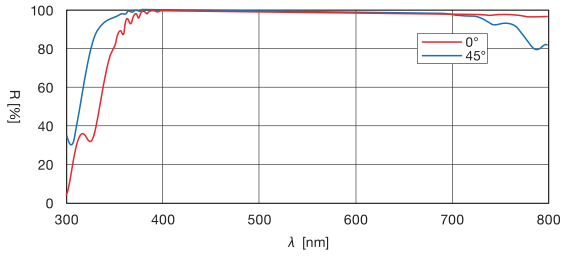
WIDM-405



WIDM-532



WIDM-VIS



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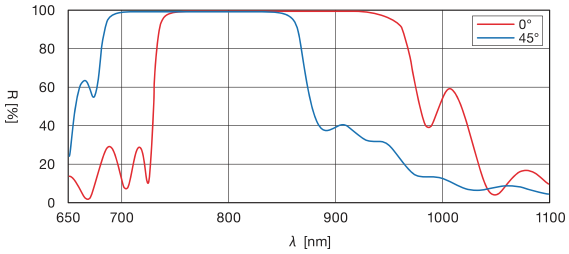
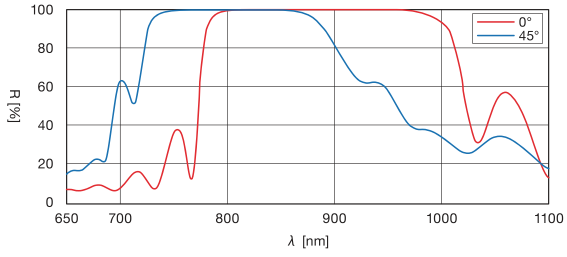
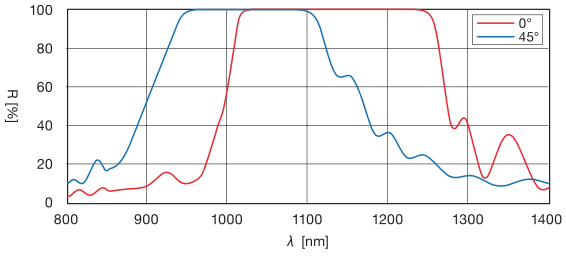


WIDM-830



WIDM-1064



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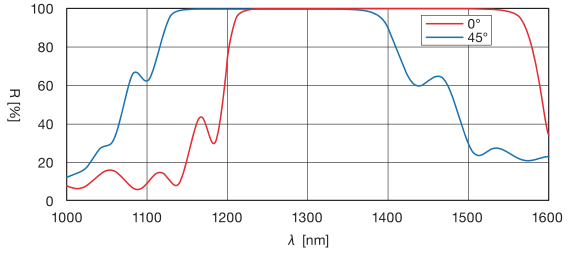
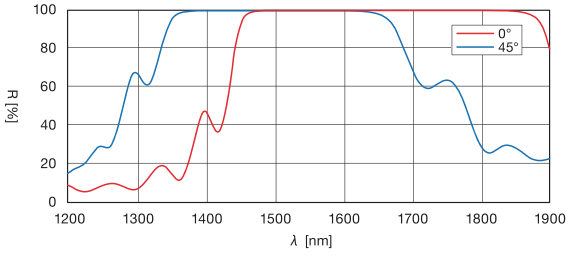


WIDM-1550



Compatible Optic Mounts

KMH-MP30-NL KMH-MP50-NL / BSH-15-2