

Mica Waveplates | MWP



- Application Systems
- Machine Vision
- Manual Positions
- Motion Control Products

Optical & Mirror Holder

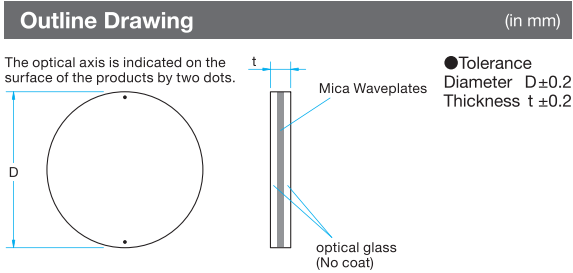
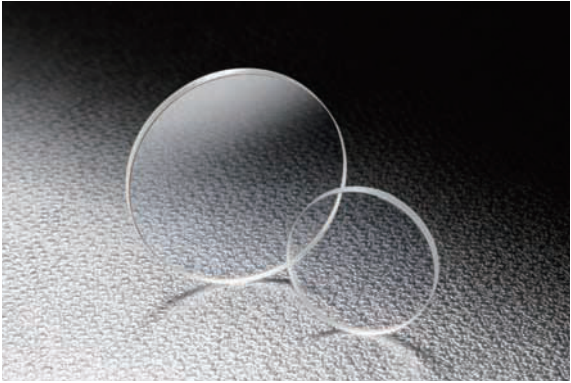
- FA Parts
- Measurement & Control
- FA Electrical Parts
- Tool & Measure
- Cleanroom & AntiStatic
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- Mirrors
- Beamsplitters
- Filters

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

Mica waveplates are zero-order (first-order) retardation plates (phase plates) which are designed at 550nm wavelength and effective at the range from 400 – 700nm. A mica sheet is sandwiched between optical glass discs for protection and ease of use. A mica sheet is sandwiched between optical glass discs for protection and ease of use.

- These products utilize birefringence of mica and give phase difference of $\lambda/4$ ($\pi/2$, 90°) or $\lambda/2$ (π , 180°) to the input beams. $\lambda/4$ plates convert linearly polarization to circularly and circularly polarization to linearly. $\lambda/2$ plates convert the direction of polarization in 90 degrees.
- Usually linearly polarized beams are input to the waveplates in a leaning of 45 degrees against its optical axis.



Specifications

Material	A mica sheet is sandwiched between optical glass discs for protection and ease of use.
Wavelength Range	400 – 700nm
Transmitted wavefront distortion	2λ $\lambda=550\text{nm}$
Incident angle	0°
Design wavelength	580nm
Theoretical retardation	1/4: 145nm 1/2: 290nm
Surface Quality (Scratch-Dig)	40-20

Guide

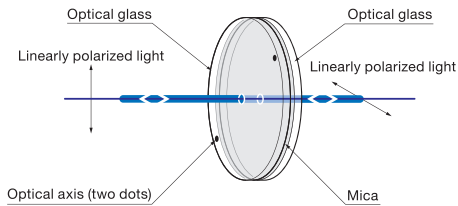
▶ Please contact our International Sales Division for customized products. (Customized on size etc.)

Attention

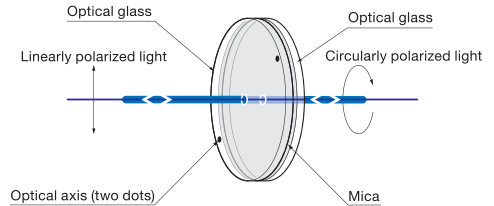
- ▶ Mica waveplates cannot be used for high-power laser applications because of their relatively high absorption coefficient and occasional inhomogeneities.
- ▶ Be sure to wear laser safety goggles when checking optical path and adjusting optical axis.
- ▶ If you want to use the polarization measurement, please use the crystal waveplate. [Reference](#) C081

Schematic

● $\lambda/2$



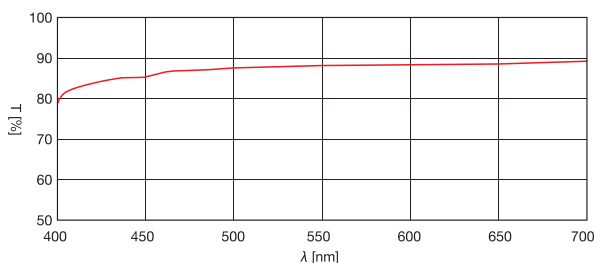
● $\lambda/4$



$\lambda/2$		
Part Number	Diameter D [mm]	Thickness t [mm]
MWP-10-2P	$\phi 10$	2.5
MWP-20-2P	$\phi 20$	2.5
MWP-25-2P	$\phi 25$	2.5
MWP-30-2P	$\phi 30$	2.5
MWP-40-2P	$\phi 40$	3.5
MWP-50-2P	$\phi 50$	3.5

$\lambda/4$		
Part Number	Diameter D [mm]	Thickness t [mm]
MWP-10-4P	$\phi 10$	2.5
MWP-20-4P	$\phi 20$	2.5
MWP-25-4P	$\phi 25$	2.5
MWP-30-4P	$\phi 30$	2.5
MWP-40-4P	$\phi 40$	3.5
MWP-50-4P	$\phi 50$	3.5

Typical Transmittance Data T: Transmission



Compatible Optic Mounts

NPH-30-ARS / NPH-30-ARS