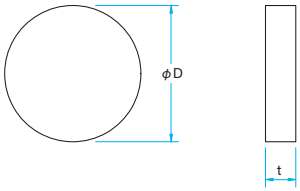
Optical Flats | HMPQP/HMPZP

RoHS

It is a substrate polished to high precision were material change of the shape is very small due to the temperature variation. It can be used as test plates of the interferometer and the Newton test plate.

- Inspection data of interferometric surface accuracy is provided with the optical flats.
- You can select the required optical flat from our range of products listed by various sizes and surface accuracy.
- In the high-precision and large size optical flats, a material having a lower thermal expansion than synthetic fused silica is used.
- Arrow on the side of the component indicates teh surface that is polished to the high surface accuracy.
- Optical flat are delivered in case for storage.

Outline Drawing (in mm)



●Tolerance
D≦ϕ50
Diameter ϕD$^{0}_{-0.1}$
Thickness t ±0.1

D≧ϕ60
Diameter ϕD$^{0}_{-0.2}$
Thickness t ±0.2

Specifications

Material	Synthetic fused silica low-expansion glass (ZERODUR® or CLEARCERAM®-Z)
Parallelism	<3′
Surface Quality (Scratch–Dig)	20–10
Rear Surface	Polished
Clear aperture	95% of actual aperture Surface flatness λ/40 in 90% of actual aperture

Guide

- Zerodur® is a registered trademark of SCHOTT AG.
- CLEARCERAM® is a registered trademark of Ohara Corporation.
- Wedge substrates are also available that can be used to prevent the influence of back reflection (WSB / WSSQ / WSSQK).

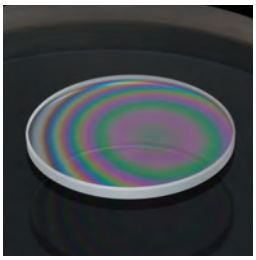
Reference

- A Newton ring is a rainbow-colored fringes that can be observed when the sample is adhered with optical flat. It is possible to estimate the flatness of the sample surface from the shape and number of this fringes.
- PVr of reflected wavefront accuracy is a method for evaluating the surface accuracy and is divided by the spatial frequency component image data by the interferometer. On images of the low frequency, it is using the peak to valley values, and on the image of intermediate frequency, it is evaluated using the RMS values.

Attention

- When used as a Newton test plate, it may scratch the sample if used improperly. If inspecting an object that is easily scratched, use a laser interferometer.
- The number of Newton rings is approximately twice the value of the PV result of analysis by interferometer.
- Optical flats are not coated in order to maintain the surface accuracy. If you need a coating, please contact to our Sales Division.
- If there is a crack or chipping visable on the edges of an optical flats, the damage may have reduced the surface flatness. Please do not use damaged optical flats as they should be replaced.

Reference image



Newton ring

Standard type

Part Number	Diameter ϕD [mm]	Thckness t [mm]	Material	Surface flatness PV
HMPQP-30C10-6	ϕ30	10	Synthetic fused silica	λ/6
HMPQP-30C10-12	ϕ30	10	Synthetic fused silica	λ/12
HMPQP-30C10-20	ϕ30	10	Synthetic fused silica	λ/20
HMPQP-40C10-6	ϕ40	10	Synthetic fused silica	λ/6
HMPQP-40C10-12	ϕ40	10	Synthetic fused silica	λ/12
HMPQP-40C10-20	ϕ40	10	Synthetic fused silica	λ/20
HMPQP-50C10-6	ϕ50	10	Synthetic fused silica	λ/6
HMPQP-50C10-12	ϕ50	10	Synthetic fused silica	λ/12
HMPQP-50C10-20	ϕ50	10	Synthetic fused silica	λ/20
HMPQP-60C12-6	ϕ60	12	Synthetic fused silica	λ/6
HMPQP-60C12-12	ϕ60	12	Synthetic fused silica	λ/12
HMPQP-60C12-20	ϕ60	12	Synthetic fused silica	λ/20
HMPQP-80C15-6	ϕ80	15	Synthetic fused silica	λ/6
HMPQP-80C15-12	ϕ80	15	Synthetic fused silica	λ/12
HMPQP-80C15-20	ϕ80	15	Synthetic fused silica	λ/20
HMPQP-100C20-6	ϕ100	20	Synthetic fused silica	λ/6
HMPQP-100C20-12	ϕ100	20	Synthetic fused silica	λ/12
HMPQP-100C20-20	ϕ100	20	Synthetic fused silica	λ/20
HMPZP-100C17-6	ϕ100	17	low-expansion glass	λ/6
HMPZP-100C17-12	ϕ100	17	low-expansion glass	λ/12
HMPZP-100C17-20	ϕ100	17	low-expansion glass	λ/20
HMPQP-130C25-6	ϕ130	25	Synthetic fused silica	λ/6
HMPQP-130C25-12	ϕ130	25	Synthetic fused silica	λ/12
HMPQP-130C25-20	ϕ130	25	Synthetic fused silica	λ/20
HMPZP-130C20-6	ϕ130	20	low-expansion glass	λ/6
HMPZP-130C20-12	ϕ130	20	low-expansion glass	λ/12
HMPZP-130C20-20	ϕ130	20	low-expansion glass	λ/20
HMPQP-150C30-6	ϕ150	30	Synthetic fused silica	λ/6
HMPQP-150C30-12	ϕ150	30	Synthetic fused silica	λ/12
HMPQP-150C30-20	ϕ150	30	Synthetic fused silica	λ/20
HMPZP-150C25-6	ϕ150	25	low-expansion glass	λ/6
HMPZP-150C25-12	ϕ150	25	low-expansion glass	λ/12
HMPZP-150C25-20	ϕ150	25	low-expansion glass	λ/20

Higt precision type

Part Number	Diameter ϕD [mm]	Thckness t [mm]	Material	Surface flatness PVr
HMPQP-30C10-40	ϕ30	10	Synthetic fused silica	λ/40
HMPQP-40C10-40	ϕ40	10	Synthetic fused silica	λ/40
HMPQP-50C10-40	ϕ50	10	Synthetic fused silica	λ/40
HMPQP-60C12-40	ϕ60	12	Synthetic fused silica	λ/40
HMPQP-80C15-40	ϕ80	15	Synthetic fused silica	λ/40
HMPQP-100C20-40	ϕ100	20	Synthetic fused silica	λ/40
HMPQP-130C25-40	ϕ130	25	Synthetic fused silica	λ/40
HMPQP-150C30-40	ϕ150	30	Synthetic fused silica	λ/40
HMPZP-150C25-40	ϕ150	25	low-expansion glass	λ/40