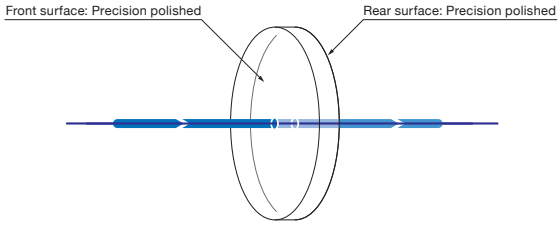
Low Scattering Substrate | OPSQSP/OPCFSP/OPMFSP/ WSSQSP/WSCFSP/WSMFSP

RoHS

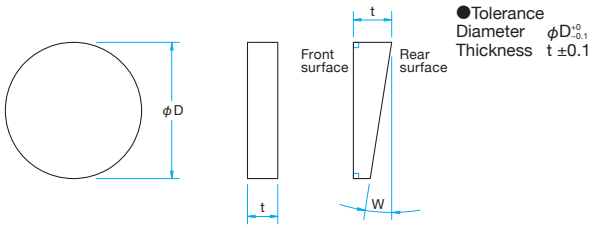
We can provide special optical polishing service for optics or wedge substrate that achieve surface roughness of <0.2nm (Ra). These low scattering substrates are in high demand for high power laser and X-ray applications.

- Use a wedged substrate for a beamsplitter to prevent effects of back reflection.
- CaF_2 (calcium fluoride) and MgF_2(magnesium fluoride) are mainly used in UV and IR for its high transmittance.
- Our highly technical processing yields low surface roughness (microscopic irregularities) and precision surface accuracy (flatness of whole surface).

Schematic



Outline Drawing (in mm)



Specifications

Material	Synthetic fused silica, UV Grade CaF_2, MgF_2
Surface roughness	<0.2nm(Ra)
Clear aperture	90% of actual aperture

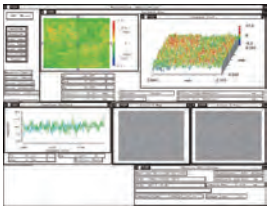
Guide

- Wedged substrates have marked wtih an arrow indicating the direction of front surface at the thickest thickness point.

Attention

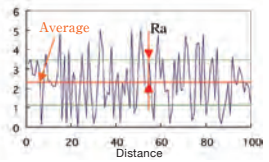
- The low scattering substrates are uncoated; the reflectance from the surface is 2.5% to 4%.
- If using wedge substrate for transmission application, the beam will be deviate approximately 0.5 degrees.
- The CaF_2 substrate surface can be easily scratched. Do not use contact cleaning, please use air-blow for dirt cleaning.
- The CaF_2 and the MgF_2 substrates get rough under high temperature and high humidity environment. Stock them in dry optical cabinet after use.

Surface roughness tester and measurement data



■Surface roughness Ra

The definition of surface roughness is defined according to the JIS B0601 standard. The most commonly used parameter is Ra. The Ra is usually shown on specifications by Å Angstrom unit (0.1nm). The definition of Ra value is the calculation of the measured value and the average value; the absolute value is the subtraction of the measured value to the average value. Similar to Root-Mean-Square value (RMS) but with a little bit bigger number.



Optics

Part Number	Diameter ϕD [mm]	Thckness t [mm]	Material	Surface flatness	Parallelism [″]	Surface Quality (Scratch–Dig)
OPSQSP-25.4C05-10-5	ϕ25.4	5	Synthetic fused silica	λ/10	<5	10–5
OPSQSP-30C03-10-5	ϕ30	3	Synthetic fused silica	λ/10	<5	10–5
OPSQSP-30C05-10-5	ϕ30	5	Synthetic fused silica	λ/10	<5	10–5
OPSQSP-50C05-10-5	ϕ50	5	Synthetic fused silica	λ/10	<5	10–5
OPCFSP-25.4C05-10-5	ϕ25.4	5	CaF_2	λ/10	<5	20–10
OPCFSP-30C05-10-5	ϕ30	5	CaF_2	λ/10	<5	20–10
OPMFSP-25.4C05-10-5	ϕ25.4	5	MgF_2	λ/10	<5	20–10
OPMFSP-30C05-10-5	ϕ30	5	MgF_2	λ/10	<5	20–10

Wedge

Part Number	Diameter ϕD [mm]	Thckness t [mm]	Material	Surface flatness	Wedge angle W	Surface Quality (Scratch–Dig)
WSSQSP-30C05-10-1	ϕ30	5	Synthetic fused silica	λ/10	1°±5′	10–5
WSSQSP-50C08-10-1	ϕ50	8	Synthetic fused silica	λ/10	1°±5′	10–5
WSCFSP-30C05-10-1	ϕ30	5	CaF_2	λ/10	1°±5′	20–10
WSMFSP-30C05-10-1	ϕ30	5	MgF_2	λ/10	1°±5′	20–10

HOURS
www.hours-web.com