

## OHARA QUARTZ

Synthetic Fused Silica for Optics **SK-1320** Series

SK-1320 series of Ohara Quartz Co., Ltd. is a synthetic fused silica for the optics developed as the fused silica material for precise, various optical components for the optics application and the high-power laser.

SK-1321 (abbr. U1), SK-1322 (abbr. U2) is guaranteed the homogeneity each in one direction and three directions.

“L” attached to the end is suitable for the high-power laser.

**Applications:**

Lens, Window, Mirror, Prism, Filter, Corner Cube, Beam Splitter, Etalons, Brewster, Optical Flat, etc.

Line-up and Each Characteristics	Line-up	Max Size (mm)	Striae <sup>①</sup>	Homogeneity <sup>②</sup>	Birefringence <sup>②</sup> (nm/cm)	Bubbles <sup>③</sup> (mm <sup>2</sup> /100cm <sup>3</sup> )	Fluorescence <sup>④</sup>	Transmission (nm)
	SK-1320L	φ600	A	—	1D ≤ 10	0 ~ 0.03	None	170 ~ 2500
	SK-1321(U1)	φ250	A	1D ≤ 2 × 10 <sup>-6</sup>	1D ≤ 3	0 ~ 0.03	Red	170 ~ 2500
	SK-1321L(U1L)	φ250	A	1D ≤ 2 × 10 <sup>-6</sup>	1D ≤ 3	0 ~ 0.03	None	170 ~ 2500
	SK-1322(U2)	φ250	A	3D ≤ 2 × 10 <sup>-6</sup>	3D ≤ 3	0 ~ 0.03	Red	170 ~ 2500
	SK-1322L(U2L)	φ150	A	3D ≤ 2 × 10 <sup>-6</sup>	3D ≤ 3	0 ~ 0.03	None	170 ~ 2500
	SK-1300 <sup>⑤</sup>	φ600	A	—	1D ≤ 10	0 ~ 0.03	Red	170 ~ 2500
	SK-1310 <sup>⑤</sup>	φ600	A	—	1D ≤ 10	0 ~ 0.03	Blue	170 ~ 3600

① According to the MIL-G-174 standard of the U.S. Military.

② Valid area / diameter × 90%.

③ Conforms to DIN 58927.

④ Excited at Excimer laser.

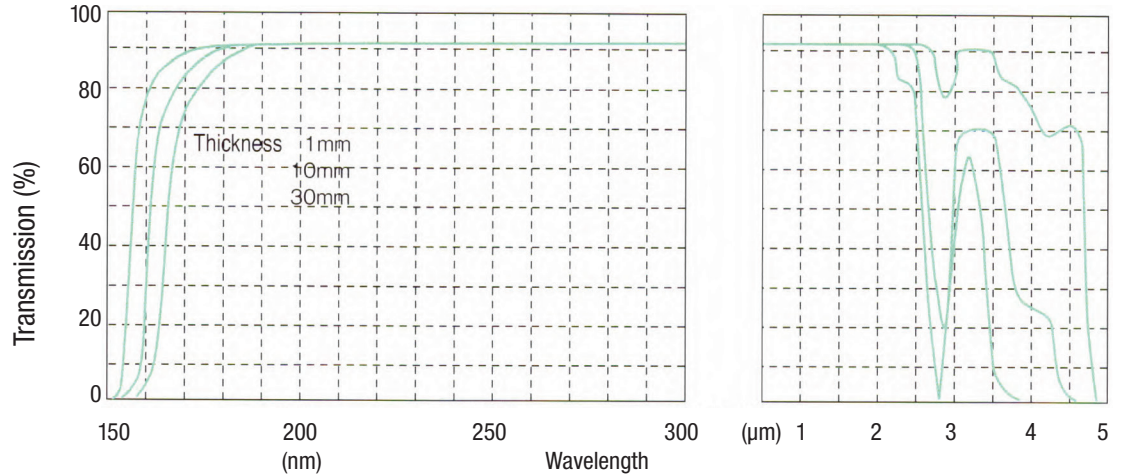
Please consult us about the application needed for Excimer laser durability.

⑤ Please refer to datasheet for this material.

## Optical Qualities

(SK-1320L, SK-1321, SK-1321L, SK-1322, SK-1322L)

### ● Transmission



### ● Refractive Index

Wavelength (nm)	Refractive index	Wavelength (nm)	Refractive index
237.83	1.51538	587.56(d)	1.45863
248.20	1.50907	589.26 (D)	1.45862
274.84	1.49655	656.27(C)	1.45653
334.15	1.48036	706.52(r)	1.45535
365.48(i)	1.47514	852.11(s)	1.45266
404.65(h)	1.47021	1013.98(t)	1.45044
435.83(g)	1.46728	1529.6	1.44449
486.13(F)	1.46329	2325.4	1.43318
546.07(e)	1.46066		

### ● Abbe number

$$\nu_d = \left( \frac{n_d - 1}{n_F - n_C} \right) = 67.84$$

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### ● Average dispersion

$$n_F - n_C = 0.00676$$

## Physical Properties

Item	Unit	Value	Item	Unit	Value
Density	g/cm <sup>3</sup>	2.20	Coefficient of thermal expansion	1/K	5.5×10 <sup>-7</sup>
Young's module	GPa	71.4	Softening point	°C	1700
Torsional rigidity	GPa	30.9	Annealing point	°C	1160
Poisson's ratio		0.17	Strain point	°C	1060
Compression strength	GPa	1.1	Specific heat (26°C)	kJ/kg·K	0.74
Bending strength	MPa	69	(26°C)	W/m·K	1.1
Tensile strength	MPa	55	Thermal conductivity ratio	W/m·K	1.4
Vickers hardness	GPa	8.8~10.1	(100°C)		
Knoop hardness	GPa	6.4~7.0			