

i-Line Glasses

Ohara is producing 13 glass types which have excellent internal transmittance in the near UV (>98% at i-line, 365 nm) and are solarization resistant. They can be produced in large sizes with outstanding homogeneity values ($\pm 0.5 \times 10^{-6}$). These glasses are ideally suited for use in microlithography optics (stepper cameras and illumination systems) and astronomical optics (spectragraph cameras, etc.).



ADVANTAGES

- High Transmission at i line (> 98% at 365 nm for 10 mm thick)
- Excellent Homogeneity Values ($\pm 0.5 \times 10^{-6}$)
- Low Birefringence / S train
- Solarization Resistant
- 13 i-line Glass Types To Choose From
- Available in Blanks Up To 300 mm Diameter
- For Use In Microlithography Optics (Stepper Cameras)
- Suitable For Near UV Systems

List of i-Line Glasses

Glass Type	Internal Transmittance 10mm thick (365nm)	Solarization Resistance	Optical Homogeneity Capability ($\times 10^{-6}$)			Deviation of n_i within a single lot ($\times 10^{-5}$)	Tolerance of Refractive Index ($\times 10^{-5}$)
			Dia160 or less	Dia210 or less	Dia260 or less		
S-FPL51Y	0.997	Good	± 1.0	-	-	± 2	$+20 \pm 20$
S-FSL5Y	0.999	Good	± 0.5	± 0.8	± 1.0	± 2	$+15 \pm 20$
BSL7Y	0.998	Good	± 0.5	± 0.8	± 1.0	± 1	$+20 \pm 20$
BAL15Y	0.994	Good	± 0.5	± 0.8	± 1.0	± 2	$+10 \pm 20$
BAL35Y	0.996	Good	± 0.5	± 0.8	± 1.0	± 2	$+20 \pm 20$
BSM51Y	0.995	Good	± 0.5	± 0.8	± 1.0	± 2	$+30 \pm 20$
PBL1Y	0.997	Good	± 0.5	± 0.8	± 1.0	± 2	$+10 \pm 20$
PBL6Y	0.998	Good	± 0.5	± 0.8	± 1.0	± 2	$+10 \pm 20$
PBL25Y	0.995	Good	± 0.5	± 0.8	± 1.0	± 2	$+10 \pm 20$
PBL26Y	0.996	Good	± 0.5	± 0.8	± 1.0	± 2	$+10 \pm 20$
PBM2Y	0.986	Good	± 0.5	± 0.8	± 1.0	± 2	$+10 \pm 20$
PBM8Y	0.991	Good	± 0.5	± 0.8	± 1.0	± 2	$+10 \pm 20$
PBM18Y	0.993	Good	± 0.5	± 0.8	± 1.0	± 2	$+10 \pm 20$

Notes For Table of i-Line Glass Types

1. Internal Transmittance

Internal transmittance of the glass is indicated as guaranteed minimum transmittance at 365nm (10 and 25 mm sample thickness). Reflection losses are not included.

2. Solarization

The degree of solarization is indicated as a decrease in transmittance caused by radiation from a super high pressure mercury-vapor lamp. The detailed measurement method is described in the Japanese Optical Glass Industrial Standard (JOGIS).

3. Optical Homogeneity

Ohara is capable of achieving the optical homogeneity listed above using our He-Ne laser interferometer. Please be sure to specify the homogeneity required at time of order.

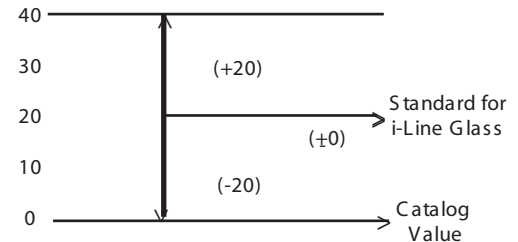
4. Refractive Index (n_i) Variation within one Lot (Sn S Standard)

The indicated Sn value is the refractive index variation after annealing within a single batch (same melt, same annealing run).

5. Refractive Index Tolerance

The standard refractive index (n_i) of our i-line glasses is higher than our catalogue nominal values. This is due to the longer annealing times which are necessary to obtain the desired homogeneity levels.

Please contact us to discuss your specific requirements.



Refractive Index Example: $+20 \pm 20 \times 10^{-5}$