

## Description:

VYCOR® brand glass is comparable to fused silica or quartz in performance and properties. Because of its high-temperature properties, VYCOR can be used at continuous temperatures up to 900°C and at intermittent temperatures up to 1200°C. Composed of 96% fused silica with an extremely low coefficient of thermal expansion, it provides excellent thermal shock resistance. VYCOR performs better than other glass in the presence of acids, water and steam at low and high temperatures. In the presence of alkalis, VYCOR performs similarly to other commercially available glass products. VYCOR has high electrical resistivity and low dielectric loss characteristics and transmits more than 90% of both ultraviolet and infrared light.

## Available Thicknesses:

Rolled

4.00mm (4.00mm - 4.80mm)      10.00mm (9.50mm - 11.30mm)

6.00mm (6.35mm - 8.00mm)      12.50mm (12.70mm - 15.80mm)

\*\*PG&O can grind and polish to any thickness in the range listed above down to .3 mm or thinner, depending on the specific requirements.

\*\*Sheet Sizes are approximately 12" x 18" for thicknesses up to about ¼". Thicker than ¼" are approximately 12" x 15".

## Properties:

Refractive Index:  $n_d (\lambda = 589.3 \text{ nm}) = 1.458$

## Transmission: (estimated at .5 mm thick)

@ 225nm	14%	@ 350nm	91%
@ 250nm	54%	@400-1500nm	90%+
@ 300nm	80%	@ 2600nm	40%

## Mechanical and Thermal:

Density	2.18 g/cm <sup>3</sup>
Young's Modulus	6.75 x 10 <sup>13</sup> kg/mm <sup>2</sup>
Thermal Coefficient of Expansion (0-300°C)	= 7.5 x 10 <sup>-7</sup> /°C

## Chemical:

Solution	Temperature	Wt. Loss (mg/cm <sup>2</sup> )
5% HCL (24 Hr.)	95°C	0.0005
N/50 Na <sub>2</sub> CO <sub>3</sub> (5 Hr.)	100°C	0.07
5% NaOH (6 Hr.)	100°C	0.90

## Electrical:

Dielectric Constant @ 25°C; 1 MHz	3.8
Loss Tangent @ 25°C; 1 MHz	.0005

Flatness, parallelism, cutting tolerances, roughness, cosmetic defects and visual inspection all conform to the specifications to be agreed upon by Precision Glass & Optics and the customer.

