

# AL-225

# Technical Bulletin

## Description of Vycor® Brand 7913 Glass Used in Corning Labware

### Vycor® Brand 7913 Glass High Temperature Glass - High Silica Glass

This glassware has several exceptional properties. Since it is 96% silica, it is similar to fused quartz in its thermal properties. It may be used at much higher temperatures than Code No. 7740 borosilicate glass and will withstand considerably more thermal shock. Vycor products can be used continuously at 900°C, and intermittently to 1200°C. Being of a very simple composition, only five elements, it is used for very precise analytical work.

### Transmission/Wavelength for Vycor® Labware - Approximately 1mm Thick

#### Chemical Composition

Composition	(percent approx.)
SiO <sub>2</sub>	96.4%
B <sub>2</sub> O <sub>3</sub>	3.0%
Al <sub>2</sub> O <sub>3</sub>	0.5%
Misc. Traces	0.1%

#### Physical Properties

Coeff. of Exp.	7.5 x 10 <sup>-7</sup> cm/cm/°C
Strain Point	890°C
Anneal Point	1020°C
Softening Point	1530°C
Density	2.18 g/cm <sup>3</sup>
Young's Mod.	6.7 x 10 <sup>3</sup> Kg/mm <sup>2</sup>
Refract. Index	1.458 @ Sodium D Line

Temp. Limits	<b>1200°C (Extreme Service)</b> <b>900°C (Normal Service)</b>
--------------	--

#### Manufacture

This glass is formed as a borosilicate type glass. It is then subjected to a chemical treatment that removes most of the elements in the glass except silica (SiO<sub>2</sub>). Glass is then reheated to eliminate the microscopic holes caused by the chemical treatment. Only quartz has a higher silica content.

#### Applications

Designed for use in all products that must withstand very high temperatures or thermal shock. Can be sealed to 7740 glass with #6466 graded seals.

#### Products

11000 - beakers, 12940 - crucibles, 13180 - dishes, 16790 - heaters & water still heaters, Vycor® tubing.

#### Warnings

1. Do not use hydrofluoric acid in any glass product.
  2. Alkalis at elevated temperatures will etch glass.
-