

# LABORATORY GLASSWARE

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The laboratory glassware : The laboratory glasswares are made by hand and machine with glass blowing methods of glass tubes borosilicate glass SIMAX. The assortment of laboratory glasswares includes: boiling glasswares, volumetric, and graduated laboratory glassware, pipettes and laboratory apparatus. Besides the product presented in the catalogue the producer is able to manufacture other different or atypic glasswares according to mutual agreement with the customer. This glass pertains to the internationally appreciated borosilicate glass &ndash; Type 3.3 (DIN &ndash; ISO 3585). Due to its properties it complies best with requirements for chemical and thermal stability ensuring product quality for use in special technologic conditions of laboratories, operation plants, pilot plants and production units of various industrial branches. These properties contribute to the fact that SIMAX glass is a high quality modern material for manufacturing laboratory glass and apparatuses.

Properties of SIMAX glass: Mean

linear thermal expansion coefficient	a (20-300°C):	3,3.10-6 °C-1	Water resistance at 98°C
ISO 719	1. class	Water resistance at 121°C	ISO 720 1.class
Acid resistance ISO 1776	1.class	Alkali resistance ISO 695	2. class
Littleton point (h7,6 dPa.s)	825 °C	Chemical properties:	For judgement of

SIMAX glass chemical properties, its water, acid and alkali resistances are deciding. The borosilicate SIMAX glass contains approx. 81% SiO<sub>2</sub> and 13%B<sub>2</sub>O<sub>3</sub> and it is characterized by an excellent resistance practically against all aggressive substances and due to its chemical resistance it conforms to the borosilicate glass mentioned in the international standard ISO 3585. The glass surface can be disturbed only by hydrofluoric acid, phosphoric acid, fluorosilicic acid and hot concentrated hydroxides.

Water resistance: The water resistance of this glass at 98% C is determined by crushing test in accordance with STN 70 0531. SIMAX glass shows water extract approx. 0,17 mg Na<sub>2</sub>O/100cm<sup>2</sup> glass area after 3 hours of boiling in water, thus it is classified into the 1st resistance class.

Acid resistance: The acid resistance of this glass is determined in accordance with STN 70 0532 (in line with DIN 12 116) and at the showed loss in weight approx. 0.3 mg/100cm<sup>2</sup> the SIMAX glass is judged as acid insoluble and it is classified into the 1st resistance class.

Alkali resistance: The alkali resistance of this glass determined in accordance with STN 70 0533 (in line with ISO 695 and DIN 52 322) and at the showed loss in weight approx. 140mg/100cm<sup>2</sup> SIMAX glass is judged as moderately alkali soluble and it is classified into the 2nd resistance class. The SIMAX glass be used up to 30% NaOH concentration at temperature approx. 2.°C.

Ecologic harmless character: The glass does not contain any pollutants. It is manufactured of sound raw materials, e.g. sand, soda, borax etc.