



**KAVALIER**

## TECHNICAL DATA

### SIMAX®

**Glass type:** Borosilicate glass 3.3. acc. to ISO 3585,  
glass with high thermal and chemical resistance

**Purpose of use:** technical and laboratory glass products, industrial equipment,  
household glassware

#### SIMAX Glass - Chemical properties

Hydrolytic resistance - water at 98 °C	ISO 719	HGB 1
water at 121 °C	ISO 720	HGA 1
Acid resistance	ISO 1776	1
Alkali resistance	ISO 695	A2

The heavy metal content for the elements lead, cadmium, mercury and hexavalent chromium is below 100 ppm

#### SIMAX Glass - Physical Properties

Coefficient of mean linear thermal expansion $\alpha$ (20/300°C)	ISO 7991	$(3,3 \pm 0,1) \times 10^{-6} \text{ K}^{-1}$
Density $\rho$		$(2,23 \pm 0,02) \text{ g.cm}^{-3}$
Thermal conductivity at 100°C		$1,2 \text{ W.m}^{-1}.\text{K}^{-1}$
Temperatures at viscosity of $\eta$ in $dPa.s$	$10^4$ working point	ISO 7884 1260 °C
	$10^{7,6}$ softening point	ISO 7884 820 °C
	$10^{13,2}$ annealing point	ISO 7884 558 °C
Transformation temperature $T_g$	ISO 7884-8	525 °C
Modulus of elasticity /Young's modulus (E)		$63 \times 10^3 \text{ MPa}$
Poisson's ratio		0,19

#### SIMAX Glass - Optical Properties

Simax glass refractive index ( $\lambda = 589.30 \text{ nm}$ ) $n_d$	1,472
Photoelastic constant	$3,6 \cdot 10^{-6} \text{ MPa}^{-1}$
Solar transmittance	$\geq 91,8\%$ $\lambda = (300 - 2500) \text{ nm}$

#### SIMAX Glass - Electrical Properties

At current temperatures, SIMAX glass mass is non-conducting material – it is an insulant.

Specific electric resistance in a moisture-free medium (20 °C) greater than  $10^{13} - 10^{15} \text{ W}\times\text{cm}$

Permittivity $\epsilon$ (20 °C, 1 MHz)	4,6
Loss angle $\text{tg } \delta$	$4,9 \cdot 10^{-3}$

#### KAVALIERRGLASS, a.s.

Křížová 1018/6, Prague 5  
office: Sklářská 359, 285 06 Sázava,  
Czech Republic

31/17

14. 03. 2017

Ing. Viera Košíková, quality manager

