

Glass Type/Application	Borosilicate glass 3.3 acc. to ISO 3585, chemically highly resistant, highly resistant to thermal shock Special applications in the pharmaceutical industry	
Physical Data (approx. value)	Coefficient of mean linear thermal expansion $\alpha(20^{\circ}\text{C}; 300^{\circ}\text{C})$ acc. to ISO 7991 .....	$3.3 \cdot 10^{-6} \text{K}^{-1}$
	Transformation Temperature $T_g$ .....	525 °C
	Glass temperature at viscosity $\eta$ in $\text{dPa} \cdot \text{s}$	
	$10^{13}$ (annealing point).....	560 °C
	$10^{7.6}$ (softening point) .....	825 °C
	$10^4$ (working point) .....	1260 °C
	Density $\rho$ at 25°C .....	2.23 $\text{g} \cdot \text{cm}^{-3}$

Chemical Data	Hydrolytic resistance		
	acc. to ISO 719 .....	Class	HGB 1
	acc. to Ph. Eur. ....	Type	I
	acc. to USP.....	Type	I
	acc. to JP.....		fulfilled
	Acid resistance (DIN 12116) .....	Class	S 1
	Alkali resistance (ISO 695) .....	Class	A 2
	ASTM E 438 .....	Type	I      Class    A

Chemical Composition (main components in approx. weight %)	SiO <sub>2</sub>	B <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	Na <sub>2</sub> O	K <sub>2</sub> O
	81	13	2	3.5	0.5

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

Transmission  
(exemplary spectrum)

