

Glass Type/Application	Neutral glass tubing, chemically highly resistant, with light protection Pharmaceutical primary packaging	
Physical Data (approx. value)	Coefficient of mean linear thermal expansion	
	$\alpha(20^{\circ}\text{C}; 300^{\circ}\text{C})$ acc. to ISO 7991 .....	$5.4 \cdot 10^{-6} \text{K}^{-1}$
	Transformation Temperature $T_g$ .....	550 °C
	Glass temperature at viscosity $\eta$ in $\text{dPa} \cdot \text{s}$	
	$10^{13}$ (annealing point).....	560 °C
	$10^{7.6}$ (softening point) .....	770 °C
	$10^4$ (working point) .....	1165 °C
	Density $\rho$ at 25°C .....	$2.42 \text{ g} \cdot \text{cm}^{-3}$
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
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> Fe <sub>2</sub> O <sub>3</sub> TiO <sub>2</sub> Na <sub>2</sub> O K <sub>2</sub> O BaO CaO	
	70 7.5 6 1 5 6.5 1 2 < 1	
	The heavy metal content for the elements lead, cadmium, mercury and hexavalent chromium is below 100 ppm.	

### Transmission (exemplary spectrum)

