

Glass Type/Application	Neutral glass tubing, chemically highly resistant Pharmaceutical primary packaging
Physical Data (approx. value)	<p>Coefficient of mean linear thermal expansion $\alpha(20^{\circ}\text{C}; 300^{\circ}\text{C})$ acc. to ISO 7991 $5.2 \cdot 10^{-6}\text{K}^{-1}$</p> <p>Transformation Temperature T_g 560°C</p> <p>Glass temperature at viscosity η in $\text{dPa} \cdot \text{s}$</p> <p>$10^{13}$ (annealing point)..... 570°C</p> <p>$10^{7.6}$ (softening point) 775°C</p> <p>10^4 (working point) 1170°C</p> <p>Density ρ at 25°C $2.32 \text{ g} \cdot \text{cm}^{-3}$</p>
Chemical Data	<p>Hydrolytic resistance</p> <p>acc. to ISO 719 Class HGB 1</p> <p>acc. to ISO 720 Class HGA 1</p> <p>acc. to YBB00252003-2015 Type I</p> <p>acc. to YBB00362004-2015 Class HGB 1</p> <p>acc. to Ph. Eur. Type I</p> <p>acc. to USP..... Type I</p> <p>acc. to JP..... fulfilled</p> <p>Acid resistance (DIN 12116) Class S 1</p> <p>Alkali resistance (ISO 695) Class A 2</p> <p>ASTM E 438 Type I Class B</p>
Chemical Composition (main components in approx. weight %)	<p>SiO_2 B_2O_3 Al_2O_3 Na_2O K_2O CaO</p> <p>73 11 7 7 < 1 < 1</p> <p>The heavy metal content for the elements lead, cadmium, mercury and hexavalent chromium is below 100 ppm.</p>

