

**GlassType/Application** Borosilicate glass 3.3 acc. to ISO 3585, chemically and thermally highly resistant  
 General-purpose glass for apparatus for the chemical industry, for pipelines and lab glassware

Physical Data			
Coefficient of mean linear thermal expansion			
$\alpha$ (20°C;300°C) acc. to ISO 7991 .....	3.3	$10^{-6}K^{-1}$	
Transformation temperature $T_g$ .....	525	°C	
Glass temperature at viscosity $\eta$ in dPa·s			
$10^{13}$ (annealing point).....	560	°C	
$10^{7.6}$ (softening point).....	825	°C	
$10^4$ (working point).....	1260	°C	
Stress-optical coefficient K .....	4.0	$10^{-6}mm^2 \cdot N^{-1}$	
Density $\rho$ at 25°C .....	2.23	$g \cdot cm^{-3}$	
Modulus of elasticity E (Young's modulus) .....	63	$10^3N \cdot mm^{-2}$	
Poisson's ratio $\mu$ .....	0.2		
Thermal conductivity $\lambda_w$ at 90°C .....	1.2	$W \cdot m^{-1} \cdot K^{-1}$	
Log of the electric volume resistivity ( $\Omega \cdot cm$ )			
at 250°C .....	8.0		
at 350°C .....	6.5		
$t_{k100}$ .....	250	°C	
Dielectric constant $\epsilon$ for 1 MHz at 25°C .....	4.6		
Dielectric loss factor $\tan \delta$ for 1 MHz at 25°C .....	37	$10^{-4}$	
Refractive index $n_d$ ( $\lambda = 587.6$ nm) .....	1.473		

Chemical Resistance			
Hydrolytic resistance (ISO 719) .....	Class	HGB 1	
Acid resistance (DIN 12116) .....	Class	S 1	
Alkali resistance (ISO 695) .....	Class	A 2	

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