

# Glass 8405

## Technical Data

GlassType/Application	Sodium-potassium-barium-silicate glass Highly UV-transmitting Used as envelope for germicidal lamps (low-pressure mercury vapour discharge lamps) and for UV detectors		
Physical Data (approx. value)	Coefficient of mean linear thermal expansion		
	$\alpha(20^{\circ}\text{C}; 300^{\circ}\text{C})$ (ISO 7991) .....	9,7	$10^{-6}\text{K}^{-1}$
	Transformation temperature $T_g$ (ISO 7884-8).....	460	$^{\circ}\text{C}$
	Glass temperature at viscosity $\eta$ in $\text{dPa}\cdot\text{s}$		
	$10^{13}$ (annealing point) (ISO 7884-4).....	470	$^{\circ}\text{C}$
	$10^{7.6}$ (softening point) (ISO 7884-3).....	665	$^{\circ}\text{C}$
	$10^4$ (working point) (ISO 7884-2).....	1000	$^{\circ}\text{C}$
	Stress-optical coefficient $K$ (DIN 52314).....	2,8	$10^{-6}\text{mm}^2\cdot\text{N}^{-1}$
	Density $\rho$ at $25^{\circ}\text{C}$ .....	2,51	$\text{g}\cdot\text{cm}^{-3}$
	Modulus of elasticity $E$ (Young's modulus) .....	65	$10^3\text{N}\cdot\text{mm}^{-2}$
	Poisson's ratio $\mu$ .....	0,21	
	Thermal conductivity $\lambda_w$ at $90^{\circ}\text{C}$ .....	1,0	$\text{W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$
	Log of the electric volume resistivity ( $\Omega\cdot\text{cm}$ )		
	at $250^{\circ}\text{C}$ .....	8,5	
	at $350^{\circ}\text{C}$ .....	6,9	
	$t_{k100}$ .....	280	$^{\circ}\text{C}$
	Dielectric constant $\varepsilon$ for 1 MHz at $25^{\circ}\text{C}$ .....	6,5	
	Dielectric loss factor $\tan \delta$ for 1 MHz at $25^{\circ}\text{C}$ .....	45	$10^{-4}$
	Refractive index $n_d$ ( $\lambda = 587.6 \text{ nm}$ ) .....	1,505	
	UV transmission ( $\text{WT} = 1 \text{ mm}$ , $\lambda = 254 \text{ nm}$ ) .....	> 75	%
Chemical Resistance	Hydrolytic resistance (ISO 719) .....		
	Class	HGB 5	
	Acid resistance (DIN 12116) .....		
	Class	S 3	
	Alkali resistance (ISO 695) .....		
	Class	A 2	

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