

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}K^{-1}
	Transformation temperature T_g (ISO 7884-8).....	460	$^{\circ}\text{C}$
	Glass temperature at viscosity η 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 ρ at 25°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 μ	0.21	
	Thermal conductivity λ_w at 90°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°C	8.5	
	at 350°C	6.9	
	t_{k100}	280	$^{\circ}\text{C}$
	Dielectric constant ε for 1 MHz at 25°C	6.5	
	Dielectric loss factor $\tan \delta$ for 1 MHz at 25°C	45	10^{-4}
	Refractive index n_d ($\lambda = 587.6 \text{ nm}$)	1.505	
	Transmittance at 253.7 nm and 1 mm Thickness	>75	%
Chemical Resistance	Hydrolytic resistance (ISO 719)		
	Acid resistance (DIN 12116)	Class	HGB 5
	Alkali resistance (ISO 695)	Class	S 3
		Class	A 2

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