

Glass 8253

Technical Data

GlassType/Application	Alkaline earth aluminosilicate glass for high temperature application in electrical engineering, for sealing to molybdenum, for use at higher temperatures than glass 8252, free from alkali Bulb and exhaust tube for halogen lamps for automotive, household and general lighting		
Physical Data (approx. value)	Coefficient of mean linear thermal expansion		
	$\alpha(20^{\circ}\text{C}; 300^{\circ}\text{C})$ (ISO 7991)	4.7	10^{-6}K^{-1}
	Transformation temperature T_g (ISO 7884-8)	790	$^{\circ}\text{C}$
	Glass temperature at viscosity η in $\text{dPa} \cdot \text{s}$		
	$10^{14.5}$ (strain point) (ISO 7884-7)	750	$^{\circ}\text{C}$
	10^{13} (annealing point) (ISO 7884-4)	795	$^{\circ}\text{C}$
	$10^{7.6}$ (softening point) (ISO 7884-3)	1005	$^{\circ}\text{C}$
	10^4 (working point) (ISO 7884-2)	1305	$^{\circ}\text{C}$
	Stress-optical coefficient K (DIN 52314)	2.7	$10^{-6}\text{mm}^2 \cdot \text{N}^{-1}$
	Density ρ at 25°C	2.67	$\text{g} \cdot \text{cm}^{-3}$
	Modulus of elasticity E (Young's modulus)	83	$10^3\text{N} \cdot \text{mm}^{-2}$
	Poisson's ratio μ	0.23	
	Thermal conductivity λ_w at 90°C	1.1	$\text{W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$
	Log of the electric volume resistivity ($\Omega \cdot \text{cm}$)		
	at 250°C	13.0	
	at 350°C	11.0	
	t_{k100} (DIN 52326)	630	$^{\circ}\text{C}$
Dielectric constant ϵ for 1 MHz at 25°C	6.6		
Dielectric loss factor $\tan \delta$ for 1 MHz at 25°C	15	10^{-4}	
Refractive index n_d ($\lambda = 587.6 \text{ nm}$)	1.547		
UV transmission (WT = 1 mm, $\lambda = 330 \text{ nm}$)	< 72	%	
Chemical Resistance	Hydrolytic resistance (ISO 719)	Class	HGB 1
	Acid resistance (DIN 12116)	Class	S 2
	Alkali resistance (ISO 695)	Class	A 2
Alkali content	Total Alkali oxid	< 0.03	weight %
	The heavy metal content for the elements lead, cadmium, mercury and hexavalent chromium is below 100 ppm		