

Corning® EAGLE XG® Glass

Corning® EAGLE XG® Glass is considered the most widely used and trusted glass by the world's leading panel makers and was the first display glass composition to include no added heavy metals. Available in the widest variety of form factors, EAGLE XG can be made both exceptionally thin and large to enable thinner, lighter, and curved display panels.

Product & Material Information

Corning® EAGLE XG® Glass is produced to the following type specifications:

Material Information

Glass Type	Alkaline Earth Boro-Aluminosilicate	
Forms Available	Fusion Drawn Sheet	
Mechanical Properties	Density (20°C)	2.38 g/cm ³
	Young's Modulus	74 GPa
	Shear Modulus	30 GPa
	Poisson's Ratio	0.23
Thermal Expansion	Coefficient of Thermal Expansion (0 - 300°C)	32 x 10 ⁻⁷ /°C
Viscosity	Softening Point (10 ^{7.6} poises)	972°C
	Annealing Point (10 ¹³ poises)	722°C
	Strain Point (10 ^{14.5} poises)	669°C
Electrical Properties	Log ₁₀ Volume Resistivity	at 25°C 23.6 ohm-cm
		at 250°C 13.3 ohm-cm
		at 500°C 8.9 ohm-cm
	Dielectric Constant (23°C, 20% RH, 1kHz)	5.3
	Loss Tangent (23°C, 20% RH, 1kHz)	0.1%
Optical Properties	Refractive Index (at 589.3nm)	1.510
	Stress Optical Coefficient	33.4 (nm/cm/MPa)
	Transmittance (from 400 to 800nm)	>90%

Thermal Conductivity

Thermal conductivity is a calculated value and is equal to the product of the thermal diffusivity multiplied by specific heat multiplied by density of the glass.

Temp (°C)	Diffusivity (cm ² /s)	Specific Heat (J/kg-°K)	Conductivity (W/m-°K)
25	0.0059	753	1.058
100	0.0055	831	1.098
200	0.0054	969	1.247
300	0.0053	1093	1.365
400	0.0051	1148	1.409
500	0.0051	1189	1.447

Chemical Durability

Chemical durability is measured via weight loss per surface area after immersion. Values are highly dependent upon actual testing conditions. Unless otherwise noted, concentrations refer to weight percent.

Reagents	Time	Temp	Weight Loss (mg/cm ²)
HCl - 5%	24 hrs	95°C	0.79
HNO ₃ - 1M	24 hrs	95°C	0.49
HF - 10%	20 min	20°C	5.18
NH ₄ F:HF - 10%	20 min	20°C	0.84
1HF:10HNO ₃	3 min	20°C	1.48
1HF:100HNO ₃	3 min	20°C	0.16
DI H ₂ O	24 hrs	95°C	0.00
Na ₂ CO ₃ - 0.02N	6 hrs	95°C	0.16
NaOH - 5%	6 hrs	95°C	1.83