



Corning® Eagle XG® Glass Wafers

Material Description

Corning® EAGLE XG® delivers dimensional stability and exceptionally clean, smooth, flat surfaces. The Alkaline earth borosilicate composition includes no added heavy metals reducing the environmental impact of manufacturing. It also features exceptional strength, helping to completely avoid the potential environmental and health hazards associated with pore thinning.

Wafer Options

Coresix produces Eagle XG® wafers to all SEMI Standards including dimensional, flat and notch specifications. In addition, we offer custom specifications designed to your unique needs including, alignment marks, holes, pockets edge profile, thickness flatness surface quality, cleanliness or any other details critical to your application.

Wafer Specifications

Attribute	Standard	Best
Diameter	50.8, 76.2, 101.6, 152.4, 203.2, 304.8, 457.0	Custom Diameters
Diameter Tolerance	+/- 200µm	+/- 50µm
Thickness	3, 4, 5, 7, 1.1 mm	Custom 45mm - 1.1mm
Thickness Tolerance	+/- 10%	+/- 5µm
Thickness Variation (ITV)	<30µm	<1µm
Scratch and Dig	80/50	5/2
Roughness (RMS)	<7Å	<3Å
Warp	<400µm	<30µm
Flatness	λ per Inch T/R	λ/10 per inch T/R

Electrical Properties

Log ₁₀ Volume Resistivity	at 250°C - 12.9 ohm-cm
	at 500°C - 8.8 ohm-cm
Dielectric Constant (20°C, 1kHz)	6.17
Loss Tangent (20°C, 1kHz)	0.15%

Mechanical Properties

Density (20°C)	2.38 g/cc
Young's Modulus	73.6 GPa
Shear Modulus	30.1 GPa
Poisson's Ratio	0.23
Vickers Hardness (200gm load, 25 sec dwell)	640

Thermal Properties

Thermal Expansion

(0-300°C)	$31.7 \times 10^{-7} / ^\circ\text{C}$
Room Temp	$35.5 \times 10^{-7} / ^\circ\text{C}$
To Settling Point	(25 - 675°C)

Thermal Conductivity

Temp (°C)	Specific Heat (J/g-K)	Thermal Diffusivity (cm ² /sec)	Thermal Conductivity (W/cm-K)
23	0.768	0.00601	0.0109
100	0.896	0.00572	0.0122
200	0.998	0.00546	0.0129
300	1.067	0.00530	0.0134
400	1.110	0.00522	0.0137
500	1.154	0.00518	0.0142

Optical Properties

Optical Wavelength	Refractive Index
435.8 nm	1.5198
467.8 nm	1.5169
480 nm	1.5160
508.6 nm	1.5141
546.1 nm	1.5119
589.3 nm	1.5099
643.8 nm	1.5078

