Corning® Lotus™ NXT Glass

Corning® Lotus™ NXT Glass is designed to withstand high-temperature processing requirements with exceptional dimensional stability. Lotus NXT Glass features our lowest total pitch variation and our highest Young's Modulus and annealing point.

Product & Material Information

Corning® Lotus™ NXT 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)	2.59 g/cm^3
	Young's Modulus	83 GPa
	Shear Modulus	34 GPa
	Poisson's Ratio	0.23
Thermal Expansion	Coefficient of Thermal Expansion (0 - 300°C)	35 x 10^{-7}/°C
Viscosity	Softening Point (10$^{7.6}$ poises)	1043°C
	Annealing Point (10^{13} poises)	806°C
	Strain Point (10$^{14.5}$ poises)	752°C
Electrical Properties	Log_{10} Volume Resistivity	at 25°C *25.4 ohm- cm*
		at 250°C 14.3 *ohm- cm*
		at 500°C *9.6 ohm- cm*
	Dielectric Constant (23°C, 20% RH, 1kHz)	6.1
	Loss Tangent (23°C, 20% RH, 1kHz)	0.1%

Optical Properties	Refractive Index (at 589.3nm)	1.526
	Stress Optical Coefficient	28.7 (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	0.0061	671	1.064
100	0.0059	737	1.119
200	0.0056	889	1.294
300	0.0056	1001	1.442
400	0.0055	1045	1.479
500	0.0055	1071	1.505

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	0.04
HNO_3 - 1M	24 hrs	95°C	0.03
HF - 10%	20 min	20°C	5.81
110BHF	5 min	30°C	0.34
1HF:10HNO_3	3 min	20°C	1.67
1HF:100HNO_3	3 min	20°C	0.17
DI H_2O	24 hrs	95°C	0.00
Na_2CO_3 - 0.02N	6 hrs	95°C	0.10
NaOH - 5%	6 hrs	95°C	1.46

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