



Corning® Gorilla® Glass 3

Corning® Gorilla® Glass 3 is uniquely formulated as a high damage resistance glass, providing up to 4x improvement in scratch resistance when compared to competitive aluminosilicate glasses.

Product Information

Benefits

- High resistance to scratch and sharp contact damage
- High retained strength after use
- Superior surface quality

Applications

Ideal protective cover material for the front and back of all electronic devices:

- Smartphones
- Notebook PCs
- Tablets
- Smartwatches and wearables
- Smart Home devices
- Cameras
- Commercial and Point of Sale Displays

Thickness

Standard

0.4 mm – 2.0 mm

Viscosity

Softening Point ($10^{7.6}$ poises)	905 °C
Annealing Point ($10^{13.2}$ poises)	633 °C
Strain Point ($10^{14.7}$ poises)	580 °C

Properties

Density	2.39g/cm ³
Young's Modulus	70 GPa
Poisson's Ratio	0.22
Shear Modulus	28.5 GPa
Vickers Hardness (200g load)	
Unstrengthened	555 kgf/mm ²
Strengthened	653 kgf/mm ²
Fracture Toughness	0.66 MPa m ^{0.5}
Coefficient of Expansion (0-300°C)	75.8 x 10 ⁻⁷ /°C

Chemical Strengthening

Please contact a Corning Account Manager for chemical strengthening capability based on thickness and application.



STEMMERICH, INC.

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Optical

Refractive Index* (590 nm)

Core Glass 1.50

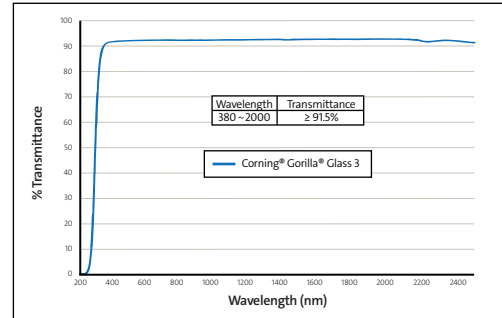
Compression Layer 1.51

Photo-elastic constant

31.9 nm/cm/MPa

Transmission

@ 0.7 mm thickness ≥ 91.5%



*Core index is used for FSM-based measurements since it is unaffected by ion-exchange conditions.

Chemical Durability

Durability is measured via weight loss per surface area after immersion in the solvents shown below. Values are highly dependent upon actual testing conditions.

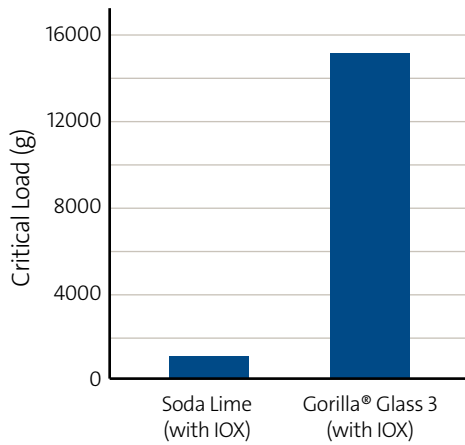
Reagent	Time	Temperature (°C)	Weight Loss (mg/cm ²)
HCl – 5%	24 hrs.	95	0.6
NH4F:HF – 10%	20 min.	20	2.1
HF – 10%	20 min.	20	12.3
NaOH – 5%	6 hrs.	95	1.9

Electrical

Frequency (MHz)	Dielectric Constant	Loss Tangent
54	7.59	0.022
163	7.48	0.022
272	7.44	0.021
381	7.42	0.022
490	7.38	0.021
599	7.37	0.022
912	7.30	0.023
1499	7.26	0.023
1977	7.23	0.023
2466	7.20	0.024
2986	7.19	0.025

Terminated coaxial line similar to that outlined in NIST Technical Notes 1520 and 1355-R.

Damage Resistance Performance

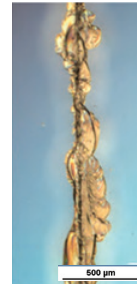


It takes more load to initiate radial cracks in Gorilla® Glass 3 (with IOX) when compared to soda lime glass (with IOX).

Scratch Test Performance

Scratches are less visible on Gorilla® Glass 3 compared to competitive Al-Si when using our Knoop Diamond Scratch Test (after Ion Exchange).

Competitive Al-Si
(4 Newton Load)



Gorilla® Glass 3
(7 Newton Load)



Always Tough. Always Innovating.



Corning® Gorilla® Glass 3



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Gorilla® Glass