CORNING
Gorilla® Glass

Corning® Gorilla® Glass 5

Corning® Gorilla® Glass 5 is engineered to better survive drops from the worldwide average waist height. In lab tests, it successfully survives up to 1.2-meter drops onto rough surfaces, while still maintaining the superior scratch performance synonymous with Gorilla® Glass. This represents up to 2x improvement in scratch performance compared to alternative aluminosilicate.

Product Information

Benefits

- Improved drop performance, up to 1.2m
- 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 – 1.2 mm

Viscosity

Softening Point ($10^{7.6}$ poises)	884 °C
Annealing Point ($10^{13.2}$ poises)	623°C
Strain Point ($10^{14.7}$ poises)	571°C

Properties

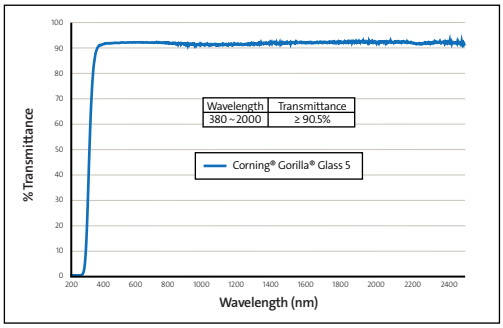
Density	2.43g/cm^3
Young's Modulus	77 GPa
Poisson's Ratio	0.21
Shear Modulus	31.7 GPa
Vickers Hardness (200g load)	
Unstrengthened	559 kgf/mm^2
Strengthened	608 kgf/mm^2
Fracture Toughness	0.69 MPa m$^{0.5}$
Coefficient of Expansion (0-300°C)	78.8 x 10^{-7}/°C

Chemical Strengthening

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

Optical

Refractive Index* (590 nm)	
Core Glass	1.50
Compression Layer	1.51
Photo-elastic constant	30.2 nm/cm/MPa
Transmission	
@ 0.8 mm thickness	≥ 90.5%



**Refractive 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.

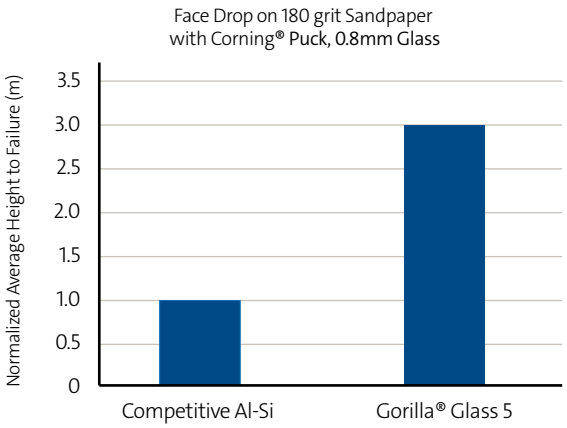
Reagent	Time	Temperature (°C)	Weight Loss (mg/cm^2)
HCl – 5%	24 hrs.	95	5.9
NH4F:HF – 10%	20 min.	20	1.0
HF – 10%	20 min.	20	25.2
NaOH – 5%	6 hrs.	95	2.7

Electrical

Frequency (MHz)	Dielectric Constant	Loss Tangent
54	7.08	0.009
163	7.01	0.010
272	7.01	0.011
381	7.00	0.010
490	6.99	0.010
599	6.97	0.011
912	7.01	0.012
1499	6.99	0.012
1977	6.97	0.014
2466	6.96	0.014
2986	6.96	0.014

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

Drop Test Performance

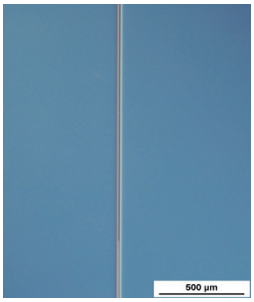


Scratch Test Performance

We tested for scratch threshold using our Knoop Diamond Scratch Test.

Competitive Al-Si
(4 Newton Load)

Gorilla® Glass 5
(4 Newton Load)



Always Tough. Always Innovating.

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Contact us
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