

CORNING Gorilla® Glass

Corning® Gorilla® Glass 6 – Corning’s latest innovation – is engineered to better survive multiple drops. In laboratory tests, on average, Gorilla Glass 6 survived 15 drops from 1 meter onto rough surfaces and is up to 2x better than Gorilla Glass 5. Under the same conditions competitive glass compositions broke on the first drop. Gorilla Glass 6 also has better drop performance at higher heights compared to Gorilla Glass 5.

Product Information

Benefits

- Superior survivability after multiple drops
- Increased drop height performance
- High retained strength after use
- High resistance to scratch and sharp contact damage
- Superior surface quality

Applications

- Ideal protective cover for electronic displays in:
 - Smartphones
 - Laptops, notebooks and tablets
 - Wearable devices
- Device back covers

Dimensions

Available Thickness 0.4mm – 1.2mm

Viscosity

Softening Point (10 ^{7.6} poises)	884.9 °C
Annealing Point (10 ^{13.2} poises)	624 °C
Strain Point (10 ^{14.7} poises)	572 °C

Properties

Density	2.40 g/cm ³
Young’s Modulus	77 GPa
Poisson’s Ratio	0.21
Shear Modulus	31.9 GPa
Vickers Hardness (200g load)	
Unstrengthened	611 kgf/mm ²
Strengthened	678 kgf/mm ²
Fracture Toughness	0.7 MPa m ^{0.5}
Coefficient of Expansion (0-300°C)	75.2 x 10 ⁻⁷ /°C

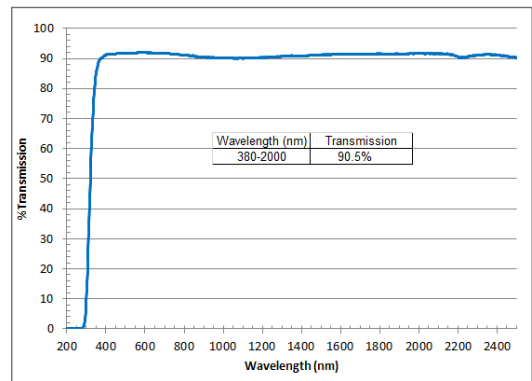
Chemical Strengthening

Compressive Stress Capability	≥ 900 MPa
Depth of Compression Capability	≥ 80 μm

Optical

Refractive Index (590 nm)	
Core Glass*	1.50
Compression Layer	1.51
Photo-elastic constant	29.8 nm/cm/MPa

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



Chemical Durability

Chemical 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	6.74
NH ₄ F:HF – 10%	20 min.	20	1.56
HF – 10%	20 min.	20	22.65
NaOH – 5%	6 hrs.	95	2.66

Electrical

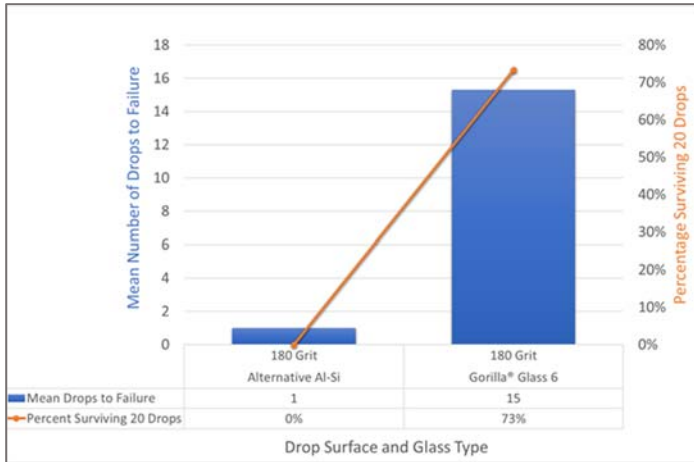
Frequency (MHz)	Dielectric Constant	Loss Tangent
54	6.80	0.008
163	6.78	0.009
272	6.77	0.010
381	6.76	0.010
490	6.75	0.010
599	6.74	0.010
912	6.75	0.010
1499	6.71	0.011
1977	6.70	0.012
2466	6.70	0.012
2986	6.69	0.013

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

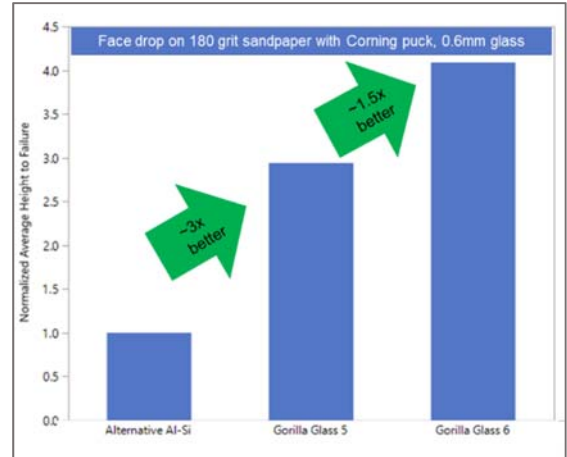
Putting Corning® Gorilla® Glass 6 to the Test.

Superior survivability after multiple drops.

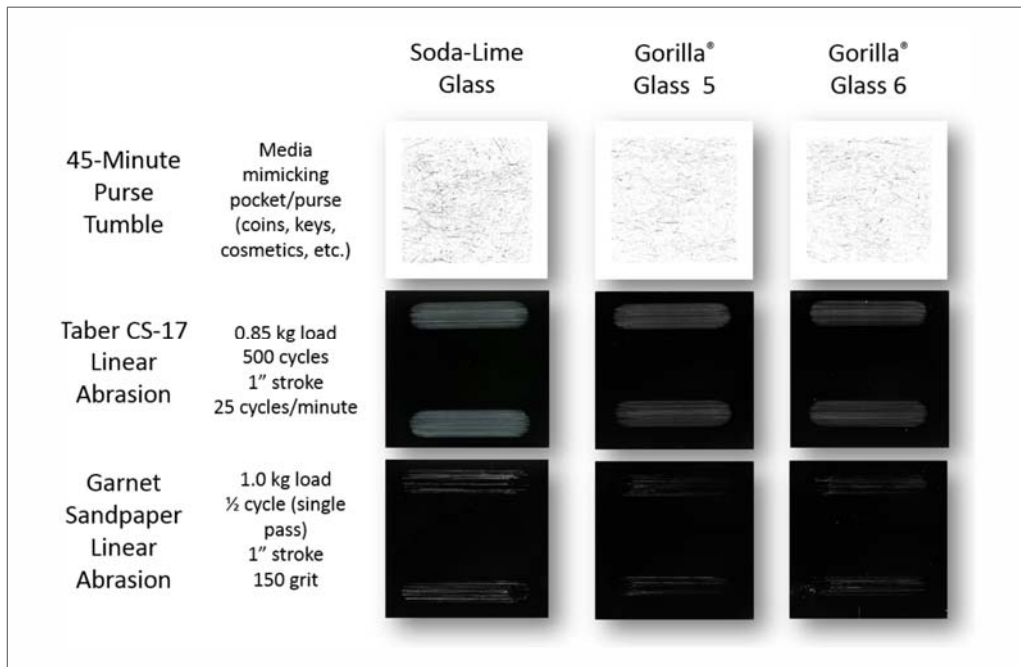
Increased drop height performance on rough surfaces.



*0.8mm glass, Corning puck



Scratch performance equivalent to Gorilla® Glass 5. Clearly outperforms ion-exchanged soda-lime glass.



*all parts tested without anti-smudge coating to probe glass response only



For more information about Corning® Gorilla® Glass 6:
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