Corning® Gorilla® Glass 5 – Corning’s latest glass design was formulated to address breakage – the greatest concern of consumer, according to Corning’s research. The new glass is just as thin and light as previous versions, but has been formulated to deliver dramatically improved damage resistance allowing improved in-field performance. Corning® Gorilla® Glass 5 has been tested for performance when subjected to sharp contact damage.

**Product Information**

**Benefits**
- Improved drop 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
  - Laptop and tablet computer screens
  - Mobile devices
- Touchscreen devices
- Wearable devices

**Dimensions**
Available Thickness 0.4mm – 1.3mm

**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: 2.43 g/cm³
- Young’s Modulus: 76.7 GPa
- Poisson’s Ratio: 0.21
- Shear Modulus: 31.7 GPa
- Vickers Hardness (200g load):
  - Unstrengthened: 601 kgf/mm²
  - Strengthened: 638 kgf/mm²
- Fracture Toughness: 0.69 MPa m⁰.⁵
- Coefficient of Expansion:
  - (0-300°C): 78.8 x 10⁻⁷/°C

**Chemical Strengthening**
- Compressive Stress Capability: ≥ 850 MPa
- Depth of Compression Capability: ≥ 75 μm

**Optical**

**Refractive Index (590 nm)**
- Core Glass* 1.50
- Compression Layer 1.51

**Photo-elastic constant** 30.1 nm/cm/MPa
*Core index is used for FSM-based measurements since it is unaffected by ion-exchanged 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. Data is reported for Corning® Gorilla® Glass 5.

<table>
<thead>
<tr>
<th>Reagent</th>
<th>Time</th>
<th>Temperature (°C)</th>
<th>Weight Loss (mg/cm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCl – 5%</td>
<td>24 hrs.</td>
<td>95</td>
<td>5.9</td>
</tr>
<tr>
<td>NH₄F·HF – 10%</td>
<td>20 min.</td>
<td>20</td>
<td>1.0</td>
</tr>
<tr>
<td>HF – 10%</td>
<td>20 min.</td>
<td>20</td>
<td>25.2</td>
</tr>
<tr>
<td>NaOH – 5%</td>
<td>6 hrs.</td>
<td>95</td>
<td>2.7</td>
</tr>
</tbody>
</table>

**Electrical**

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Dielectric Constant</th>
<th>Loss Tangent</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
<td>7.08</td>
<td>0.009</td>
</tr>
<tr>
<td>163</td>
<td>7.01</td>
<td>0.010</td>
</tr>
<tr>
<td>272</td>
<td>7.01</td>
<td>0.011</td>
</tr>
<tr>
<td>381</td>
<td>7.00</td>
<td>0.010</td>
</tr>
<tr>
<td>490</td>
<td>6.99</td>
<td>0.012</td>
</tr>
<tr>
<td>599</td>
<td>6.97</td>
<td>0.011</td>
</tr>
<tr>
<td>912</td>
<td>7.01</td>
<td>0.012</td>
</tr>
<tr>
<td>1499</td>
<td>6.99</td>
<td>0.012</td>
</tr>
<tr>
<td>1977</td>
<td>6.97</td>
<td>0.014</td>
</tr>
<tr>
<td>2466</td>
<td>6.96</td>
<td>0.014</td>
</tr>
<tr>
<td>2986</td>
<td>6.96</td>
<td>0.014</td>
</tr>
</tbody>
</table>

Terminated coaxial line similar to that outlined in NIST Technical Notes 1520 and 1355-R.
Putting Corning® Gorilla® Glass 5 to the test.

**Improved damage resistance on rough surface.**

![Graph showing improved damage resistance on rough surface](image)

**Faster chemical strengthening with high Compressive Stress and deeper Depth of Compression.**

![Graph showing faster chemical strengthening](image)

*Results may be varied by thickness and chemical strengthening recipe*

**Greater damage resistance with deep abrasion.**

![Graph showing greater damage resistance](image)

**Similar scratch performance to previous Gorilla® Glasses. Clearly outperforms soda-lime glass.**

![Comparison of scratch performance](image)

For more information about Corning® Gorilla® Glass 5:
email: gorillaglass@corning.com
Web: CorningGorillaGlass.com

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