SCHOTT Xensation® Cover

Chemical strengthened alumino-silicate cover glass for tough applications

Key Benefits
- Extremely high impact and bending strength for thinner, sleeker and more touch sensitive solutions
- High scratch resistance and tolerance for superior aesthetic appeal, durability, strength and reliability even after surface damage
- Manifold combinations of CS and DoL at the highest levels
- Easy to process and strengthen according to accepted industry standards

Mechanical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density ρ</td>
<td>2.477 g/cm³</td>
</tr>
<tr>
<td>Young’s Modulus E</td>
<td>74 kN/mm²</td>
</tr>
<tr>
<td>Poisson’s Ratio ν</td>
<td>0.215</td>
</tr>
<tr>
<td>Shear Modulus G</td>
<td>30 kN/mm²</td>
</tr>
<tr>
<td>Knoop Hardness HK 0.1/20</td>
<td>534</td>
</tr>
<tr>
<td>Non-strengthened</td>
<td></td>
</tr>
<tr>
<td>Strengthened</td>
<td>639</td>
</tr>
<tr>
<td>Vickers hardness HV 0.2/20</td>
<td>617</td>
</tr>
<tr>
<td>Non-strengthened</td>
<td></td>
</tr>
<tr>
<td>Strengthened</td>
<td>681</td>
</tr>
</tbody>
</table>

Optical properties

<table>
<thead>
<tr>
<th>Wave Length (nm)</th>
<th>Refractive Index at 588 nm (n,)</th>
<th>633 nm</th>
<th>780 nm</th>
<th>Core Glass</th>
<th>Compression Layer</th>
<th>KNO3 pure</th>
</tr>
</thead>
<tbody>
<tr>
<td>380 nm</td>
<td>&gt; 90.0 %</td>
<td></td>
<td></td>
<td>1.508</td>
<td>1.516</td>
<td>1.516</td>
</tr>
<tr>
<td>560 nm</td>
<td>&gt; 91.5 %</td>
<td></td>
<td></td>
<td>1.506</td>
<td>1.514</td>
<td>1.510</td>
</tr>
<tr>
<td>840 nm</td>
<td>&gt; 91.5 %</td>
<td></td>
<td></td>
<td>1.502</td>
<td>1.510</td>
<td></td>
</tr>
</tbody>
</table>

Optical Properties

- Transmittance T (Glass Thickness 0.7 mm)
  - 840 nm: > 91.5 %
  - 560 nm: > 91.5 %
  - 380 nm: > 90 %

Typical spectral visible light transmittance characteristics* TV

- 0.55 mm: > 92.5 %
- 0.70 mm: > 92.5 %
- 1.10 mm: > 92.4 %
- 2.00 mm: > 92.3 %

* Integral transmittance values for visible range of light are determined according to DIN EN 410 by using standard light type D65

Thermal properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal Conductivity λ (23°C)</td>
<td>0.96 W/(m·K)¹</td>
</tr>
<tr>
<td>Specific Heat Capacity cp (20°C; 100°C)</td>
<td>0.84 KJ/(kg·K)</td>
</tr>
<tr>
<td>Coefficient of Mean Linear</td>
<td>8.8 · 10⁻⁶ K⁻¹</td>
</tr>
<tr>
<td>Thermal Expansion α (20°C; 100°C)</td>
<td></td>
</tr>
<tr>
<td>Transformation point Tg</td>
<td>615 °C</td>
</tr>
<tr>
<td>Annealing point (10¹³ dPas)</td>
<td>635 °C</td>
</tr>
<tr>
<td>Softening point (10¹⁶ dPas)</td>
<td>880 °C</td>
</tr>
<tr>
<td>Working point (10¹⁸ dPas)</td>
<td>1265 °C</td>
</tr>
</tbody>
</table>

Electrical properties*

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Dielectric Constant (έ)</th>
<th>Loss Tangent (tan δ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7.74</td>
<td>0.011</td>
</tr>
<tr>
<td>54</td>
<td>7.49</td>
<td>0.008</td>
</tr>
<tr>
<td>480</td>
<td>7.40</td>
<td>0.009</td>
</tr>
<tr>
<td>825</td>
<td>7.38</td>
<td>0.010</td>
</tr>
<tr>
<td>912</td>
<td>7.38</td>
<td>0.010</td>
</tr>
<tr>
<td>1977</td>
<td>7.35</td>
<td>0.012</td>
</tr>
<tr>
<td>2170</td>
<td>7.35</td>
<td>0.012</td>
</tr>
<tr>
<td>2986</td>
<td>7.34</td>
<td>0.012</td>
</tr>
</tbody>
</table>

Electric Volume Resistivity ρ* for A.C. at 50Hz

- at 250 °C: 1.5 · 10⁶ Ω · cm
- at 350 °C: 8.9 · 10⁴ Ω · cm

Chemical properties

- Hydrolytic resistance acc. to DIN ISO 719
  - Hydrolytic class: HGB 1
- Acid resistance acc. to DIN 12 116
  - Acid class: S 4
- Alkali resistance acc. to DIN ISO 695
  - Class: A1

Chemical strengthening

- Compressive stress (K-CS): capable > 900 MPa
- Depth of layer (Na-DoL): capable > 100 µm
- 4-Point bending strength: capable > 850 MPa

Forms supplied*

- Thickness Range: 0.55 – 2.00 mm
- Sheet size: 1,150 x 950 mm; 475 mm x 575 mm

* Further thicknesses and sheet sizes are available on request.

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