SCHOTT Xensation™ Sound
Clear, high transmission crown glass for acoustic touch technologies

Xensation™ is the answer to all of your cover and touch technology needs. SCHOTT is unique in being able to offer the broadest range of high-quality glass types for all cover and touch applications, including acoustic, capacitive, resistive and optical. Xensation™ Sound is a clear, high transmission crown glass resulting in pure transformation of signals for acoustic touch technologies. Discover Germany’s newest Xensation™.

Key-Benefits of Xensation™ Sound

- SCHOTT’s special up-draw process gives the Xensation™ Sound clear crown glass its excellent fire-polished surface quality and outstanding flatness.
- Xensation™ Sound’s high transmission in the VIS range, combined with its sound proofing properties, results in pure signal transformation and outstanding touch performance for more sensitive and accurate responses.
- Xensation™ Sound is available in large sheet sizes, custom cuts and a wide range of thicknesses with tight tolerances.

SCHOTT Xensation™ Sound is produced using SCHOTT’s special up-draw process.

In acoustic touchscreen technology, transmitters constantly send ultrasonic waves through the glass directed by the reflectors. A touch changes the pattern of the waves and a controller determines the exact position of the touch by analyzing this change.

Xensation™ Sound is our solution to acoustic touch technologies.
Thermal Properties

- Coefficient of Mean Linear Thermal Expansion $\alpha_{(20 \, ^\circ C; \, 300 \, ^\circ C)} = 9.4 \cdot 10^{-6} \, K^{-1}$
- Transformation Temperature $T_g = 536 \, ^\circ C$
- Strain Point $(10^{14.5} \, dPas) = 505 \, ^\circ C$
- Annealing Point $(10^{13} \, dPas) = 535 \, ^\circ C$
- Softening Point $(10^{7.6} \, dPas) = 723 \, ^\circ C$
- Specific Heat Capacity $c_p_{(20 \, ^\circ C; \, 100 \, ^\circ C)} = 0.8 \, J/(g\cdot K)$

Optical Properties

- Refractive Indices
  - $n_e (\lambda = 546 \, nm) = 1.5231$
  - $n_d (\lambda = 588 \, nm) = 1.5230$
- Abbe Value $v_e = 58$
- Luminous Transmittance $T_{D65}$ (Glass Thickness 1.1 mm) = 91.7 %

Chemical Properties

- Hydrolytic resistance acc. to DIN ISO 719
  - Hydrolytic class HGB 3
  - Equivalent of alkali (Na$_2$O) per gram of glass grains in $\mu g/g = 170$
- Acid resistance acc. to DIN 12116
  - Acid class S 2
  - Half surface weight loss after 6 hours in mg/dm$^2 = 1.0$
- Alkali resistance acc. to DIN ISO 695
  - Class A 2
  - Surface weight loss after 3 hours in mg/dm$^2 = 80$

Electrical Properties

- Dielectric Constant $\varepsilon_r$ at 1 MHz = 7.0
- Dissipation Factor $\tan \delta$ at 1 MHz = $26 \cdot 10^{-4}$
- Electric Volume Resistivity $\rho_D$ for A.C. at 50Hz
  - $\nu = 250 \, ^\circ C = 2.4 \cdot 10^8 \, \Omega \cdot cm$
  - $\nu = 350 \, ^\circ C = 5.8 \cdot 10^6 \, \Omega \cdot cm$

Mechanical Properties

- Density
  - annealed at 40 °C/h = 2.56 g/cm$^3$
- Young’s Modulus $E$ = 69.8 kN/mm$^2$
- Knoop Hardness HK = 500
- Poisson’s Ratio = 0.228
- Stress Optical Coefficient $C$
  - $(1.02 \cdot 10^{-12} \, m^2/N) = 2.7$
- Torsion Modulus $G$ = 28.4 kN/mm$^2$

Sheet Dimensions*

<table>
<thead>
<tr>
<th>Thickness [mm]</th>
<th>Length • Width [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.80 - 4.00 Stock Sizes from Melting Tank</td>
<td>1680 • 840 - 920 ± 25</td>
</tr>
<tr>
<td>Cut Sizes</td>
<td>840 - 920 • 560 ± 10</td>
</tr>
<tr>
<td>4.50 - 10.00 Stock Sizes from Melting Tank</td>
<td>1680 • 860 - 920 ± 25</td>
</tr>
<tr>
<td>Cut Sizes</td>
<td>860 - 920 • 560 ± 10</td>
</tr>
<tr>
<td>0.80 - 8.00 Cut Sizes</td>
<td>406 • 258 ± 1</td>
</tr>
<tr>
<td>&gt; 8.00 - 10.00 Cut Sizes</td>
<td>406 • 258 ± 2</td>
</tr>
</tbody>
</table>

*Special dimensions upon request