

# SCHOTT Xensation™ Sound

Clear, high transmission crown glass for acoustic touch technologies

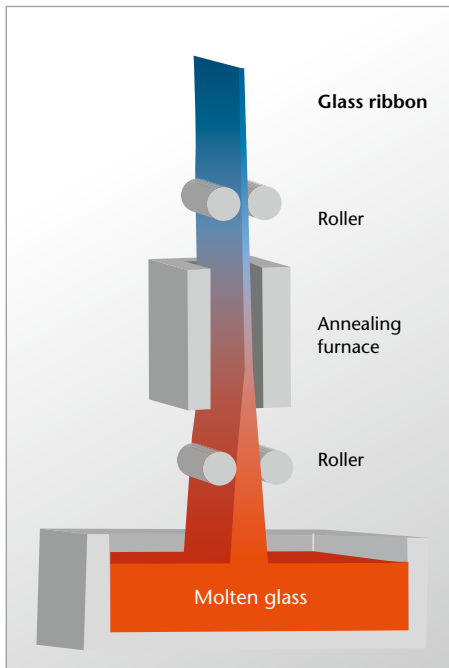
Xensation™ is the answer to all of your cover and touch technology needs. SCHOTT is unique in being able to offer the broadest range of high-quality glass types for all cover and touch applications, including acoustic, capacitive, resistive and optical. Xensation™ Sound is a clear, high transmission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

## Key-Benefits of Xensation™ Sound

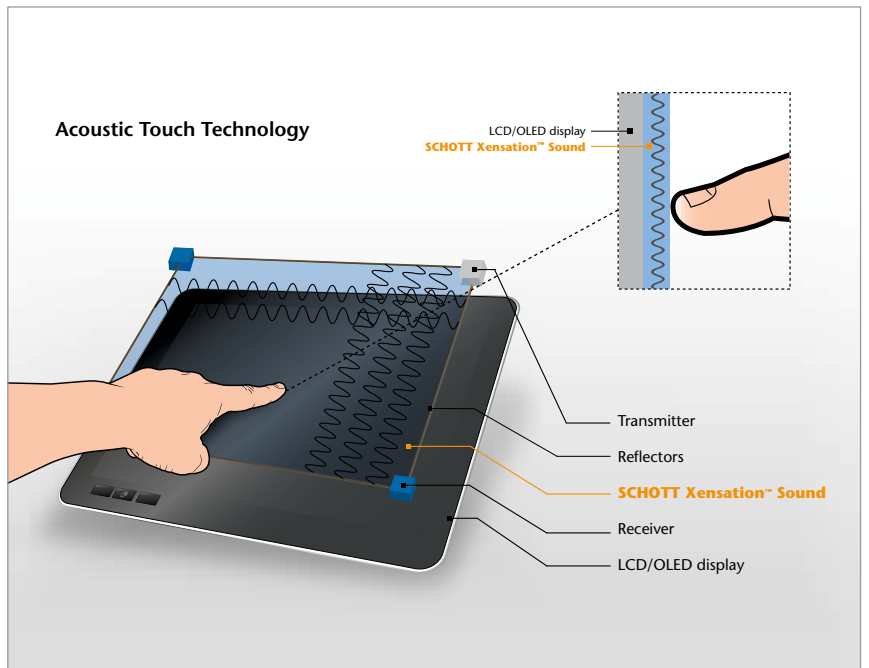
- SCHOTT's special up-draw process gives the Xensation™ Sound clear crown glass its excellent fire-polished surface quality and outstanding flatness.
- Xensation™ Sound's high transmission in the VIS range, combined with its sound proofing properties, results in pure signal transformation and outstanding 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.



Xensation™ Sound is our solution to acoustic touch technologies.



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.

## Thermal Properties

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

## Chemical Properties

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

## Electrical Properties

|   |   |
|---|---|
| Dielectric Constant $\epsilon_r$ 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 |   |
| $v = 250 \text{ °C}$                                  | $2.4 \cdot 10^8 \Omega \cdot \text{cm}$ |
| $v = 350 \text{ °C}$                                  | $5.8 \cdot 10^6 \Omega \cdot \text{cm}$ |

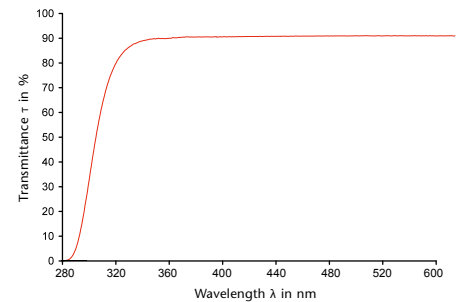
## Sheet Dimensions\*

| Thickness [mm] |                               | Length • Width [mm]   |
|----------------|-------------------------------|-----------------------|
| 0.80 - 4.00    | Stock Sizes from Melting Tank | 1680 • 840 - 920 ± 25 |
|                | Cut Sizes                     | 840 - 920 • 560 ± 10  |
|                |                               | 840 - 920 • 840 ± 10  |
| 4.50 - 10.00   | Stock Sizes from Melting Tank | 1680 • 860 - 920 ± 25 |
|                | Cut Sizes                     | 860 - 920 • 560 ± 10  |
|                |                               | 860 - 920 • 840 ± 10  |
| 0.80 - 8.00    | Cut Sizes                     | 406 • 258 ± 1         |
| > 8.00 - 10.00 | Cut Sizes                     | 406 • 258 ± 2         |

\*Special dimensions upon request

## Optical Properties

|  |        |
|--|--------|
| Refractive Indices   |        |
| $n_e$ ( $\lambda = 546 \text{ nm}$ )                             | 1.5231 |
| $n_d$ ( $\lambda = 588 \text{ nm}$ )                             | 1.5230 |
| Abbe Value $v_e$   | 58     |
| Luminous Transmittance $\tau_{VD65}$<br>(Glass Thickness 1.1 mm) | 91.7 % |



Spectral Transmittance  
Thickness: 2 mm

## Mechanical Properties

|  |                       |
|--|-----------------------|
| Density<br>annealed at 40 °C/h   | 2.56 $\text{g/cm}^3$  |
| Young's Modulus E  | 69.8 $\text{kN/mm}^2$ |
| Knoop Hardness $\text{HK}_{0.1/20}$  | 500                   |
| Poisson's Ratio  | 0.228                 |
| Stress Optical Coefficient C<br>( $1.02 \cdot 10^{-12} \text{ m}^2/\text{N}$ ) | 2.7                   |
| Torsion Modulus G  | 28.4 $\text{kN/mm}^2$ |

