Xensation® Cover ITS

SCHOTT’s chemically strengthened alumino-silicate glass sheets for innovative integrated touch solutions

Having firmly established Xensation® Cover as the world’s strongest alumino-silicate glass for conventional touch sensor technologies, SCHOTT is proud to offer the same outstanding cover glass performance characteristics now adapted for the rapidly emerging integrated touch technology market, facilitating the combination of touch sensor and cover glass into one while maintaining an impressive level of mechanical and optical performance.

### Key benefits:

- **Outstanding impact strength** enables integrated touch modules with excellent damage resistance and reliability.
- **High scratch resistance** and tolerance for superior aesthetic appeal and durability.
- Custom-sized ion-exchanged sheets designed for **easy and efficient cutting** using industry standard equipment.

Xensation® Cover ITS is now available as a full sheet, ion-exchanged specialty glass that enables integrated touch through TCO deposition on large glass sheets. The performance benefits of Xensation® Cover ITS support the design and implementation of innovative, next generation devices using integrated touch technologies such as One-Glass-Solution (OGS) with an unprecedented level of durability and reliability. This enables touch panel makers to offer lighter, thinner touch module stacks as well as reducing the complexity, and enhancing the efficiency, of their process chains.

By designing special ion-exchanged, full glass sheets that can be easily and efficiently cut after ITO sensor deposition, SCHOTT enables touch panel manufacturers to produce lighter, thinner touch modules protected by the strongest cover glass available on the market today. Xensation® Cover ITS - bringing unprecedented durability and reliability to the industry's most innovative integrated touch-based devices.
**Thermal Properties**

- **Thermal Conductivity** $\lambda$ (25 °C): 0.96 W/(m·K)
- **Specific Heat Capacity** $C_p$ (20 °C, 100 °C): 0.84 kJ/(Kg·K)
- **Coefficient of Mean Linear Thermal Expansion** $\alpha$ (20°C, 300 °C): 8.8 · 10^-6 K^-1
- **Transformation Point Tg**: 615 °C
- **Annealing Point (10^13 dPas)**: 635 °C
- **Softening Point (10^16 dPas)**: 880 °C
- **Working Point (10^16 dPas)**: 1265 °C

*cooled according to DIN

**Chemical Properties**

- **Hydrolytic Resistance**: DIN ISO 719 (Class HGB 1)
- **Acid Resistance**: DIN 12116 (Class S 4)
- **Alkali Resistance**: DIN ISO 695 (Class A 1)

**Optical Properties**

- **Refractive Index**
  - 588 nm ($n_d$): 1.508
  - 633 nm: 1.506
  - 780 nm: 1.502
- **Compression Layer**
  - KNO₃ pure: 1.516
  - 1.514
  - 1.510
- **Transmittance $\tau$ (Glass Thickness 0.7 mm)**
  - 840 nm: > 91.5 %
  - 560 nm: > 91.5 %
  - 380 nm: > 90 %
- **Photoelastic Constant**: 29.2 nm/cm/MPa

**Electrical Properties**

- **Frequency**
  - Dielectric Constant $\varepsilon'$
  - Loss Tangent $\tan \delta$
  - MHz
  - 1
  - 7.74
  - 0.011
  - 54
  - 7.49
  - 0.008
  - 480
  - 7.40
  - 0.009
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  - 7.35
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  - 2170
  - 7.35
  - 0.012
  - 2986
  - 7.34
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- **Electric Volume Resistivity** $\rho_v$ for A.C. at 50Hz
  - $\nu = 250 ^\circ C$: 1.5 · 10⁴ W·cm
  - $\nu = 350 ^\circ C$: 8.9 · 10⁴ W·cm

** Mechanical Properties**

- **Density**: 2.477 g/cm³*
- **Young’s Modulus** $E$: 74 kN/mm²
- **Poisson’s Ratio**: 0.215
- **Shear Modulus**: 30 kN/mm²
- **Knoop Hardness** $HK_{0.1/20}$: 639
- **Vickers Hardness** $HV_{0.2/20}$: 681

*cooled according to DIN

**Chemical Strengthening**

- **Compressive Stress**: > 750 MPa
- **Depth of Layer**: > 20 µm
- **Ring-on-Ring Strength**: > 1,100 MPa

**Sheet Dimensions**

- **Sheet Size**: up to Gen. 6
- **Thicknesses**: 0.55 mm and 0.70 mm

*Other thicknesses on request

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**Example: Xensation® Cover ITS, 0.7 mm**

![Graph showing RoR (MPa) vs. CS (MPa)]

High strength even when chemically strengthened for shorter time or at lower temperatures.