

# SCHOTT Xensation® Up.

Chemical strengthened lithium aluminosilicate cover glass for high-end smartphones

## Key Benefits

- Outstanding results in set drop performance for maximum survival likelihood after smartphone drops
- Superior ion exchange capabilities in order to ensure excellent strength and processing performances
  - More flexibility to maximize strength performance
  - Wider IOX processing ranges
  - Options for shorter IOX processing time
- Typical CS and DoL values are well balanced to obtain superior mechanical reliability

Mechanical properties*	
Density $\rho$	2.48 g/cm <sup>3</sup>
Young's modulus $E$	82 kN/mm <sup>2</sup>
Poisson's ratio $\nu$	0.22
Shear modulus $G$	34 kN/mm <sup>2</sup>
<b>Vickers hardness HV<sub>0.2/20</sub></b>	
unstrengthened	630
strengthened	680

Optical properties*			
Refractive index $n$ at	365 nm	595 nm	640 nm
Core glass	1.546	1.521	1.520
K-exchanged layer	1.55	1.52	1.52
Photoelastic constant nm/(cm*MPa)	30.2	27.8	27.6
Transmittance $T$ between 400 nm - 800 nm	> 91 %		

Thermal properties*	
Coefficient of mean linear Thermal expansion $\alpha$ (20 °C - 300 °C)	8.3 · 10 <sup>-6</sup> K <sup>-1</sup>
Transformation point $T_g$	525 °C
Annealing point (10 <sup>13</sup> dPas)	540 °C
Softening point (10 <sup>7.6</sup> dPas)	760 °C
Working point (10 <sup>4</sup> dPas)	1120 °C

Electrical properties*		
Frequency (MHz)	Dielectric constant ( $\epsilon$ )	Loss tangent ( $\tan \delta$ )
54	7.30	0.007
480	7.10	0.008
825	7.10	0.009
912	7.10	0.009
1977	7.00	0.010
2170	7.00	0.010
2986	7.00	0.011

Chemical properties*	
<b>Hydrolytic resistance acc. to DIN ISO 719</b>	
Hydrolytic class	HGB 2
Equivalent of alkali Na <sub>2</sub> O per gram of glass grains [ $\mu\text{g/g}$ ]	38
<b>Acid resistance acc. to DIN 12 116</b>	
Acid class	S 4 W
Half surface weight loss after 6 hours in mg/dm <sup>2</sup>	19
<b>Alkali resistance acc. to DIN ISO 695</b>	
Class	A1
Surface weight loss after 3 hours in mg/dm <sup>2</sup>	42

\* Typical values

Chemical strengthening**	
Compressive stress (K-CS)	capable > 900 MPa
Depth of layer (Na-DoL)	capable > 150 $\mu\text{m}$
4-Point bending strength	capable > 700 MPa

\*\* Depending on chemical strengthening process.

Forms supplied***	
Thickness Range:	0.55 – 0.80 mm
Sheet size:	1,150 x 950 mm

\*\*\* Further thicknesses and sheet sizes are available on request.

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