



SCHOTT Xensation® α

Made to survive

Concentrated energy of leading experts

Based on its **leading expertise** and driven by many years of sound research in various specialty glass areas, SCHOTT has come a decisive step closer to achieving its goal of **unbreakable cover glass**.

This became possible as SCHOTT emerged as a **true pioneer** producing borosilicate glass, glass-ceramics and lithium aluminosilicate (LAS) cover glass by using float technology.

SCHOTT's worldwide unequalled **innovation power** has paved the way for those successful new glass developments and created the latest invention: **Xensation® α** – a lithium aluminoborosilicate (LABS) glass for high-end smartphones.

This **high-performance cover glass** unites the chemical strengthening potential of LAS glass with the scratch performance of borosilicate glass and a strong glass backbone like in glass-ceramics.

Key benefits of Xensation® α

- **Outperforms** current market leading cover glasses by up to 100% in **set-drop performance** on all grounds, including rough surfaces.
- **Less sensitive to scratches** than conventional LAS glasses shown in Knoop indenter scratch test.



Unique glass composition



Improved drop resistance



Less susceptible to scratches

SCHOTT
glass made of ideas

SCHOTT Xensation® α

Mechanical properties

Density ρ	2.39 g/cm ³
Young's modulus E	80 kN/mm ²
Poisson's ratio ν	0.26
Shear modulus G	32 kN/mm ²
Vickers hardness HV	
unstrengthened	570
strengthened*	660

Optical properties

Wavelength λ [nm]	365	595	640
Measurement method	FSM-UV	FSM-LE	SLP-1000
Refractive index n of core glass	1.528	1.508	1.507
Refractive index n of K-exchanged layer*	1.531	1.510	1.508
Photoelastic constant C [nm/(cm*MPa)]	32.3	30.0	29.8
Transmittance T [%] (t = 0.78 mm)	89	91	92

Electrical properties (extrapolated)

Frequency f ₀ [MHz]	Dielectric constant ε	Loss tangent tan δ
54	6.1	0.008
480	6.0	0.009
825	6.0	0.010
912	6.0	0.010
1977	6.0	0.011
2170	6.0	0.011
2986	6.0	0.012

All values are typical measured values and refer to unstrengthened glass.

* Typical values that can be achieved after chemical strengthening process

** Further thicknesses and sheet sizes are available on request

Thermal properties

Coefficient of mean linear thermal expansion α_(20°C - 300°C) 5.3 · 10⁻⁶ K⁻¹

Transformation temperature T_g 577 °C

Viscosity

Annealing point at 10¹³ dPas 589 °C

Softening point at 10^{7.6} dPas 840 °C

Working point at 10⁴ dPas 1233 °C

Chemical properties

Hydrolytic resistance acc. to DIN ISO 719

Hydrolytic class HGB1

Equivalent of alkali Na₂O per gram of glass grains [μg/g] 32

Acid resistance acc. to DIN 12 116

Acid class S2

Half surface weight loss after 6 hours [mg/dm²] 1.4

Alkali resistance acc. to DIN ISO 695

Alkali class A2

Surface weight loss after 3 hours [mg/dm²] 92

Chemical strengthening*

Compressive stress CS capable > 900 MPa

Depth of compressive layer DoCL capable > 180 μm

4-Point bending strength capable > 800 MPa

Forms supplied**

Thickness range 0.60 – 0.80 mm

Sheet size 1150 mm x 950 mm

