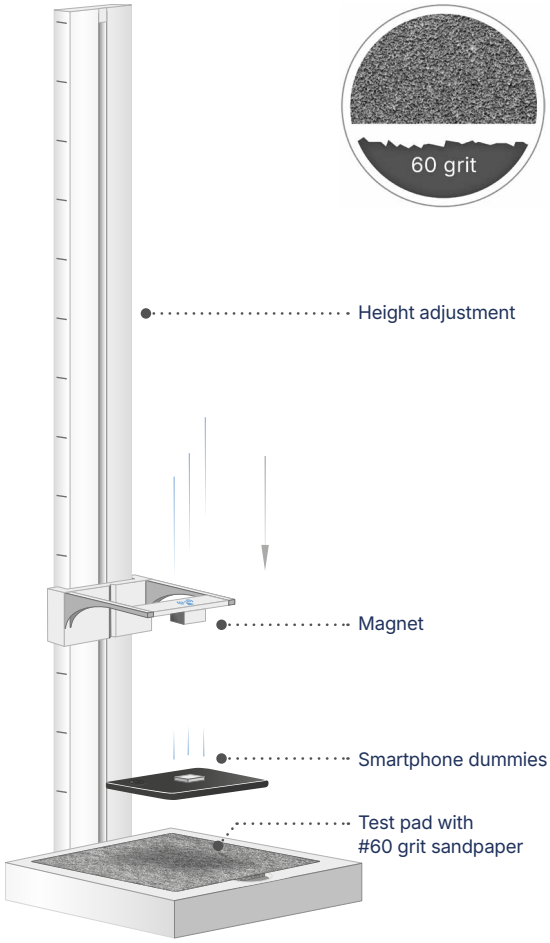
SCHOTT Xensation® Core

Xensation® Core combines advanced technology with continuous innovation. More than just a cover glass, it embodies the commitment of experts to enhancing the break resistance of modern cover glasses. It demonstrates how targeted research and innovation can set new industry standards.



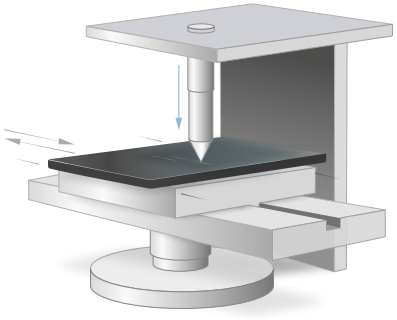
Features

The ultra-dense molecular structure enables an advanced ion exchange process, achieving exceptionally deep chemical strengthening beneath the glass surface. This unique composition gives Xensation® Core unmatched break resistance. Rigorous drop testing shows that smartphones remain intact even after falling from twice the height onto rough surfaces and delivers ten times the survival rate compared to conventional cover glass materials on the market.

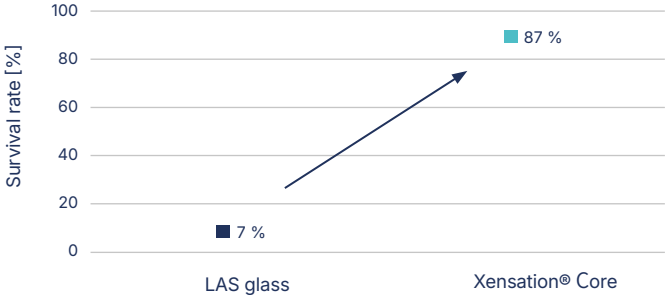
Key Benefits

- **Outstanding Drop Test Performance:**
  Xensation® Core delivers a 10x higher survival rate in drop tests.
- **Unmatched Break Resistance:**
  Xensation® Core enables smartphones to withstand drops from double the height without breaking.
- **Improved scratch resistance:**
  Confirmed in the Knoop scratch test.

Applied load
constant / progressive

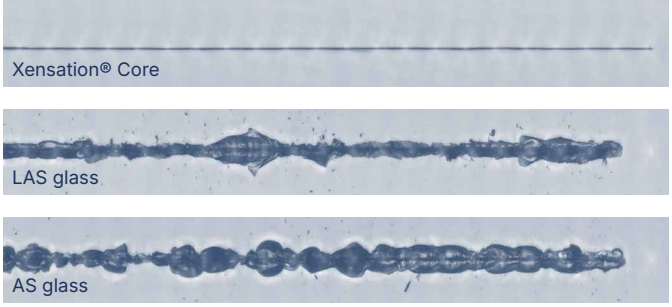


Drop Test results on #60 grit sandpaper



In relevant drop heights of 70 cm or higher, improvements by more than a factor of 10 have been found. Test perfomed with glass thickness of 0.6 mm on coarse sandpaper (#60 grit) using test dummies.

Knoop scratch test results



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Mechanical properties	
Density ρ	2.38 g/cm³
Young's modulus E	78 kN/mm²
Poisson's ratio v	0.22
Shear modulus G	32 kN/mm²
Vickers hardness HV	
unstrengthened	610
strengthened *	670

Thermal properties	
Coefficient of linear thermal expansion $\alpha_{(20-300\,°C)}$	5.0 · 10⁻⁶ K⁻¹
Transformation temperature T_g	580 °C
Viscosity	
Annealing point at 10^{13} dPas	590 °C
Softening point $10^{7.6}$ dPas	820 °C
Working point 10^4 dPas	1190 °C

Electrical properties (extrapolated)		
Frequency f_0 [MHz]	Dielectric constant ε	Loss tangent tan δ
54	6.1	0.009
480	6.0	0.010
825	6.0	0.010
912	6.0	0.010
1977	6.0	0.011
2170	6.0	0.011
2986	5.9	0.011

Chemical properties	
Hydrolytic resistance acc. to DIN ISO 719	
Hydrolytic class	HGB 1
Equivalent of alkali Na_2O per gram of glass grains [µg/g]	21
Acid resistance acc. to DIN 12 116	
Acid class	S3
Half surface weight loss after 6 hours [mg/dm²]	8.5
Alkali resistance acc. to ISO 695	
Alkali class	A2
Surface weight loss after 3 hours [mg/dm²]	104

Optical properties	
At a Wavelength λ of 595 nm	
Refractive index n of core glass	1.511
Photoelastic constant C [nm/(cm*MPa)]	31.0
Transmittance T [%] (t = 0.70 mm)	> 91

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	0.50 – 0.70 mm
Sheet size	1150 mm x 950 mm

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

Learn more or get in contact at
schott.com/xensation

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