

SCHOTT Xensation® 3D

Chemical strengthened lithium aluminosilicate cover glass for tough applications – from smartphone to safety glazing

Key Benefits

- Outstanding results in set drop performance for very high survival likelihood after smartphone drops
- Extremely high impact and bending strength for thinner, sleeker and more touch sensitive solutions
- High scratch and wear resistance for superior aesthetic appeal, durability, strength and reliability even after surface damage
- Thermal bending at similar temperatures to soda-lime glass
- Manifold combinations of CS and DoL possible

Mechanical properties	
Density ρ	2.49 g/cm ³
Young's Modulus E	83 kN/mm ²
Poisson's ratio ν	0.22
Shear Modulus G	34 kN/mm ²
Knoop Hardness HK _{0.1/20}	
non-strengthened	590
strengthened	740
Vickers Hardness HV _{0.2/20}	
non-strengthened	640
strengthened	690

Optical properties			
Refractive Index at	365 nm	595 nm	640 nm
Core Glass	1.548	1.528	1.525
Compression Layer KNO ₃ pure	1.56	1.53	1.53
Photoelastic Constant nm/(cm*MPa)	29.6	27.4	27.2
Transmittance τ			
	0.7 mm	3.0 mm	8.0 mm
840 nm	> 91 %	> 91 %	> 91 %
560 nm	> 91 %	> 90 %	> 90 %
380 nm	> 90 %	> 85 %	> 85 %

Thermal properties	
Thermal Conductivity λ _(25°C)	1.22 W/(m·K) ¹
Specific Heat Capacity c_p _(20°C; 100°C)	0.9 KJ/(g·K)
Coefficient of Mean Linear Thermal Expansion α _(20°C; 300°C)	8.5 · 10 ⁻⁶ K ⁻¹
Transformation point T_g	505 °C
Annealing point (10 ¹³ dPas)	515 °C
Softening point (10 ^{7.6} dPas)	720 °C
Working point (10 ⁴ dPas)	1070 °C

Electrical properties*		
Frequency (MHz)	Dielectric Constant (ϵ')	Loss Tangent ($\tan \delta$)
1	7.60	0.0064
54	7.37	0.0063
480	7.35	0.0082
825	7.22	0.0088
912	7.22	0.009
1977	7.18	0.010
2170	7.17	0.010
2986	7.15	0.010

* These values are no guaranteed data – for customer orientation only.

Chemical properties	
Hydrolytic resistance acc. to DIN ISO 719	
Hydrolytic class	HGB 2
Equivalent of alkali (Na ₂ O) per gram of glass grains [μ g/g]	41
Acid resistance acc. to DIN 12 116	
Acid class	S 3
Half surface weight loss after 6 hours in mg/dm ²	10
Alkali resistance acc. to DIN ISO 695	
Class	A1
Surface weight loss after 3 hours in mg/dm ²	41

Chemical strengthening*	
Compressive stress (K-CS)	capable > 700 MPa
Depth of layer (Na-DoL)	capable > 120 μ m
4-Point bending strength	capable > 600 MPa

* Specialized strengthening process is required.

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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