SCHOTT AS 87 eco

SCHOTT AS 87 eco is an aluminosilicate glass suited for chemical strengthening (via an ion exchange treatment) that offers a high level of mechanical impact resistance and bending strength, as well as high resistance to scratches.

Applications

- Protective cover glass
- CIS (Camera imaging)
- FPS (Fingerprint sensor)
- Touch panel glass
- · Automotive interior

Technical Properties	
Formats in mm x mm ¹⁾	500 x 400 440 x 360
Thickness in µm	70, 100, 145, 175, 210, 250, 330
Thickness tolerance in µm	±20
TTV ²⁾ in µm	≤20
Warp ²⁾ in µm	≤100 - ≤1000
Roughness in nm	< 0.5

Thermal Properties	
CTE (Coefficient of thermal expansion) α in 10 ⁻⁶ ·K ⁻¹ (20 °C; 300 °C)	8.7
Mean specific heat capacity cp in J/(g·K) (20°C to 100°C)	0.84
Transformation temperature <i>Tg</i> in °C	621

Viscosity $\lg \eta$ in $dPa \cdot s$	Temperature in °C
Strain point 14.5	594
Annealing point 13.0	633
Softening point 7.6	872

Electrical Properties		
Dielectric constant ε_r (at $\vartheta = 25$ °C)	at 1 MHz	7.7
	at 1 GHz	7.3
	at 5 GHz	7.2
Dissipation factor $\tan \delta$ (at $\vartheta = 25 ^{\circ}\text{C}$)	at 1 MHz	138 · 10-4
	at 1 GHz	133 · 10-4
	at 5 GHz	172 · 10-4
Conductivity (at $\vartheta = 25$ °C, direct current)	in S/cm	5.6 · 10-12

1) other	formats	unon	request

²⁾depending on thicknesses

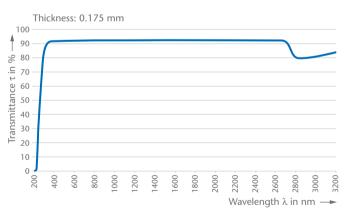
Chemical Strengthening ³⁾	
Capability of Compressive Stresses (CS) in MPa	> 850
Capability of Depth of Layer (DoL) in µm	> 50

Chemical Properties	
Hydrolytic resistance class	HGB 2
Acid resistance class	S 4
Alkali resistance class	A 1

Mechanical Properties	
Density ρ in g/cm ³ (annealed at 40 °C/h)	2.46
Young's modulus E in kN/mm ²	73.3
Torsion G modulus in kN/mm ²	30.1
Poisson's ratio μ	0.216
Knoop hardness HK 0.1/20	500 (5604)
Vickers hardness HV 0.2/25	550 (6304)
Photoelastic constant C in (nm/cm)/MPa	29.0

Optical Properties	
Refractive index (as drawn) n_D	1.5040 ± 0.0015
Abbe value v_e	59.5
Transmittance values $ au(\lambda)$ in %, thickn	ness 0.175 mm
254 nm	46.3
380 nm	91.5
632.8 nm	92.1
1064 nm	92.2

Spectral Transmittance (λ = 200 nm – 3200 nm)





³⁾ strengthening parameters depend on applications and glass thicknesses; for more professional advices, please consult SCHOTT

⁴⁾hardness measured at chemical strengthened condition