

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 ρ | 2.48 g/cm ³ |
| Young's modulus E | 82 kN/mm ² |
| Poisson's ratio ν | 0.22 |
| Shear modulus G | 34 kN/mm ² |
| Vickers hardness HV_{0.2/20} | |
| 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 α (20 °C - 300 °C) | 8.3 · 10 ⁻⁶ K ⁻¹ |
| Transformation point T_g | 525 °C |
| Annealing point (10 ¹³ dPas) | 540 °C |
| Softening point (10 ^{7.6} dPas) | 760 °C |
| Working point (10 ⁴ dPas) | 1120 °C |

| Electrical properties* | | |
|------------------------|------------------------------------|--------------------------------|
| Frequency (MHz) | Dielectric constant (ϵ) | Loss tangent ($\tan \delta$) |
| 54 | 7.3 | 0.007 |
| 480 | 7.1 | 0.008 |
| 825 | 7.1 | 0.009 |
| 912 | 7.1 | 0.009 |
| 1977 | 7.0 | 0.010 |
| 2170 | 7.0 | 0.010 |
| 2986 | 7.0 | 0.011 |

| 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] | 38 |
| Acid resistance acc. to DIN 12 116 | |
| Acid class | S 4 W |
| Half surface weight loss after 6 hours in mg/dm ² | 19 |
| Alkali resistance acc. to DIN ISO 695 | |
| Class | A1 |
| Surface weight loss after 3 hours in mg/dm ² | 42 |

* Typical values

| Chemical strengthening** | |
|---------------------------|-----------------------|
| Compressive stress (K-CS) | capable > 900 MPa |
| Depth of layer (Na-DoL) | capable > 150 μ 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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