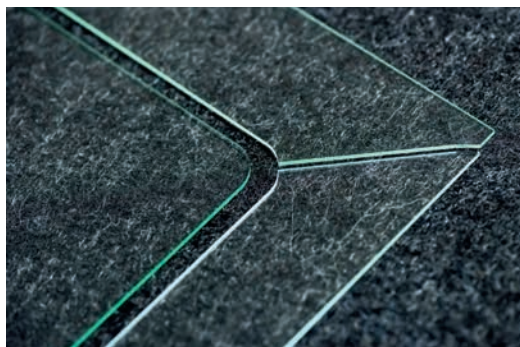


# FALCON GLASS



for thin and lightweight applications



AGC's Falcon glass is a new type of aluminosilicate thin glass suitable for chemical toughening and produced by the very high quality, cost-efficient float process.

From mobile devices to high-performance assemblies in building and transportation, Falcon offers the highest performance at an affordable cost.

## Falcon glass

What's so special about it?

What does this mean for you?

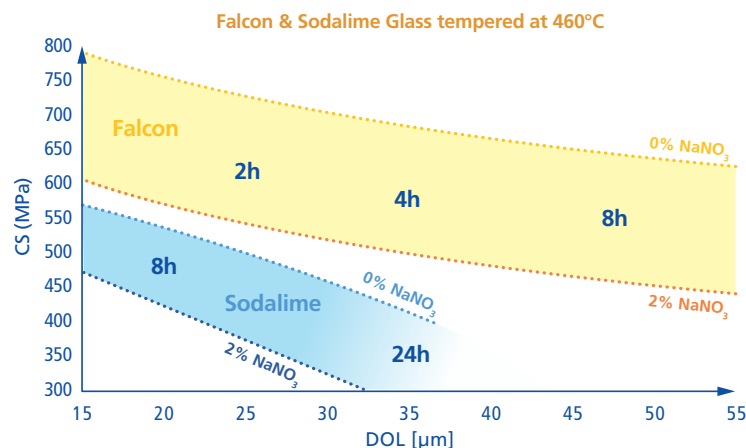
Very strong after toughening	– Excellent mechanical strength: 5 times stronger than conventional thermally toughened soda-lime glass
	– Damage-resistant
High transmission and neutrality	– High luminance and exceptional colour rendering while ensuring low power consumption
Beautiful surface appearance	– Beautiful, pristine finish and high scratch resistance compared with resin
Unique anti-warping treatment (optional)	– AGC's unique anti-warping treatment guarantees no deformation of the glass after chemical toughening, allowing it to keep perfect flatness
Easy to thermoform	– Opens up new possibilities in shapes and design
Available in very low thicknesses	– Reduces weight, opening up new possibilities in the design of high-strength, lightweight structures at a reasonable cost
Available in large dimensions	– Makes it possible to create large-dimension toughened glass covers for touchscreens or any other large format application

What can you use it for

... be inspired

Electronics	– Smartphones, tablets, laptops, interactive displays, etc.
Transportation	– Trains, aerospace, automotive, etc. (interior and exterior)
Building	– Lightweight assemblies, creative designs, etc.

## Performance achievable with chemical tempering



	440°C		460°C	
	CS (MPa)	DOL (µm)	CS (MPa)	DOL (µm)
2	730 ± 30	19 ± 2	670 ± 50	25 ± 3
4	700 ± 30	26 ± 2	630 ± 50	34 ± 3
8	650 ± 30	37 ± 2	580 ± 50	49 ± 3

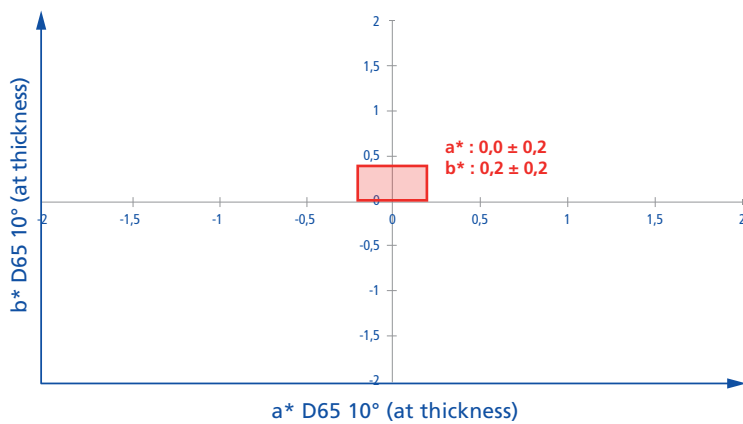
Air face data & fresh KNO<sub>3</sub> conditions

## Performance

<b>Chemical strengthening properties</b>	Reinforcement (for 15µm defect)	> 500 MPa
	Warpage (in 0.7mm – 420°C/4h)	< 0.05%
<b>Mechanical properties</b>	Density	~ 2.48 g/cm <sup>3</sup>
	Young's Modulus*	~70 GPa
	Poisson's ratio*	~ 0.21
	Shear Modulus*	~ 30 GPa
	Knoop hardness HK0.1,20	450 (before chemical tempering) – 546 (after chemical tempering)
<b>Thermal properties</b>	Softening point	~ 665 °C
	Tg	~ 575 °C
	Coefficient of thermal expansion	~ 9.10 <sup>-6</sup> (25-300°C)
	Thermal conductivity*	~ 1.19 W/(m.K)
<b>Optical properties</b>	Refractive index	1.52
	Photoelastic constant	27.600 [(nm/cm)/MPa]

\* Computed values

Falcon Glass Colour Box (at Glass Thickness)



Thickness	TL D65 2° @ thickness
0.5 mm	> 91.5%
0.7 mm	> 91.3%
1.1 mm	> 91.0%
1.3 mm	> 91.0%
1.6 mm	> 90.7%
2.1 mm	> 90.5%

## Processing options

<b>Safety</b>	Toughening (chemical)
	Safe foil application
<b>Cutting</b>	Straight, circular or free shape
<b>Shaping and edge finishing</b>	Edge grinding, drilling, laser finish
	Bending (thermo-forming and cold-bending)
<b>Special treatments</b>	Anti-warpage
	Silkscreen printing
	Acid etching (single or double)
	Anti-reflective coating
	Wet coating application (anti-fingerprint/hydrophobic coating)
	UV adhesive bonding

## Availability

Thickness	Size
0.5 mm	Up to 1.245 x 3.21 m
0.7 mm	Up to 1.35 x 3.21 m
1.1 mm	Up to 1.35 x 3.21 m
2.1 mm	Up to 1.60 x 3.21 m
3 mm	Up to 1.60 x 3.21 m

Other thicknesses and dimensions are available upon request.



The information contained in this data sheet is intended to assist you in designing with AGC materials. It is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose. The user is responsible for determining the suitability of AGC materials for each application.

## AGC GLASS EUROPE, A LEADER IN FLAT GLASS

Based in Louvain-la-Neuve (Belgium), AGC Glass Europe produces, processes and markets flat glass for the construction industry (external glazing and interior decoration), car manufacture and other industrial sectors (transport, solar power and high-tech). It is the European branch of AGC, a world leader in flat glass. It has over 100 sites throughout Europe. More information on [www.agc-yourglass.com](http://www.agc-yourglass.com).

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