



Advanced glass solutions for
the next generation of
greenhouses



Energy-saving glass
for cold climates



At AGCULTURE™ we provide advanced glass solutions for the next generation of greenhouses.

AGCULTURE™ offers a broad portfolio of glass products suitable for a wide range of vegetables, plants and flowers, such as tomatoes, cucumbers, medical cannabis and orchids, to name just a few. We will be delighted to analyse your request and come up with the best solution for your specific needs.



With its low-emissivity (Low E) coating, Geysir delivers energy savings and high hemispherical transmission.

Geysir has been designed with a low-emissivity coating to keep heat inside the greenhouse. This makes it the perfect product for cold climates, since it reduces the need for heating while boosting light transmission.



Key properties

Low-emissivity and anti-reflective coating

❖ Our Low E coating acts like a mirror, reflecting interior infrared energy inward and reducing radiant heat loss through the window. As a result, **the amount of heating required during cold periods is reduced** by around 22.2%, according to a recent study carried out by WUR. Thanks to the addition of AR coatings, the presence of a Low E coating does not compromise hemispherical light transmission.

Low condensation and high relative humidity

❖ Our coating keeps the inner surface of the pane warm, reducing condensation on the inner glass surface. As a result, light transmission **remains constant and crops stay healthy**. Our low-emissivity coating keeps the inside of the greenhouse as well as the leaves to be warmer. Hence, due to less condensation on the glass the relative humidity is higher.

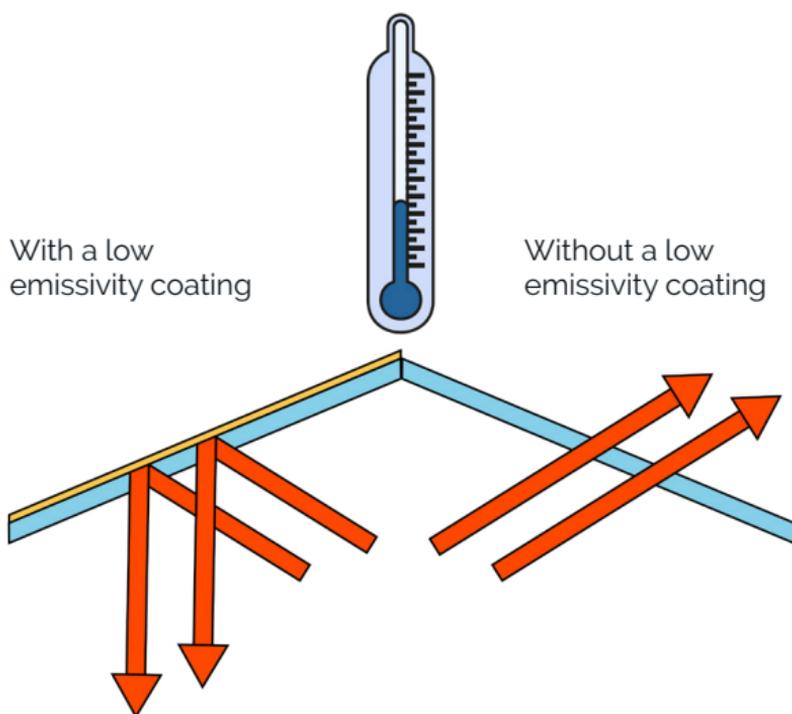
Durability

❖ Our anti-reflective coating not only maximises light transmission, but also **protects the glass from the corrosion** that is very likely to occur when the glass surface is regularly exposed to water. Moreover, the anti-reflective coating is **not damaged by mechanical or chemical cleaning processes**, thus ensuring the glass continues to deliver superb performance throughout the entire lifecycle of the greenhouse.

No heat trapped in summer

❖ Low E glass can cause heat to be trapped in the greenhouse during the summer. Most growers whitewash the glass in summer to avoid overheating. If whitewash is applied to Geysir, it will lose its low E effect and heat will no longer be trapped during the summer. Once the whitewash is removed from the glass, the low E effect returns and energy will be saved during winter.

How it works



Cold day

With a low emissivity coating

- ❖ The coating reflects the radiant heat, keeping the greenhouse warm.
- ❖ Condensation on the glass surface is reduced, resulting in higher light transmission compared to uncoated glass.
- ❖ Relative humidity is maintained.
- ❖ Higher crop yield and greater energy savings.

Did you know ?

A reduction of **2.1 U_g** (Thermal transmittance) =
22.2% reduction in annual gas consumption
for greenhouse

https://www.kasalsenergiebron.nl/content/research/WPR-1040_Eindrapport_Zonder_emissie_naar_hoge_transmissie.pdf



Operational excellence and high-quality production

❖ At AGC Glass Europe, glass is produced, etched and/or coated, processed and packed in-house for delivery to growers. The **quality** of your glass is carefully **monitored from start to finish**.

Conformity

❖ Our basic glass complies with EN 572-2 (latest version) - Glass in building - Basic soda lime silicate glass products - Part 2: Float glass.

❖ Our thermally toughened products comply with EN 12150 (latest version) - Glass in building - Thermally toughened soda lime silicate safety glass.

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Performance

Glass (4mm)	T_{Par} ^(d,e) (± 1%)	T_{Hem} ^(d,f) (± 1%)	U_g
Geysir ^(a,c) , 2xAR ^(b)	90%	83%	3.7 W/(m ² .K)

^(a) Geysir is a clear float glass which is coated on one side with a low emissivity coating and on both sides with 2 AR coatings

^(b) AR: anti-reflective coating

^(c) All products are fully thermally toughened (tempered)

^(d) The values were measured after tempering process

^(e) PAR: photosynthetically active radiation

^(f) T_{Hem} (hemispherical light transmission) is the total transmission of light through a hemisphere over the observer or target, distributed equally over the hemisphere surface.

^(g) U_g value (thermal transmittance) is the rate of transfer of heat through the glass. It is expressed in W/(m².K). The value of a single glazing is 5.8 W/(m².K) and of a double glazed window is 3.3 W/(m².K)

PAR and T_{Hem} are measured according to standard NEN 2675 + C1:2018 by Wageningen University and Research (WUR).

Availability

Thickness: 4.0 mm (± 0.2 mm)

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AGC Glass Europe has representatives worldwide

AGC

Version: 04/22