



Advanced glass solutions for
the next generation of
greenhouses



Energy-saving glass
for warm 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.


brilliant

With its special coating, Brilliant prevents overheating and distributes light efficiently and uniformly across the entire crop.

Brilliant features two special and highly durable anti-reflective coatings to reflect the near-infrared radiation (NIR) portion of solar radiation responsible for causing heating. This is the perfect product for warm climates, since it prevents overheating while increasing light transmission.



Key properties

Hemispherical light transmission (T_{Hem}) and anti-reflective coating

❖ Our highly durable anti-reflective coating delivers superb hemispherical light transmission (average light transmission all year round). **The higher the T_{Hem} , the higher the crop yield.**

Less overheating

❖ Our coating reflects the NIR portion of solar light, **reducing both air temperature and leaf temperature in hot climates.** The result is lower crop transpiration and 10 to 15% less need for cooling during warm periods.

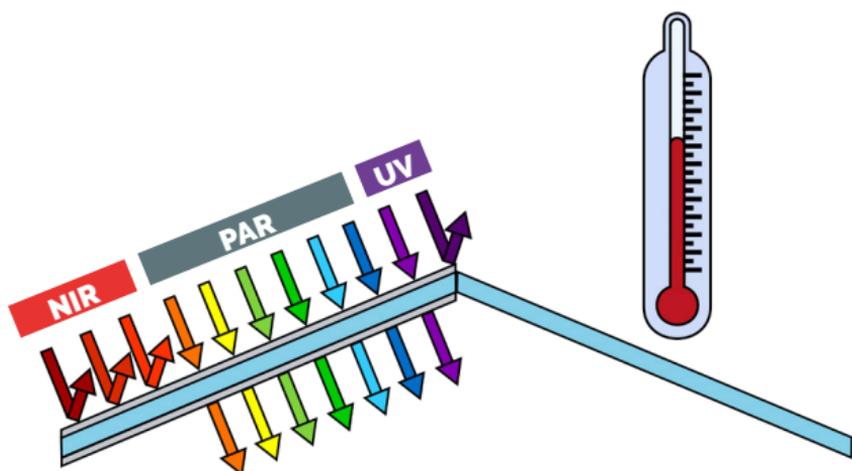
Photosynthetically active radiation (PAR) transmission

❖ In the absence of a coating that reflects NIR, whitewashing or movable screens are usually used, but this results in significantly lower PAR transmission. Our coating **ensures high PAR transmission while reflecting NIR**, resulting in higher levels of photosynthesis and therefore greater crop yield.

Hortiscatter

❖ Brilliant's superb hortiscatter delivers **even light distribution, reducing shade and ensuring uniform crop growth.** This not only prevents leaves from burning, but also makes them grow more horizontally, resulting in greater light capture and a higher yield.

How it works



Warm day

With a coating that reflects NIR

- ❖ The coating reflects NIR, preventing the greenhouse from overheating.
- ❖ High level of PAR transmission, which is not the case with movable screens or whitewashing.
- ❖ Light is diffused evenly and efficiently over the entire crop.
- ❖ Heat is not trapped due to Brilliant's high emissivity.
- ❖ Higher crop yield.

Did you know?

Cost of electricity used for **cooling in the Middle East** = more than **30 €/m²**

Brilliant can potentially save up to **15%** on electricity costs.



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.

❖ Our coated products comply with EN 1096 (latest version) - Glass in building - Coated glass.

Performance

Glass (4mm)	T_{Par} ^(e,f) (± 1%)	T_{Hem} ^(e,g) (± 1%)	Hortiscatter ^(h) (± 5%)
Brilliant ^(a,d) , Diffuse, 2xAR ^(b)	98.5%	-- ⁽ⁱ⁾	On request
Brilliant ^(b,d) , Clear, 2xAR	98.5%	91.2%	0%

^(a) Brilliant diffuse is a low-iron float glass which is chemically etched on one side and coated with 2 AR coatings that reflect NIR

^(b) Brilliant clear is a low-iron float glass which is coated with 2 AR coatings that reflect NIR

^(c) AR: anti-reflective coating

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

^(e) The values were measured after tempering process

^(f) PAR: photosynthetically active radiation

^(g) 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.²

^(h) Hortiscatter is the integral value of geometrical distribution of light intensity, as measured by the bi-directional transmittance (or reflectance) distribution function (BTDF) under a given angle of incidence of incoming light beam (3D data).¹ Our hortiscatter is measured and certified by Wageningen University and Research.

⁽ⁱ⁾ T_{Hem} value depends on the hortiscatter value

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

Availability

Thickness: 4.0 mm (± 0.2 mm) and 5.0 mm (± 0.2 mm)

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Visit our website: agculture.eu

