

UNIGLAS® | **FACADE**
Timber-Glass-Composites





Timber-Glass-Composite elements (TGC)

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„Architecture is based on three principles: *Firmitas, Utilitas and Venustas.*“

Vitruv, Roman architect

Naturalness, energy efficiency and structural flexibility: UNIGLAS® | **FACADE** now combines these advantages in one innovative facade concept. The composite of timber and glass allows the use of elegant and natural materials, and at the same time fulfils the highest standards for diversity and environmental compatibility.

Until now structural glazing facades were only realised with aluminium skeletons. With UNIGLAS® | **FACADE**, these types of glass facades can now also be made from a more environmentally friendly timber structure. In this way the CO₂ footprint of the facade solution is reduced by up to 43%. Omitting a

secondary metal construction also provides improved heat insulation. In addition, the Timber-Glass-Composites element (TGC) is impressive, not least due to its architectural aesthetics, but also due to the fact that the flush fitting workmanship throughout, and the omission of a framework, gives an exclusive appearance.

The unique solution can also be used to brace the building at the same time, with the glass is taking on a structural function. This is possible due to a permanently force-fit adhesive bond with the timber connecting rods. See the advantages of UNIGLAS® | **FACADE** in detail below.



Suitable for large-area facades, commercial properties, conservatories, extensions plus detached, semi-detached and terraced houses.



easy installation

Good ideas, implemented easily

According to the EU study by Prof. Michael Bauer (Drees & Sommer Advanced Building Technologies, co-author of the book „Greenbuilding - concepts for sustainable architecture) by using timber instead of aluminium profiles, the primary energy requirement is almost halved from 407 kWh/m² to 209 kWh/m² with UNI GLAS® | FACADE. At the same time, the TGC elements offer heat insulation of U_{CW} up to 0.7 W/m²K. UNI GLAS® | FACADE therefore complies with the latest standards for sustainable and ecological construction, whether in a conservatory, for extensions or for large buildings. For buildings with up to two storeys and a seven meter eaves height, UNI GLAS® | FACADE can even be used to brace the building.

In addition, the number of elements in a horizontal direction is unlimited. The TGC is therefore suitable for all construction projects. Even in practice, the timber-glass idea is impressive due to its uncomplicated implementation: The high degree of prefabrication at the factory guarantees simple installation. If a repair is necessary, then the individual elements can be replaced without any problems. Further factors that help in successful building, also taking into account the aspects of cost and deadline certainty. With the TGC facade, UNI GLAS® presents a practical solution, which caresses your senses. A simple and effective combination.



High degree of prefabrication

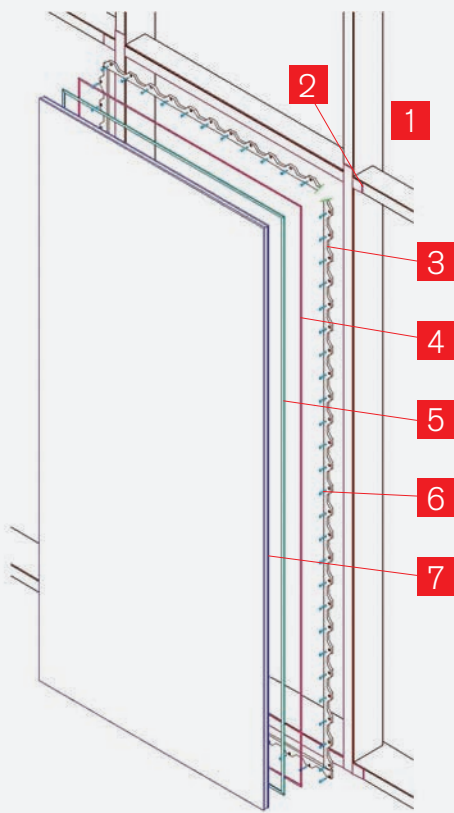
UNIGLAS® | **FACADE** Timber-Glass-Composites

In harmony with nature

When it comes to renovations, new buildings or extensions, thoughts of the environment are taking precedence more and more often. Ecological and sustainable construction not only promises long term savings on running costs, but also the desire to live with a clear conscience and in harmony with the environment is driving more and more people. The combination of timber and glass enables a luxurious and natural environment, which brings significant advantages for nature and people simultaneously.

For the environment

- Heat insulation of U_{cw} up to $0.7 \text{ W/m}^2\text{K}$.
- CO_2 values reduced by up to 43% (compared to aluminium profiles)
- Reduction of primary energy requirement from 407 kWh/m^2 to 209 kWh/m^2 (compared to aluminium profiles)
- Resource-protecting repairs due to replacement of individual elements
- Use of timber as a renewable raw material



1. Timber post and beam construction
2. Sealing tape DUPLOCOLL stuck onto the timber
3. Birch veneer plywood according to EN 636-2 "S", bonding class 3, EN 314-2
4. Thermal Bond 3.2 x 6 mm
5. OTTO Coll 660 silicon adhesive
6. Timber work screw 5.0/70 countersunk screw with shaft, zinc plated design
7. UNIGLAS®-TGC functional insulating glass

Modular construction

Efficiency in timber and glass

Glass facades open up the room and provide an atmosphere of wellbeing. UNIGLAS® | **FACADE** is also environmentally friendly and flexible in planning and assembly. However, these advantages are not at the expense of the crucial factors: energy and cost efficiency.

High sustainability is made possible by omitting a secondary metal construction. Here, timber with its natural characteristics offers significant advantages. The efficiency of the composite is not limited to good insulation values, however. Thanks to prefabricated facade elements, UNIGLAS® | **FACADE** offers high cost certainty. Construction time and assembly risks are significantly reduced and therefore offer: More efficiency in all areas.



Sustainable ecological building - CO₂ reduction of up to 43% by using timber instead of aluminium profiles.



Assembly of a glass facade with TGC elements

UNIGLAS® | **FACADE** Timber-Glass-Composites

Elegance with added value

It is rare that a new idea fits into existing structures so seamlessly and elegantly. UNIGLAS® | **FACADE** offers an exclusive look and possibilities for design, which were not available with previous systems. It is not important whether it's a new build or renovation: The combination of timber and glass ensures an elegant outer appearance plus a warm and cosy atmosphere inside the building. Large-format glass elements are interrupted on the outside only by narrow silicone joints, thereby permitting a full-glass appearance over the entire facade.

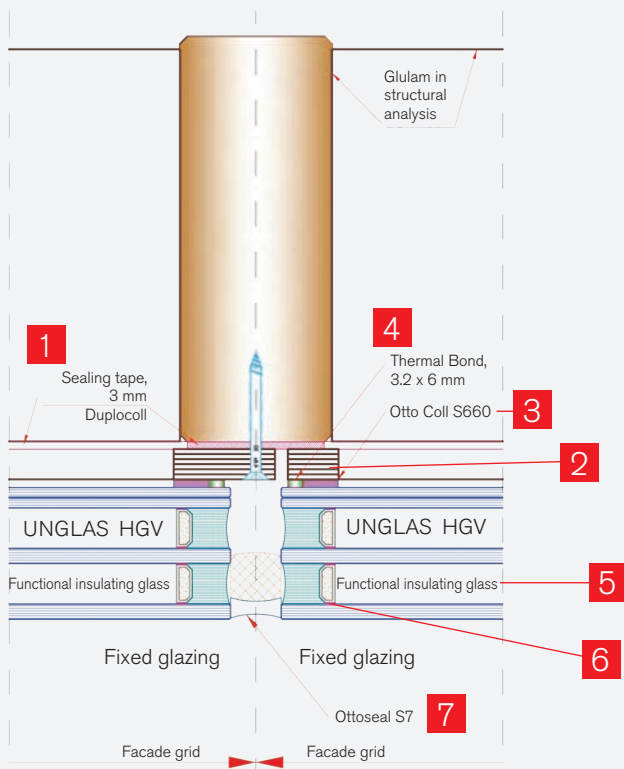
Glass details:

- Glass specification: Individual panes of UNIGLAS®-TGC elements made of UNIGLAS®-SAFE ESG-H
- Triple glazed MIG minimum glass thickness 6 / SZR [space between panes of glass] / 6 / SZR / 6 mm
- Double glazed MIG minimum glass thickness 6 / SZR / 6 mm
- Width to height ratio $W / H = 1 : 1$ to $2 : 1$ horizontal or vertical*
- Max. length 3.5 m for the longer glass edge*
- Min. length 1 m for the shorter glass edge*

* only in structurally bracing version



Simple and quick first assembly, and repairs to glazing of each individual element, possible due to gear geometry of the timber connecting rods.



1. Sealing tape DUPLOCOLL
2. Birch veneer ply timber according to EN636, class 3 EN 314-2
3. OTTO Coll 660 silicon adhesive
4. Thermal bond 3.2 x 6 mm
5. UNIGLAS®-TGC functional insulating glass
6. Enamel strips, optional
7. OTTO Seal S7

Detailed section through post

One solution, that bears the load

Facades are exposed to the most diverse loads. As with UNIGLAS® | **FACADE** the glass takes on a structurally load-bearing function in the building envelope if required, visually unsatisfactory wind bracing to brace the building can be omitted. The adhesive connection between the timber and glass ensures that the load bearing structure complies with all static requirements. UNIGLAS® | **FACADE** Timber-Glass-Composites elements are tested in accordance with ETAG002 for Structural Sealant Glazing Systems (SSG).

Even when using individual formats of the individual TGC elements, the UNIGLAS® | **FACADE** adapts to the most diverse structural requirements. In this way, the highest demands on buildings can be implemented without a problem, with UNIGLAS® | **FACADE**.

Detailed technical information, key details, tips on system structural analysis, system limits and supplementary requirements and implementation aids can be found in our technical manual on UNIGLAS® | **FACADE**.



Order your copy by e-mail: info@uniglas.de
or by fax: +49(0)2602/94929-299.



Our proximity: your advantage

UNIGLAS GmbH & Co. KG
Robert-Bosch-Straße 10
D-56410 Montabaur
Telephon: +49 (0) 2602/94929-0
Fax: + 49 (0) 2602/94929-299
E-Mail: info@uniglas.de



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