



GEWE-composite®

Open for new horizons in construction and architecture

Glass is more than just a functional building material: It is a style element in architecture and stands for transparency and versatility. The choice of the most suitable type of glass is decisive for safety. The undaunted trend towards transparent construction increasingly challenges architects, planning offices and executing enterprises to find filigree and extraordinary design solutions with glass under optimum security features.

GEWE-composite® is the name given to a new high-tech material which creates a symbiosis of the properties of glass and transparent polymers and boasts weight saving of up to 30%. This special laminated glass consisting of two (or more) thin mono glasses (from 1.9 mm thick) are stuck in a shear connection using a transparent plastic core. This produces a composite material of glass and polymer where the polymer not only provides an extremely high residual strength of the composite and splinter bonding, but is itself a statically bearing component of the composite elements.



Application areas:

- Transparent high safety glazing, including the overhead area and insulating glass design with consideration of the most varied load requirements (e.g. façades, roofs)
- Special glazing with attachment elements and frequent change character (e.g. parapet elements/balustrades)
- Safety glazing for display cases and showcases with particularly high premise of vandalism
- Glazing for tropical and green houses as well as conservatories with strong ratio of foliage plants.



SCHOLLCONSISTENT:COMPETENT:TRANSPARENTGLAS

GEWE-composite® is a laminated safety glass in accordance with TRLV (Technical regulations for the use of glazing with linear supports) and is regulated in the AbZ Z-70.3-156 (general technical approval).

Connecting elements of diverse materials can also be integrated in the GEWE-composite® laminate during the manufacturing process. This creates totally new options for joining the laminated safety glass to the subconstruction. The complexity of the so created GEWE-composite® product properties allows numerous improved applications in the architectural and construction areas.

GEWE-composite® opens up perspectives, which on the one hand enable greater activation of the composite effect and on the other, realise cylindrically cold deformed panes. SCHOLLGLAS had developed a process which allows permanent distortion of glass laminates at room temperature. The shearing forces occurring in the composite are carried off via a highly-transparent polymer which is integrated between the panes. The polymer is shear-resistant and has higher adhesion to the glass than the occurring shearing forces. It virtually “freezes” the distortion condition of the glass.

In addition to the lower net weight, GEWE-composite® is characterised by transparency, high resistance to ageing and weathering, a high mechanical strength, perfect flatness, a minimal risk of fracturing and higher elasticity.



The Amazon House, Stuttgart, D



Residual carrying capacity

Advantages of GEWE-composite®:

- Significant weight reduction up to 30%
- High resistance to breakage and residual load bearing capacity
- Integration of fixing elements possible
- Maximum design freedom in construction and dimensions through an innovative cold-bent glass without almost elastic recovery
- High UV permeability (depending on application)

Comparison	GEWE-composite®	VSG
Construction	4 mm / 2 mm composite / 4 mm	4 mm / 0.76 mm PVB / 4 mm (4 mm / 1.52 mm PVB / 4 mm)
max. passage of UV light* (wavelength 280 – 380 nm – EN 410)	50.9% to 63.2%*	1.2% (1.0%)
Shear modulus at 40 °C	approx. 1,5 N/mm ²	approx. 0.4 N/mm ²
Falling ball ** Steel ball Ø 100 mm, 4.1 kg (Fall height 1 m)	No glass breakage	Glass breaks at 0.76 mm PVB (Glass breaks at 1.52 mm PVB)
Residual carrying capacity ** Load 1.0 kN/m ² (~ 40 kg) (Both glass panes destroyed)	> 24 h	Failure of the system 0.76 mm PVB (Failure of the system 1.52 mm PVB) in each case, after a few minutes

* according to application in each case, with or without improved passage of UV light

** dimensions = 400 mm x 960 mm / span = approx. 960 mm / bearing on two sides

SCHOLLGLAS GmbH

Schollstraße 4 · D-30890 Barsinghausen

Tel.: +49 (0) 5105 777-0 · Fax: +49 (0) 5105 777-118

www.schollglas.com



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