

sedak at BAU 2019 / hall C3, stand 100: integral glass constructions that test the limits of what is possible

Constructional masterworks in glass

Extreme and unusual glass constructions resulting from technical advances: at BAU 2019 sedak (hall C3 / stand 100) shows what the transparent material is capable of. The unusual exhibits include a 20 metre long glass fin that stretches over the stand, a ten-metre glass "seesaw" and an all-glass parapet with a special feature. After buying into the Italian specialist Sunglass Industry, sedak's portfolio now includes hot bending. There is a five-metre-high example of this.

The sedak stand is straddled by a filigree construction that demonstrates the know-how of the company in dealing with glass in very large formats: a 20 metre long and 60 centimetre wide glass fin. It is constructed from five laminates, weighs 1.6 tonnes, and is held by only two 30 centimetre long stainless steel arms with a thickness of just 38 millimetres, which are laminated into the fin.

The durability of the material is demonstrated by a "seesaw" made entirely from glass. The ten-metre-long component balances on a single acrylic glass post. Weighing 0.6 tonnes and with eleven laminates, it moves effortlessly around its central axis and is representative of the exceptional load-bearing capacity of glass. Each side can be loaded with 150 kilograms. The completely

transparent seesaw was created in a collaboration between the engineering office Eckersley O'Callaghan (London) and sedak.

Latest competence: hot bending

In cold bending, individual panes of glass are laid into a bending rig alternating with SG interlayers to form a glass package and then melted together to form a laminated glass element in an autoclave at around 140 degrees Celsius. The interlayers provide the necessary shear stiffness, so that the glass package remains in its curved form unaided after lamination in the autoclave. In contrast, with hot bending (also known as sag bending or gravity bending) the glass panes are heated to their melting point at around 600 degrees. At this temperature gravity causes them to bend into a predefined form, after which a controlled cooling process takes place.

By purchasing a stake in the Italian company Sunglass Industry s.r.l., which is one of the market leaders for curved architectural glass, sedak has extended its portfolio to include hot bending technology. A hot-bent glass laminate consisting of two 1.35 x 5.0 metre panels demonstrates this technology on the sedak stand. The two eight-millimetre-thick glass panes were curved into cylinders and then laminated. They are a replica of the glass elements used in the façade of the new Sunglass Industry headquarters in Villafranca. The modern, new building is shown in large pictures in the background, enabling the visualization of the exhibit in a larger dimension.

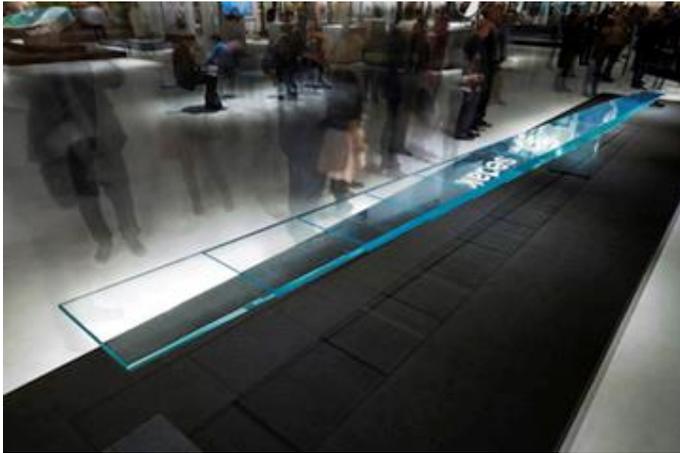
Specialist for size with attention to detail

In addition to large-format glass products of up to 3.51 x 20 metres, sedak develops glazing details that open up new worlds of architecture with great effect. In this context the company from Gersthofen (Bavaria) presents an innovative completion for glass edges that can be used, for example, in glass parapets or handrails: a laminated-on glass strip provides a clean conclusion to the glass parapet. At 17 millimetres wide, 6 millimetres high and 2.5 metres long the filigree masterpiece with its highly polished sides forms an absolutely even glass edge that sets aesthetic accents and is also functional: the otherwise open edge of the glass laminate is protected from the effects of the weather. The laminated-on glass also acts as protection against impacts and enables the use of two-layer laminates where previously the building regulations required three-layer laminates to be used.

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Pictures

[18-13_Glaswippe]



A glass "seesaw", ten metres long and able to carry a load of 150 kilograms on each side, symbolizes aesthetically the possibilities for building construction that sedak glass opens up.

[18-13_Abschluss]



Detail with great effect: the absolutely even conclusion of glass parapets with an extremely thin laminated-on glass strip that is highly polished on its sides.

[18-13-Glasfin]



Glass fins, available from sedak in lengths of up to 20 metres, are supporting elements of glass façades. A glass fin that is 20 metres long and weighs 1.5 tonnes is being presented by sedak at BAU (hall C3, stand 100)

Photos: sedak GmbH & Co. KG

For more information please contact:

sedak GmbH & Co. KG

Tatjana Vinkovic

Phone: +49(0)821/2494-823

Fax: +49(0)821/2494-777

Email: tatjana.vinkovic@sedak.com

pr nord. neue kommunikation.

Daniel Beutler

Phone: +49(0)531/70101-0

Fax: +49(0)531/70101-50

Email: d.beutler@pr-nord.de

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Leading glass

sedak, the glass manufacturer in Gersthofen, Germany, was founded in 2007. The company and its 170 employees have developed into the world's technology and innovation leader for large insulating and safety glass. With a ten-year experience of manufacturing oversize glass and after having increased the level of automation continuously, sedak is regarded as a specialist in this know-how intensive segment. The glass units reach dimensions up to 3.51 m x 20 m - processed, tempered, laminated, printed, coated, and cold bent. The core capabilities are the lamination of glass, edging, and the company's special knowledge of producing glass components with additional functional and decorative elements. sedak's production has been optimized for extraordinary glass sizes and weights; all finishing steps are highly automated and handled in-house. As a full supplier for glass up to 20 m, sedak sees itself as a partner for architects, designers, and façade constructors. Outstanding references are for example the House of European History in Brussels, the Faculty of Medicine in Montpellier, the Torre Europa in Madrid, Brookfield Place in New York City, the United Nations Office at Geneva, the Apple Cube in New York City, the science center experimenta in Heilbronn, as well as numerous premium flagship stores worldwide.

Application

- glass façades
- glass roofs
- glass stairs
- glass balustrades
- ship building
- safety glazing
- all-glass constructions
- interior design
- custom-made glass units