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OVERSIZED GLASS

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GLASS

## MAXIMIZED

SEDAK'S NEW OVERSIZED GLASS TECHNOLOGY  
EXPANDS DESIGN CAPABILITIES

BY BETHANY STOUGH

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versized glass has taken on new meaning in recent years, as glass companies have pushed the envelope to create larger lite sizes to meet architectural demands. Maximizing on the big glass trend, sedak Gmbh, [www.sedak.com](http://www.sedak.com), introduced fabrication capabilities for extra-oversized

glass, supplying glass lites up to about 50 feet long.

Initially, sedak, "the fabrication arm of Seele," based in Gerstbofen, Germany, was approached by a Fortune 500 company to design an all-glass store entrance in Manhattan using clear, very large glass panels. sedak finalized the development of its oversized glass capabilities while





**Previous pages:** Sedak employees push a 15 meter, 2 1/2 ton sheet of glass into the company's custom laminating autoclave. **Opposite:** Laminated glass operations at sedak. **Left:** sedak has displayed this 15 m-long glass panel at trade shows in Europe and in the United States.

All Photos courtesy of sedak. Copyright sedak GmbH & Co. KG

it completed the glass for this iconic structure, and has since been commissioned to fabricate extra-large glass panels for the company's headquarters.

"High-end retailers and companies are trying to approach customers with special, extravagant design for their headquarters and stores," says Rana Farman, manager of sales and marketing administration for sedak. "Homeowners [also] want an unobstructed/frameless view, so sedak has approached architects who design high-end residential."

sedak developed technology to produce glass panels measuring 15 by 3.21 meters—about 49 by 10 feet—that can be laminated, cold-bent, coated and processed to create insulating glass units. The company is currently producing the oversized glass for large corporate headquarters and office buildings, as well as for high-end retailers.

Offering extra-oversized glass—as well as a myriad of

processing capabilities for the over-sized glass panels—did not come without challenges at every stage of the manufacturing and fabrication process. "The first limitations are those of the float glass producers," says Maic Pannwitz, sedak's sales manager, North America. "The length of the glass was limited to much shorter dimensions than 15 meters. We needed to find a supplier who could be convinced to adjust their plant for the production of float glass up to 15 meters, which was quite a challenge."

Once sedak secured glass manufacturing partners, it discovered that further fabrication of the oversized glass panels also presented challenges due to the limitations of glass processing machines. For example, sedak's first tempering oven handled only up to 9-meter glass panels. The company had ideas for developing and processing larger glass panels in the pipeline, so when the technology for oversized glass

began to form, sedak invested in a new tempering oven and an autoclave that processes up to 17-meter glass panels.

Further investments also needed to be made for cutting, toughening, coating, printing, etc., as no machines were available for these processes. sedak, along with machine manufacturers, developed and designed existing machines to meet the new dimensions, with the minimum allowable tolerances (+/- 1 millimeter on a 15 m glass sheet).

Now, sedak has the capability to complete all production steps for its oversized glass in-house, with the exception of solar-control and low-emissivity coatings. For these, sedak contacted Interpane, who was also interested in offering larger glass options to the architecture and design community. Interpane adjusted its coating plant to handle 15 by 3 m glass panels, and the companies have entered a long-term partnership.

**SEDAK DEVELOPED TECHNOLOGY TO PRODUCE GLASS PANELS MEASURING 15 BY 3.21 METERS—ABOUT 49 BY 10 FEET—THAT CAN BE LAMINATED, COLD-BENT, COATED AND PROCESSED TO CREATE INSULATING GLASS UNITS.**



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sedak supplied large  
lites used for this all-  
glass staircase.



After developing solutions to bring traditional processing possibilities to its oversized glasses, sedak looked to adding decorative capabilities. The company developed digital printing capabilities for the oversized glass panels, using a digital ceramic-ink screen printing machine.

"A façade glass panel these days requires a great deal of special treatments, such as coatings, printings, special structural lamination, etc.," says Pannwitz. "It was necessary to set our unique ceramic printer with dimensions of 15 by 3.21 m to be able to provide any oversized glass panel with an edge frit, as for an IGU, for dots, striped patterns, or even a full photo image."

With sedak's oversized glass printing technology, full-coverage printing using the roller-coater technique on panes of glass joins flatbed digital printing to produce complex, multi-color pattern designs and images in 720 dpi high-resolution photo quality.

To ensure the quality and the safety of the extra-large, high-cost panes of glass, sedak directs particular attention during every step of production, from fabrication to shipment to installation. The company invested in developing custom glass handling equipment for the panels. "A continuing quality chain of production steps is in place to guarantee the best available product," Pannwitz reports. "The goal of sedak is not only being able to provide the full range of treatments on these very large glass panels, but also guarantee the highest quality standard available in the glass world, regardless of the size of single glass panes." ■



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