

Edgetech is present in large-scale projects

In 2011 Edgetech Europe GmbH opened its production facility in Heinsberg. The flexible, foam-based Super Spacer® systems are manufactured here, in addition to the sites in the UK and the USA. In particular, the formability provides considerable advantages for glazing that exceeds the standard dimensions, as demonstrated by numerous innovative flagship projects.

Economic efficiency coupled with a refined appearance

Following five years of production in Heinsberg, Joachim Stoss, who has been CEO at Edgetech since 2013, draws a very positive overall conclusion when looking back on the past five years. "When we came to Germany with our own production facilities, Super Spacers® were in vogue, now we are the trendsetters where warm edge technology is concerned" explains Stoss, and this is something also impressively underlined by the figures. The annual, global output of all three production plants amounts to more than 300 million metres on average, based on turnover Edgetech is the world's largest manufacturer of spacers together with its parent company Quanex. Numerous major manufacturers of insulating glass upgraded their manufacturing using automated systems for the application of spacers. Stoss puts this rapid success down to two main factors: achieving the maximum levels of economic efficiency in the production of the insulating glass units as well as the high-precision manual and automatic processing that meets even the most demanding requirements upon the energy efficiency, appearance, moulding and durability.

Curved facade glass units for the Düsseldorf Kö-Bogen

Curved insulating glass elements represent the highest art form in architectural facade elements. The sensational concave and convex facades made of natural stone and glass of the Düsseldorf Kö-Bogen constituted a black box project for the glass processors and facade designers - in this case Döring Glas from Berlin and the Lindner Group from Arnstorf. Following a complex development process with numerous test runs, a technical solution was created that satisfied all parties, both in architectural terms and also in terms of the building's structural physics. The technology specialist of the Heinsberg-based company, Christoph Rubel, explains what importance the spacers have in a project of this magnitude – a facade surface of nearly 15,000 m², of which approximately 2,200 m² alone are curved and kinked glass elements that are custom-made and envelop the building: "the glass elements were bonded both internally and externally, whereby the outer bonding acts as a mechanical safeguard. Glued glass connections require a UV-stable, gas-tight silicone sealing. Using our Super Spacer® T-Spacer™ Premium Plus we have repeatedly passed the compliance tests according to EN 1279 with standard insulating glass silicones. Therefore, we also meet the most stringent criteria for the processing in structural insulating glass elements. 2,200 m² of insulated glass units in different radii and panel widths of 2.70 metres and heights of up to 5.60 metres were manufactured for Düsseldorf. This can only be achieved

by a glass processor with a flexible spacer that adjusts to any conceivable glass form and can be precisely positioned down to the last millimetre on an automatic line to ensure the parallelism of the glass panes.

Gill-shaped hatches for the Elbphilharmonie (Elbe Philharmonic Hall)

Super Spacers® also provided almost identical advantages for the unique façade construction of the Elbphilharmonie in Hamburg's HafenCity (dockside area). The renowned Swiss architects Herzog & deMeuron had imagined the concert hall with its attached hotel and apartment area in a "slit, moulded and sliced up" state to create a connection between its interior and exterior. Thus gill-shaped hatches can be found in the insulating facade area in front of the hotel. They are created by arched side edges that are respectively directly connected to a flat insulating glass element. Ventilation flaps enclose these soffit surfaces and make it possible for hotel guests to take in the smells and sounds of the harbour. Nearly 2,200 facade units were installed in total in the project. The spherically arched glazed insulating glass facade elements, which are found mainly in the hotel and backstage area, are manufactured using the flexible Super Spacer® TriSeal™ Premium Plus. Due to its exposed position, the façade must also be able to withstand the most powerful gale-force winds. Therefore the glass elements were put through extensive strength tests at the Gundelfingen-based façade specialist Gartner. Winds of 150 kilometres per hour, applied a pressure of more than 600 Pascal on to the panes of glass, which also had to withstand heavy rain of two litres per minute and per square meter, and pendulum weight impact tests. Super Spacer® TriSeal™ proved that they are able to withstand even greater stresses in a hurricane simulator at a wind speed of 350 km/h without any difficulty when subjected to positive pressure, and at a wind speed of 395 km/h under suction. Christoph Rubel on the reasons: "In the case of a window with a rigid spacer this forms a sharp edge in the edge seal when subjected above a certain pressure burden on which the glass can break. A flexible spacer also makes the edge seal flexible so that there is no longer a risk of breakage at this point.

Free forms for the Sheikh Zayed mosque

A few years after its completion, the Sheikh Zayed Mosque in Abu Dhabi, one of the largest mosques in the world, is already an attractive landmark that attracts thousands of visitors every day. Inspired by Moorish, Ottoman, Mamluk and Indo-Islamic culture, the building is not only impressive because of the craftsmanship involved, but also on account of its sheer size: the world's largest marble mosaic in the inner courtyard, the world's largest carpet from Iran, the world's largest Swarovski chandelier, handmade Iznik tiles, precious pietra dura mosaics inside the Mosque, marble and gold leaf everywhere you look.

„This is the kind of order you are only awarded once in your life“, enthused Heiner Berizzi, CEO of Alubat FZCO in Dubai on the work performed at the mosque. Alubat supplied and installed approx. 5,000 square metres of glass in 2,500 different shapes. A magnitude of Super Spacers® was processed here which is by no means everyday for the spacer production specialist. Edgetech experts from Germany travelled to the mosque to support in an advisory capacity with the

extensive material tests. For instance, the aluminium construction of the 17-tonne sliding glass doors was not under any circumstances allowed to become at all warped during its installation. Berizzi had this to say about the cooperation with Edgetech: „Without Super Spacer® the elaborate glass elements in the mosque would not have been practically feasible. Free forms can be realised in a very time-consuming manner using rigid spacers. In the face of this huge number of differently shaped windows we needed a spacer which flexibly adapts to every form, and which is additionally suited to the climate in Abu Dhabi.”

About Edgetech Europe GmbH

Edgetech's Super Spacer® flexible foam-based spacer systems act as energy-efficient warm edge in insulating glass windows. They significantly reduce energy loss to the outside, largely prevent condensation and also contribute to the lifespan of a window. Worldwide, more than 300 million metres of them on average are sold annually in over 90 countries.

Edgetech Europe GmbH, located in Heinsberg Germany, is a fully-owned subsidiary of Quanex Building Products Corporation, a leading global provider of energy-efficient window and door profile systems, flexible insulating-glass spacers, edge seals for photovoltaic modules, wooden floors and ceiling profiles, as well as window and door grilles, with its head offices in Houston, Texas. Based on turnover Edgetech/Quanex is the world's largest manufacturer of spacers. Edgetech Europe GmbH is a sales location for the markets in continental Europe and one of the three worldwide Edgetech production plants, with a total of 450 employees and 16 extruders. You can obtain additional information about the Super Spacer® systems and the warm edge technology of Edgetech here: www.superspacer.com.



In the Düsseldorf Kö-Bogen (Kö-Arc) 2,200 m² of curved and thermally kinked facade glass was using Super Spacer® spacers.



Close-up photograph of the Kö-Bogen, Düsseldorf

Photo credits

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Photos: Olaf Rohl

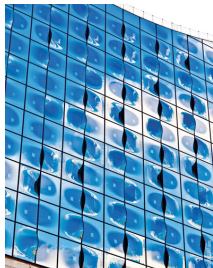
Architect: Studio Daniel Libeskind, New York City

Project Developer: die developer Projektentwicklung GmbH, Düsseldorf



Gill-shaped hatches on the facade of the Elbphilharmonie (Elbe Philharmonic Hall)

Photo credits: (mijeshots)/123RF

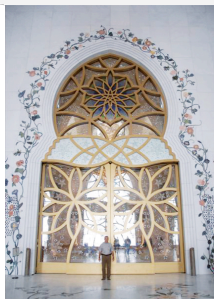


Gill-shaped hatches on the facade of the Elbphilharmonie (Elbe Philharmonic Hall)

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Glass door and window of the Sheikh Zahed Mosque, Abu Dhabi



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