

Edgetech

AUTOMATED APPLICATION OF SUPER SPACER® AT AGC INTERPANE



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Absolute parallelism of both spacers
in triple glazing using Super Spacer®

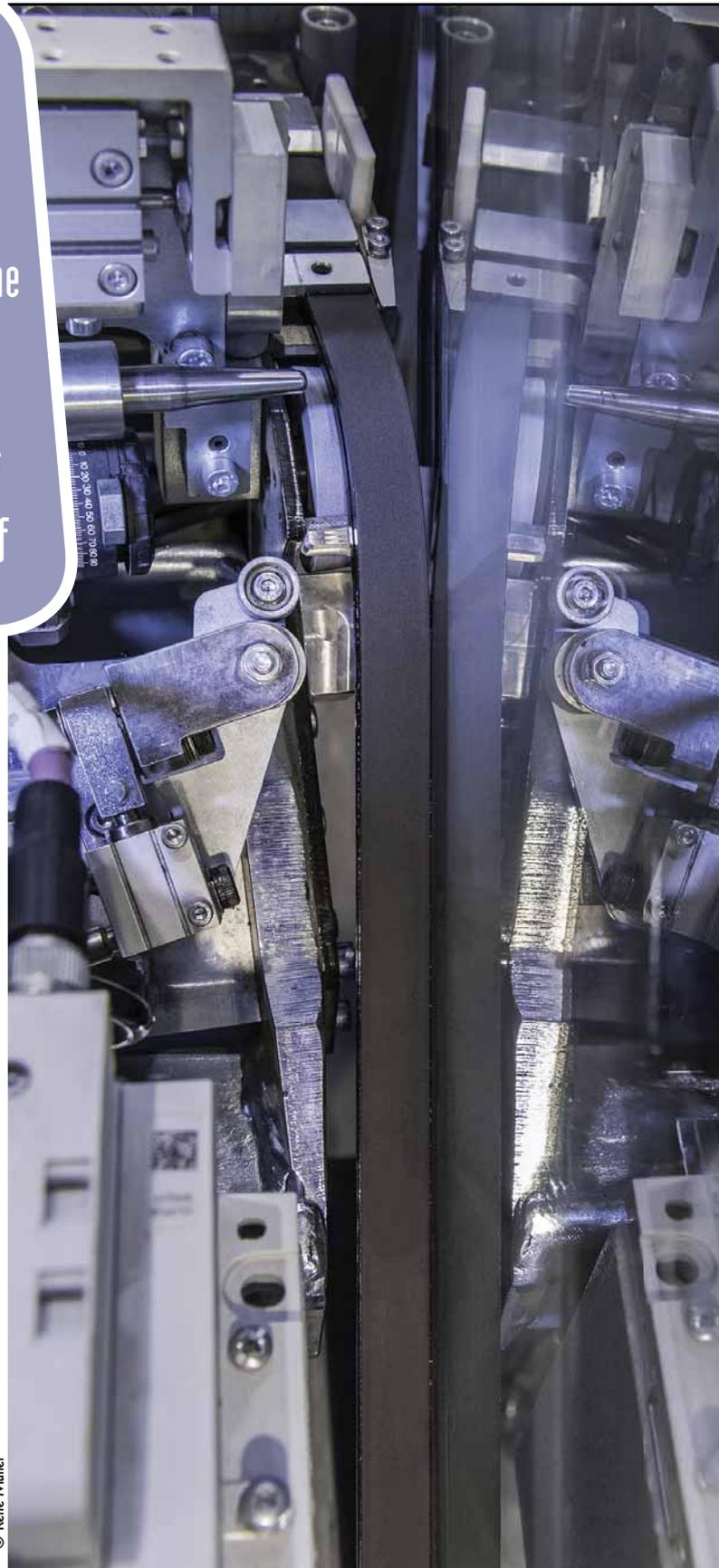
XXL insulating glass units represent a demanding growth market which requires top class performances extending from the manufacturing to the logistics. AGC Interpane has been able to significantly increase the productivity and precision of an existing insulating glass line for the manufacture of oversized glazing through the automation of the spacer application.

The magic triangle of economically manufacturing insulating glazing, i.e. the trade-off between time, quality and costs, is frequently dominated in the industry by a high proportion of manual processing steps. “This is where you will find the most important lever for manufacturers of insulating glass to produce more quickly, economically and with consistent top quality”, according to Joachim Stoss, Managing Director of the Edgetech Europe GmbH company that is based in Heinsberg. The wholly-owned subsidiary of the Quanex Building Products Corporation celebrates the 30 years anniversary of its Super Spacer® product this year, and is thus the pioneer of metal-free, warm edge

spacer systems. Initially the development work mainly focused on the heat insulation properties and the durability of the edge seal. Flexible spacers retain the elasticity of the edge seal of insulating glass units and reduce mechanical stress on the glass edge caused by pumping movements and wind loads.

“Due to the growing importance of automation, other benefits of flexible spacers, which can be applied endlessly from the roll, become apparent,” Joachim Stoss adds. The automated application of spacer systems such as Super Spacer® replaces work tasks that are frequently still performed manually, such as bending, filling of desiccant, butyl application, connecting rigid hollow profiles and placement of the frames.

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Endless Super Spacer®
application from the roll

AUTOMATION COMBATS SHORTAGE OF SKILLED WORKERS

Demographic change in workforce is also having a marked influence upon the glass industry. According to the 2018 Labour Market Report of the Association of German Chambers of Industry and Commerce, 86 per cent of the processing companies in the glass, ceramic and stone sectors are very frequently in search of skilled workers due to the fact that older employees are retiring. 60 per cent of the companies feel the shortage of skilled employees constitutes a risk for the development of their business. None of these things are new phenomena but the need to solve them is becoming increasingly urgent. The filling of new positions has also been a permanent issue in the region of Lower Bavaria, which is a hotspot of the European glass industry, for a number of years. If orders can no longer be completed, and the existing workforce is subject to ever greater

strains, then more efficient production becomes a must. The manufacturing processes do not have to be completely turned upside down. Sometimes existing areas of potential can be opened up by applying relatively simple means, as AGC Interpane demonstrates at its Plattling site in Lower Bavaria. There they upgraded an existing insulating glass line through the addition of an applicator for the automated application of silicone-based spacers in 2017. This resulted in productivity increases of up to 50 per cent.

EASY WORKABILITY IS A HUGE ADVANTAGE

AGC Interpane based in Plattling describes itself as a specialist for logistically complex cut-size and insulating glass orders. At first glance it sounds very basic, but in reality, it involves the constant showcasing of major global projects. The company in Plattling ranks among the illustrious circle of flat glass processors that

are able to supply coated XXL insulating glass units of the highest quality. London's Embassy Gardens, featuring the spectacular Sky Pool, the extension of the Columbia Business School in New York, and Google's "Landscaper" in London, with a rooftop landscaped park and running track, are just three of the flagship projects that are now pending for which the company is producing giant panes of glass. Dimensions up to a size of 3,210 mm x 18,000 mm are possible.

The production is tailored to ensure the greatest possible levels of flexibility. The fully-automated production line, which has been upgraded using the Super Spacer® application robot, produces the entire range of double and triple-glazing units. The dimensions are varying from 200 mm x 300 mm extending to the so-called "Giga Lites", i.e. oversized glazing, measuring 3,210 mm x 9,000 mm. However, Interpane can coat glazing units that are even greater in size, up to a length of 18 meters. Float glass, laminated glass, laminated safety glass or toughened glass are processed up to a maximum thickness of the insulating glass unit of 115 mm. Super Spacer® T-Spacer™ Premium Plus with widths of between 10 mm and 20 mm is used as the spacer. The silicone-based spacers are set in parallel down to

EDGETECH SUPER SPACER®

The benefits of Super Spacer® warm edge:

- economical, automated production of double to quadruple insulating glass units
- appropriate for maxi formats and free forms
- exact edge seal thanks to precise, parallel application
- up to 70 per cent reduced condensation
- flexible foam matrix with desiccant plus vapour barrier
- 3-step processing - automated or manual
- 100 per cent resilience after compression

the last millimetre in a matter of seconds, thus guaranteeing a flawless and durable edge seal.

“We also process rigid spacer bars in some applications, but the advantages of automated Super Spacer® application are making a major impact, especially in the case of the large-format insulating glass units,” explains Daniel Bruckelt, head of insulating glass production in Plattling. In addition to the time savings involved, this particularly applies to

the minimal tolerances involved in the position and the precise manufacture of the corners. Also, desiccant debris, in the intracavity space can be ruled out because the desiccant is already integrated in Super Spacer® and does not need to be filled separately as would be the case with hollow box sections.

“Especially where our “Giga Lites” are concerned, the automated processability of the spacers and thus the quality and appearance of the finished products are very closely linked”, adds Michael Elstner, Head of

the IBC Consulting Centre. “Where demanding architecture projects are concerned the aesthetics of the edge seal is increasingly becoming an important evaluation criterion. Super Spacer® is virtually invisible due to its matte surface and low height.”

And what will the future bring? No-one is yet able to predict the extent to which digitisation and Industry 4.0 will continue to have an impact upon such a highly specialised form of manufacture as employed by AGC Interpane in Plattling. “However, we are ex-

Robot-controlled Super Spacer® application for XXL insulating glass units

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Automation facilitates, precise, crimp-free and rectangular corners

cellently prepared for this due to our state-of-the-art automation and high levels of flexibility”, Michael Elstner reassures us.

EDGETECH EUROPE GMBH

Edgetech’s Super Spacer® flexible foam-based spacer systems acts as energy-efficient warm edge spacers in

insulating glass windows. They significantly reduce energy loss to the outside, largely prevent condensation and also contribute to the lifetime of a window. On average, worldwide, more than 300 million metres are sold annually in over 90 countries. Edgetech Europe GmbH, located in Heinsberg Ger-

many, is a fully-owned subsidiary of Quanex Building Products Corporation, an industry-leading manufacturer of components sold to Original Equipment Manufacturers (OEMs) in the building products industry. Quanex designs and produces energy-efficient fenestration products in addition to kitchen and bath

cabinet components, 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.