Introducing DSC: LISEC's latest technology for precision glass cutting

Joining cutting wheel consultant Peter Pokoern at Arbonia Glassysteme GmbH Deggendorf in February this year, LISEC product development experts, cutting foremen and operators from Arbonia all met in a one-day workshop to fine-tune the company's latest DSC system for float cutting technology as it went into operation.

QUALITY UNDER A NEW NAME

Founded in Munich in 1977, Arbonia Glassysteme GmbH moved to Deggendorf in 1988 - changing in 2021 from Saint Gobain to the Arbonia Group: a focused building supplier for indoor climate and interior doors produced from wood and glass. In Deggendorf today, 160 employees produce mainly shower glazing and laminated safety glass from processed toughened glass. An expansion of the product range, doors included, is currently being planned. In its main operations in southern Germany, the company now wows customers with batch sizes, customised products, special sheets and rapid delivery times - all of which saw the site generating € 22.4 M over 2022.

USING LISEC CUTTING TECHNOLOGY FOR 30 YEARS

LiSEC machines have been used in production since 1990 - all initially in operation in glass cutting. Today, together with edge processing and an automatic feed solution, three LiSEC cutting tables remain in operation - one of which dates back to the 1990s. "The Deutsches Museum has already made enquiries hereto," jokes Matthias Baumgartner, Technical Operations Manager. "But the machine runs, and service remains spot on." Indeed another cutting table was replaced with the latest LiSEC cutting technology just this year.

FIRST DSC-GENERATION GLASS CUTTING TABLE IN GERMANY

Arbonia aims to achieve three goals with the new glass cutting table: fast cutting, top quality glass cutting results and high system availability. Precision cutting results require a lower grind addition, which reduces processing costs. High edge quality means less spontaneous breakage - and, with that, lower after-sales costs. The 'DSC - Dynamic Speed Cut' cutting system is the optimal solution for attaining these objectives. LiSEC 'Direct Cutting Technology' enables rapid cuts with high precision, thanks to direct contact of the cutting wheel with the glass combined with high positioning speed. Moreover, constant oil level control of the cutting oil as well as runtime monitoring of the cutting wheels both improve system availability.

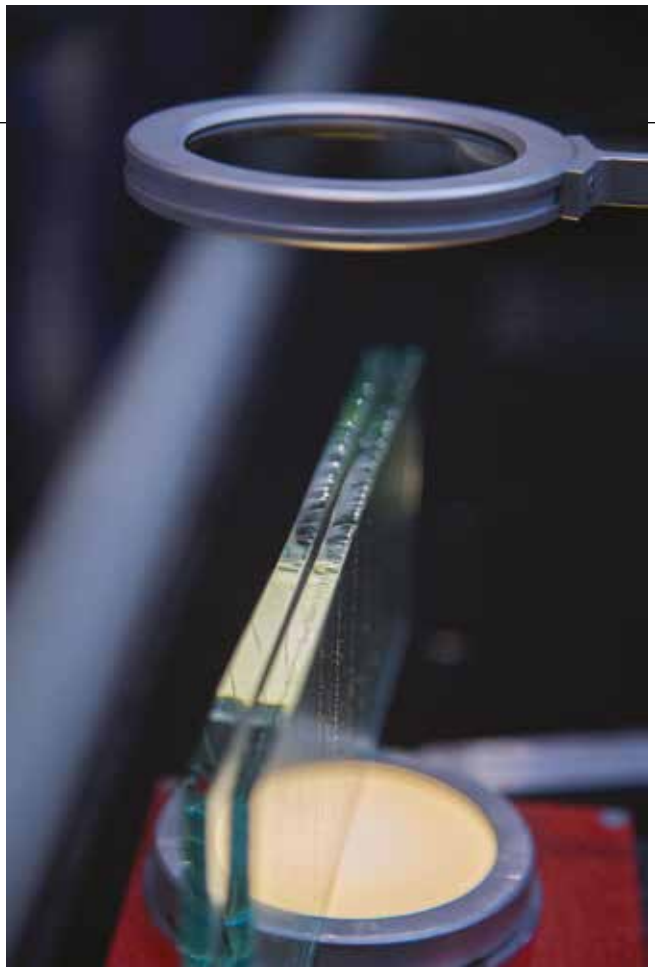
PRECISION CUTTING - NOT JUST FROM A PHYSICS PERSPECTIVE

Scoring the glass surface with the cutting wheel creates concentrated tension that reaches deep into the glass. If pressure is exerted on the glass edges, the tension leads to a smooth break along the scribed line. Applying cutting oil prevents

tension concentration from decreasing too quickly. Cutting pressure, cutting speed, cutting wheel angle and cutting oil quantity have all been analysed in the workshop using a standardised test process. Here findings showed that polarised light made the tension distribution in the glass visible. A pressure gauge was also used to check the breakout force required to break the glass, which enabled optimisation of the cutting parameters for all glass thicknesses commonly used at Arbonia.

WHY ARBONIA DEGGENDORF IS KEEN ON LISEC

In the words of Matthias Baumgartner, Technical Operations Manager: "Arbonia Deggendorf is keen on LiSEC because the system works - having been tried and tested on the market with the added advantage of close regional proximity. Service response time is really good too. If we report a problem in the morning, we often have a technician out the same day to assist us. We also appreciate the reliability of the spare parts. LiSEC makes every effort to organise the parts -even for our oldest system- and, to date, they've always proved successful. There is a machine for every processing step in the LiSEC range, and the company's reputation remains stellar. Reliability, user-friendliness and general system availability are spot on in all areas where we use LiSEC. Not only. The company has even resolved the matter of standardisation. For anyone who's had a LiSEC machine before, the menu navigation remains pretty much identical, which makes things more straightforward for operators. An innovative approach was one of the most persuasive arguments when we opted for LiSEC's new feed. For example, no one else has the flyover crane in their programme. We feel we are in good hands with LiSEC."



FUTURE-PROOF, THANKS TO SPECIALISATION AND FLEXIBILITY

Baumgartner goes on to share his thoughts on the current situation, including Arbonia's strategy for the future: "New energy prices have resulted in major changes to the market, making the production site more complex. Customers and product requirements are becoming significantly more complex, which makes it all the more important to respond as efficiently and flexibly as possible to new market situations with the latest system technology. The topic of automation and energy efficiency will be the focus of our strategy in the future."

ABOUT LISEC

Headquartered in Seitenstetten/Amstetten, LiSEC is a globally-active group that has provided individual and comprehensive solutions in both flat glass processing and finishing for 60 years. Its service portfolio comprises machines, automation solutions and services. In 2021, the group, with circa 1.100 employees and over 20 sites, achieved an export ratio of more than 90 percent and generated sales of more than EUR 200 M. LiSEC develops and fabricates glass-cutting and sorting systems, single components and complete production lines for insulating glass and laminated glass fabrication, as well as glass edge processing machines and tempering machinery. With reliable technology and intelligent automation solutions, it sets both quality and engineering standards and significantly contributes to the success of its customers.

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