Automatic glass separation has HEGLA cutting costs - and CO2

To be showcased soon at Glasstec, HEGLA's IG2Pieces system addresses CO2 reduction in flat glass processing by automating insulated glass separation. This innovative process saves resources, enhances financial value and promotes high-quality glass recycling. Reusing glass panes further supports sustainability - all in alignment with EU climate goals for 2050.

With the EU aiming to be climate-neutral by 2050 and Germany by 2045, the legal objectives are now well set. With IG2Pieces, HEGLA will be presenting a system solution at Glasstec that can contribute to the required CO2 reduction in the flat glass processing industry. While many climate protection measures are otherwise associated with high costs and time expenditure, as a system for separating insulated glass this not only saves valuable resources. It also generates financial added value for customers.

ADDED VALUE BY TYPE

The recycling of glass is a success story that is based on the high quality of the raw material: with the right purity, glass can be reused almost indefinitely. While quotas of up to 90 percent have already been achieved for container glass in some countries, there is still further potential for flat glass. However, quality requirements for the material to be melted down are significantly higher - which often means that processing for recycling is economically unfeasible. While mixed-glass containers with partially-unseparated insulated glass were previously the common solution for disposal, provision of the individual raw materials by type offers economic advantages. "With the IG2Pieces separation solution, it was therefore our qualitative goal to separate

the units cleanly and safely and to preserve the components undamaged," explains HEGLA Managing Director Dr Heinrich Ostendarp. "Here, to maximise efficiency and productivity, the focus was on short cycle times with maximum process reliability."

AUTOMATIC PROCESSES FOR SEPARATION

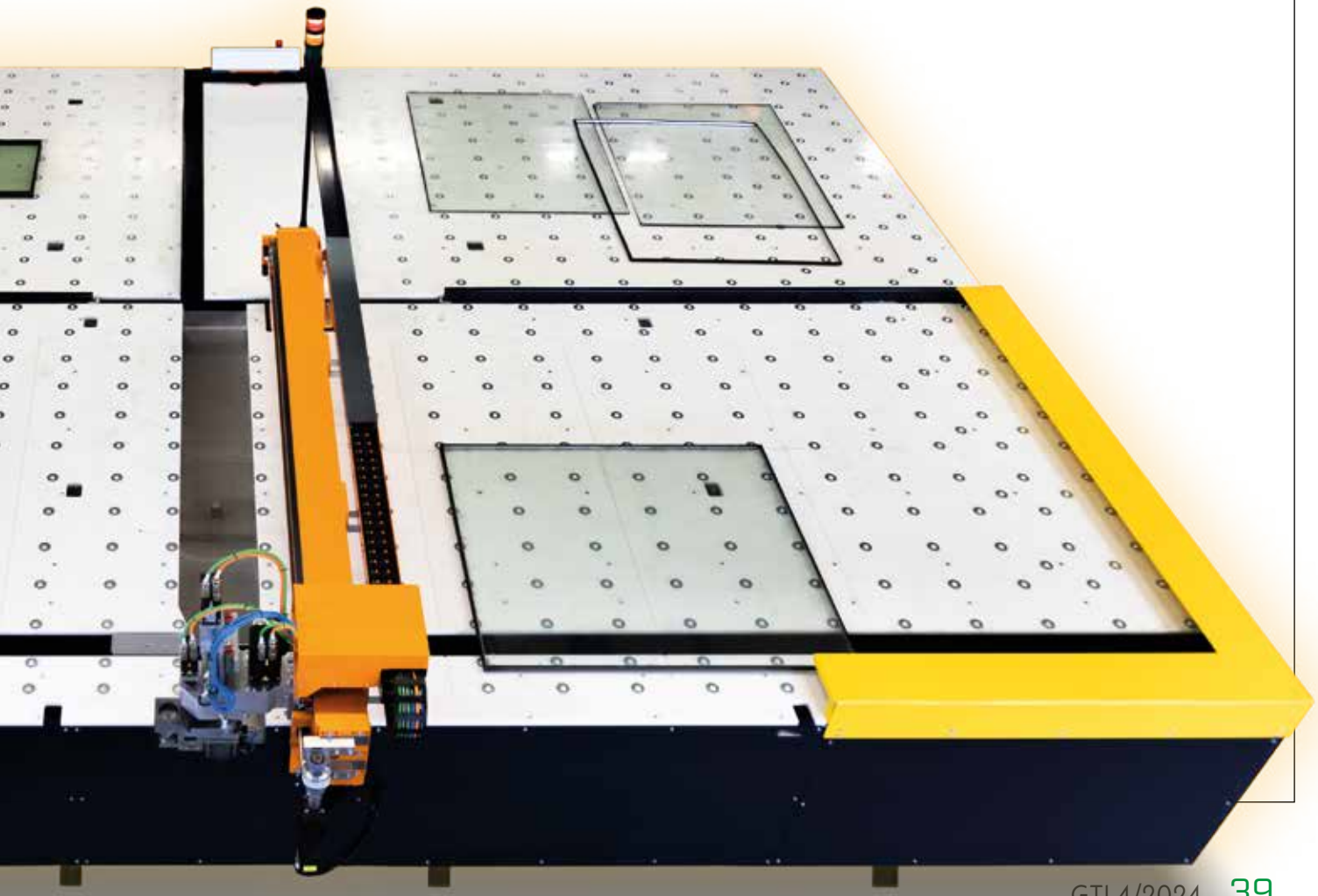
As the basis for fully automatic separation, insulated glass is measured in a horizontal position by the system and the structure analysed. In the meantime, the operator can place the next pane and prepare it for separation. "With the new separation process, we have created a technical solution that automatically separates insulated glass into its components and leaves very little sealing compound on the glass," explains Ostendarp. The panes remain undamaged, as does the spacer with its desiccant.

SEPARATE RECYCLING PROMISES QUICK FINANCIAL SUCCESS

Once the individual components have been separated, there are various options for utilising or recycling the obtained raw materials. Data from measurement of the insulated glass can be used for this purpose. In addition to the length, width and thickness of the panes, this also includes the possible presence of a coating or composite safety glass. "The suggestions and wishes of many customers have been incorporated in the development. And various applications have emerged in the process," explains Ostendarp. In economic terms, separate recycling of the individual types of glass promises the fastest financial success. If the panes are separated accordingly, the purchase prices from the disposal company are higher. This practice has a positive effect on the visual quality of the subsequent end products, which can be produced unmixed and without impairment. The recycling circuit is closed and the glass finds a new use in the float tank. The environment is a further beneficiary of this recycling process: for every kilogram of float glass produced from recycled glass, CO2 emissions are reduced by around 0.3 kg and can have a positive effect on CO2 certification.

REUSING GLASS SAVES EVEN MORE ENERGY AND GLASS

Reusing glass is another option, especially for



large-format, expensive or special panes. “Rare coatings, glass types or optics are always an issue when it comes to new glazing or repairing existing fronts,” says the HEGLA Managing Director. In these cases, IG2Pieces makes it possible to separate an IG unit and then remanufacture it for reuse. The intervention in the building is not recognisable and the architect’s original facade remains intact. If the pane is not immediately required in its original size, it can also be used for cutting into smaller formats. This saves material and can be a pertinent environmental factor for certification, especially in public tenders. “The practice of reusing rare or large panes has been around for a long time,” Ostendarp emphasises, “but this manual process was economically dependent on the speed and dexterity of the respective specialist.” In addition, the use of glass for less demanding applications, such as shelves, can also be an attractive option.

The automated separation of insulated glass makes a process that was previously carried out manually more economical and productive

REPAIR DURING ONGOING OPERATION

Time and again, IG units become damaged only during production. This is all the more annoying when panes are bought in or are expensive. The system technology offers the option of separating the finished insulating unit and replacing the defective component, particularly in the case of supplied panes with corresponding delivery times.

The first systems are about to be delivered and are being used by customers for a wide variety of purposes. “IG2Pieces enables the reuse of raw materials through automation and process reliability, and contributes to CO2 reduction and the sustainable use of glass and energy, in terms of a circular economy,” Ostendarp stresses.

Hegla Gmbh & Co. KG

HEGLA

Industriestrasse 21
37688 Beverungen
Germany
Tel.: +49-5273-9050
Fax: +49-5273-9-05-255
E-mail: info@hegla.de
www.hegla.com

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The High-Speed Dimension for Float Glass

Fully automated processes and outstanding acceleration and motion dynamics make our Galactic a high-performance solution for cutting float glass. With its adaptability to customers' specific needs and precise, low-maintenance linear drives, the system knows how to impress with superior performance on simple and complex cutting lines.

- High performance due to low-maintenance linear drives
- Precise scoring results for shapes and straight cuts
- Customer-specific configuration with, for example, laser marking, edge decoating and Upgrind for TPF and EasyPro

HEGLA • Industriestr. 21 • D-37688 Beverungen • E-mail: info@hegla.de

hegla.com