

INTERVIEW WITH MARKUS STEFAN FROM SOFTSOLUTION

„Scanner for the ISO line are a good investment“

We asked Markus Stefan from Softsolution why it is also well worth investing in scanner technology for quality assurance for small and medium-sized insulating glass manufacturers and even for window manufacturers. Here are his answers.



Markus Stefan, International Sales Manager Softsolution

GLASWELT – Why are small and medium-sized insulating glass manufacturers also increasingly investing in scanner technology for quality assurance?

Markus Stefan – Glass processors and their customers, such as window manufacturers, are increasingly demanding final inspection and documentation of the finished insulating glass element by the manufacturer. The vertical LineScanner from Softsolution checks the glass quality with extreme accuracy for all quality and dimensional defects and generates a certificate for each glass pane. This keeps the complaint rate low, saves costs and protects resources. In addition, clean documentation and traceability are ensured in the case of a complaint. The scanner for the ISO line is therefore a good investment.

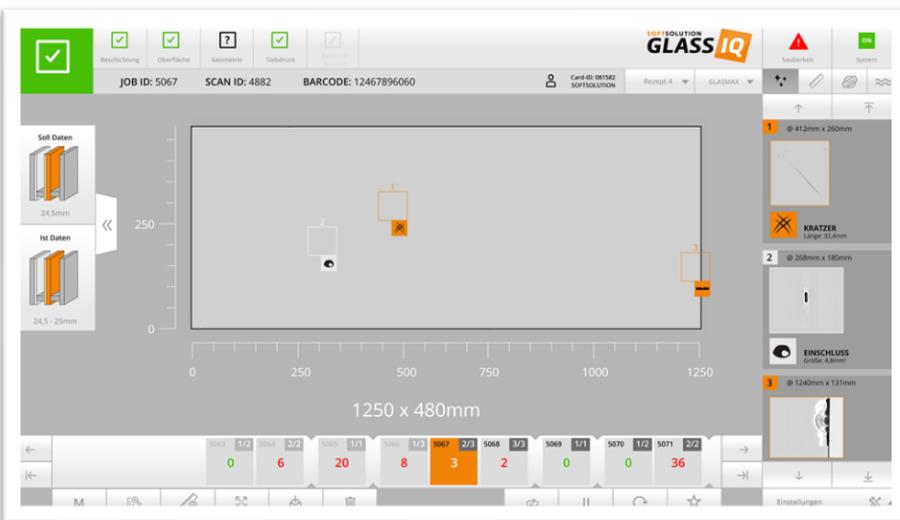
Stefan – The LineScanner detects single glasses and insulating glass elements with the same hardware setup to provide manufacturers with consistently high glass quality. Through sensor-based parallel light technology and the use of a 16-bit technology, the LineScanner detects transparent flat glass products for surface and edge quality, dimension as well as the quality of the tempering. The special evaluation of finished ISO units includes not only optical defects such as scratches, inclusions, coating and butyl defects, but also various dimensional checks. For example, the frame spacing, layout and angularity of built-in glazing bars, as well as the entire insulating glass structure (glass thicknesses, spacer thicknesses, coating sides) are additionally checked against order data and documented. Furthermore, we use artificial intelligence for defect categorization and constantly improve this process.

GLASWELT – At which position of the insulating glass line does it really make sense to install a scanner?

Stefan – Basically, there are two main areas of application for the LineScanner on insulating glass lines. On the one hand, after the washing machine for individual glass inspection. Here, defects are detected even before they are assembled, and the LineScanner primarily helps to reduce the internal complaint rate. On the other hand, the final inspection of the entire insulating glass units is becoming increasingly important in order to reduce the external complaint rate and avoid costly replacement of the glass. In addition, many window manufacturers require precise documentation of the glass product. Our scanner provides this all at once.

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GLASWELT – What exactly can be measured/tested with your equipment today and why is this important for the ISO manufacturer?



LineScanner Monitor display of a scanned insulating glass unit with three detected defects. © Softsolution GmbH

GLASWELT – Wieviel Platz braucht der Scanner in der Linie und lassen sich auch bestehende ISO-Linien nachrüsten?

Stefan – To implement a Softsolution LineScanner, a minimal gap on the vertical line is required, and it can be used for insulating glass lines up to a production height of 3600 mm. The scanner itself has a width of 667 mm and can be easily retrofitted to any line. If necessary, it can be individually adapted to meet special requirements. The sensor-based design means that no space is required behind the insulating glass line.

GLASWELT – What about data storage, especially with certificates, for example for

**invoicing or in the context of complaints?
Which data is transmitted, and how?**

Stefan – Thanks to the Softsolution Data Archive, scanned glasses are stored in a database. Each glass is stored with a scan ID and details such as customer, barcode, order and item number, etc. Based on this data, a specific glass can be found quickly with all its details, e.g. in order to analyze the situation in case of a complaint. As proof, a certificate can be created directly from the archive for each scanned glass. In the dynamic data archive, defect sizes and positions are displayed in detail, and zooming into any detailed area of the glasses is possible. Production statistics can be created per shift and line, for example, or compared with each other.

GLASWELT – So where else can your scanners be used?

Stefan – Our LineScanners can be used vertically and horizontally in a wide range of production areas. For example, the use of scanners is becoming increasingly important in the tempering and production of toughened safety glass. If it is positioned at the outlet of the tempering furnace, each tempered glass sheet can be checked directly for anisotropies. At the same time, a megapascal measurement value per glass can be determined by checking the edge membrane tension, which defines the expected breakage pattern. Furthermore, our scanners offer a wide range of additional testing options, such as for dimensions, outer and inner contours, drill hole positions and dimensions, hardening stamp position and logo quality.



SCANNER-FEATURE

Here are the relevant technical data of the vertical LineScanner when used in insulating glass lines:

- stable fault detection due to sensor-based parallel light technology
- high-precision dimensional inspection through patented measuring method (EDM)
- innovative 16 bit technology with 65536 greyscales (instead of 256 with 8 bit)
- Management console for online overview and status of the scanner(s)
- Scan data & evaluations per glass in database for convenient search and display
- Sensitivity and parameter settings easily possible by QA team (password protected)
- Testing of single glasses & IG units possible with the same hardware
- No space required behind the insulating glass line

Matthias Rehberger asks the questions.

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