

Wintersteiger delivers repair system for large panels

Wibeba-Holz, an Austrian hardwood specialist, has deployed Wintersteiger's TRC Panel 2000 to handle furniture panel repairs fully automatically on both sides and with large panel dimensions. The new TRC system can lift weights of up to 150kg, making panel handling easier while freeing up personnel resources for other tasks. The system repairs 60,000m² per year, primarily oak.

The TRC Panel 2000 was developed for Wibeba-Holz with a little detour. Wolfgang Sunk, CEO of Wibeba-Holz, explained: "When looking for a way to automate our repair processes, I came across Wintersteiger. Originally, the scanner could not scan panel widths of 1,300mm, so at first, we pursued a semi-automatic solution. Throughout our cooperation, Wintersteiger was able to develop a solution for these panel dimensions. The new system is perfectly tailored to our requirements."

Despite the panel size — with lengths up to 3m and widths up to 1.25m — the TRC Panel 2000 is a compact system. It features a turning unit and repairs the panels on both sides: After scanning and repairing the front, the vacuum gripper turns the panel 180° to process the back.

REPAIRS WITH TWO INJECTION HEADS

With the TRC Panel 2000, the repair process starts with the panel being scanned. The scanner scans the entire panel in one sweep. As soon as it is finished, it sends the data to the two

injection heads and the defects are repaired in a high-pressure injection process. Only the volume calculated by the scanner is filled into the crack or knothole; the surrounding grains of the wood are not processed. Once the front of the panel is completed, the turning unit turns the panel 180° and the back undergoes the same process.

To a limited extent, the TRC Panel 2000 can also repair fully penetrating defects such as knotholes. The repairs can be made in various material colours. It is possible to carry out remote maintenance of the TRC system via the Internet.



The TRC Panel 2000

QUICKLY AND PRECISELY

Wintersteiger developed the "Faulty Spot Eye" defect scanner, especially for wood surface repairs. In contrast to conventional scanners, the dimensions are calculated based on height differences in a laser triangulation process. This involves the use of algorithms and filters developed by the company.

This specialty makes the scanner unique because the evaluation is not based on database comparisons with samples: All defects are calculated for each panel from scratch, with the "Faulty Spot Eye" working quickly and precisely for optimal

results. It detects defects from a size of 0.5mm, such as knothole diameter and cracks width, and the scanner works at a speed of approximately 680mm/s. Additionally, the scanner can be used for quality checks, with a final scan performed after the repair process.

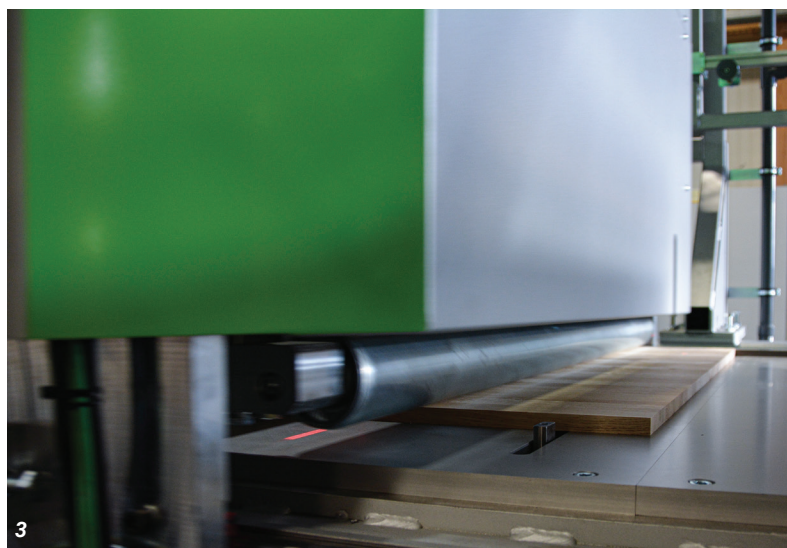
The interplay between scanner technology, high-pressure injection, and temperature regulation of the filling material for optimal flow behaviour ensures optimal panel repairs. Applicable for furniture panels, solid wood boards, and multilayer boards, the system can also take care of the transport and handling of panels weighing up to 135kg, with a stacked weight of up to 2,000kg.

HIGHER QUALITY, LESS FILLING MATERIAL

When asked what the main benefits of the new system were, Sunk answered: “The accuracy of the scanner, which is the defect detection, and the quality of the repairs are both excellent. The system works around the clock with unwavering precision, which means the quality always remains constant. The TRC system works fully automatically, and we were able to reshuffle our work processes. We used to have 2-3 employees assigned to filling.”

Besides saving personnel resources, filling material savings are another bonus. Sunk estimates that at least “50% too much filling material was applied” previously with regards to material wastage. With the TRC system, the defect scanner precisely measures the affected area and calculates the amount of filling material. This exact volume is then injected into the defect at high pressure and high precision.

The high standard of quality is one of the constants in the success of Wibeba-Holz, alongside availability and the ability to deliver. “Customers must be able to rely on a company long term, and we prove that every day,” concluded Sunk about his view on the future of the wood processing industry. **P**



Legend

- 1 (From left) Andreas Gruber, software developer at VAP-Wintersteiger, and Wolfgang Sunk, CEO of Wibeba-Holz, with the TRC Panel 2000
- 2 Defects from a size of 0.5mm, such as knothole diameter and crack width, can be filled in a material-saving way primarily oak
- 3 The scanner scans the entire panel in one sweep