

German fire door manufacturer selects Sigmavision's online thickness and width measurements system

German fire door manufacturer, Schörghuber Spezialtüren GmbH, recently selected Sigmavision Ltd to supply several laser sensor systems for online thickness and width measurement of fire doors. This is to achieve greater control and consistency of manufacturing tolerances that are essential for fire doors.

The solid wood and laminated doors, produced at Schörghuber's manufacturing site in Ampfing, Germany, required specific measurement solutions to be integrated into new machining and lacquering lines supplied by integrators Robert Bürkle GmbH, IMA GmbH and Bargstedt Handlingsysteme GmbH. Particular problems to be solved were to the large size range of doors and varying colours and surface conditions. Sigmavision was able to provide online thickness and width solutions by configuring its flexible STMS-D system according to the client's needs.

The thickness measurement systems supplied consist of a pair of SLS5000 laser sensors positioned above and below the line in order to measure thickness in a differential mode. A similar configuration is used to measure door width where SLS6000 sensors, with a greater measurement range, are located on each side of the line in order to measure doors with a width variation of >800mm. A junction box is located close to each pair of sensors that houses data acquisition hardware and allows calculated thickness or width results to be sent directly by Ethernet or RS485 over long distances to a main control cabinet. In all cases compressed air adaptors are used to cope with an extremely dusty environment.



1) *Laser sensor and compressed air adaptor*

Case study
Online door thickness and width



2) Junction box with data acquisition hardware

Unlike many of Sigmavision existing installations where measurements are made on continuous product, the systems at Schörghuber require thickness and width to be measured on discrete products moving at random along conveyors with an irregular spacing between adjacent doors. This required digital I/O communication between the sensor system and the conveyor PLC to initiate measurements and communicate results to accept or reject doors prior to the door passing through to subsequent machining and lacquering operations.

Because all sensors needed to be statically mounted highly advanced, multi position calibration methods have been employed in order to generate measured accuracies of $\pm 0.01\text{mm}$ on thickness and $\pm 0.2\text{mm}$ on width.

The STMS-D System from Sigmavision is one in a range of cost saving, online laser systems for industrial applications including product width, thickness and length measurement, extrusion profiling and a range of tyre manufacturing applications. For more information please contact Dr Andrew Pryce at:

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