

Application note

Dimensional and defect measurement of floor lamellae

The BoardProfiler L measures the profile of each lamellae/board in lineal conveyors. It also detects holes, cracks and other surface defects that you do not want to see in your floors.

System description

LIMAB BoardProfiler L gives a complete description of board's geometry and defects in a lineal floor production process.

The BoardProfiler L uses 1 or 2 ProfiCura 600 sensors for continuous control of thickness, with, wane, conicity, holes, cracks and deformation defects on any kind of wood based material. It measures board widths up to 600 mm and speeds up to 400 m/min. The BoardProfiler L can easily be mounted in an existing line with low installation costs. Internal system communication is via ethernet, which minimize cabling at installations.

LIMABs newly developed 2-D ProfiCura sensor is the base in the system. The ProfiCura uses the latest digital and optical laser technology with an advanced built-in microprocessor (DSP, Digital Signal Processor) and CMOS-array. This gives the high measuring accuracy that today's wood industry demands.



Measurement method

Non-contact synchronized measurement by the ProfiCura 600 sensor. The encoder gives a signal to the PC which informs about the board's position. On the PC screen the board's complete profile will be shown. The profile updates for every new board. The products ID and data will be logged in an Excel file.



Benefits

All boards will be measured and classified according to; thickness, width, wane, cup, conicity, holes, open cracks and deformation. Laser detects geometrical defects better than a camera system. A 2D system detects the whole width of the board, in

X and Y angle. Competitive price due to few components and easy installation compared to a camera system. All board data are saved and can be printed on the BoardProfiler Report or on an Excel file.

Low maintenance cost due to non-contact measurement and high reliability because the system is unaffected by surrounded light and level of moisture in the wood.

References

The LIMAB BoardProfiler has successfully been installed in more than 120 plants all over the world. At Tenwood in Finland the system detects wane, cup and thickness. The boards are then sorted and turned correctly according to the operator's rules.