LIMAB®
CONTROL BY MEASUREMENT

Application note
Pallet production

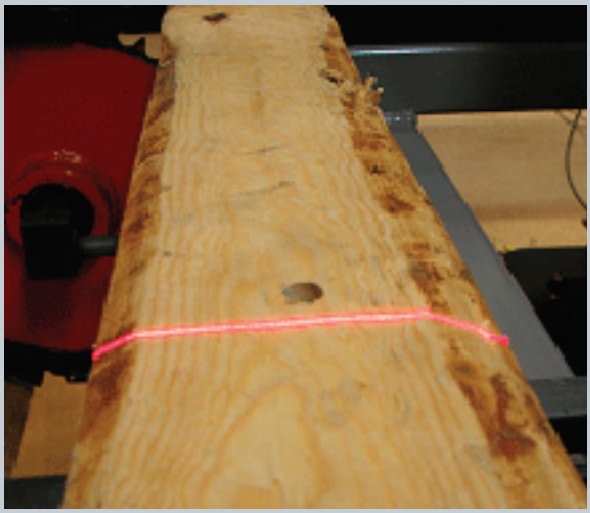
The BoardProfiler L measures the profile of each board in lineal conveyors. It also detects holes, cracks and other surface defects that you do not want to see in your floors.

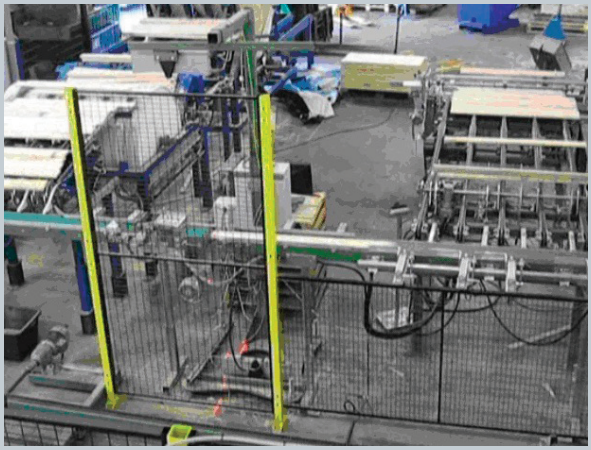
System description

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

Normally there are 1 – 3 people handle destacking, classifying, turning and control of boards before the nailing machine. Now it is possible to use only one small system for the whole control of this process. The system can be used for board's width 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 installation costs.

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

BoardProfiler L keep full control of destacking process. All boards will be classified according to; thickness, width, wane, holes, open cracks and deformation. The system gives turning signal for cup with bigger arrow height than 0,1 mm. 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 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. 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.

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