

FIBERVIEW: Inline Fibre Inspection to Optimise the Energy Consumption and to Guarantee the Fibre Quality during MDF Production

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It is sufficiently well-known that the distribution of fibre sizes in the MDF production has a significant influence on both panel quality and production costs. To reliably determine this influence, there is now a method that scans the fibre mat during the running production using a line-scan camera. The innovation is the continuous analysis by means of precise measurements of the MDF fibres by image processing software.

The idea is to classify surface features and record the percentage of unwished components, such as fibre bundles (so-called shives). It is only certain geometric objects on the surface or within the mat that play a critical role in the production of MDF panels for different applications. It is necessary to detect them and then prevent them by giving feedback to the refiner.

The operator obtains trends for the number, distribution and form of the shives for each size class per square foot of the mat surface.

These trends allow conclusions to be drawn about the later processability of the panels, such as direct lacquering. Furthermore, they give information on the optimum energy consumption of the refining process. Thus, an unnecessarily high energy consumption by the refiner as well as the production of rejects can be detected at an early stage.