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GreCon

Inline Monitoring
of the
Density Profile

GreCon
Measuring
Technology

GreCon
Fire
Protection



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TEMSOL

STENOGRAPH



Your Benefit



- Continuous inline monitoring of the density profile
- Reduction of material consumption (wood and glue) by optimising the raw density profile
- Reduction of run-in times (start-ups and product changes)
- Production optimisation

Immediate and Reliable Inline Measurement of the Raw Density Profile

Influence the features of wood based panels with the GreCon Inline Raw Density Measuring System.

For MDF boards, the raw density profile has a decisive influence on the panel quality. For the economic production of wood based panels, this parameter is essential and needs to be monitored and optimised.

Why GreCon



- Suitable for thick panels
- Upgrade of existing systems with new technology possible
- Continuous development of new software and hardware

Inline raw density measurement in MDF industry

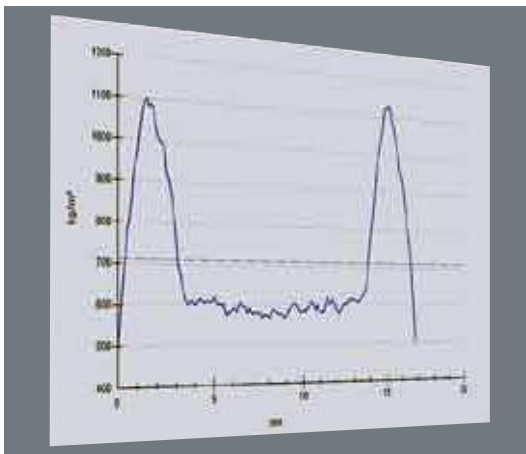


Increasing Productivity

Due to non-optimal raw density profiles, wood based panels are often manufactured with a higher raw density than is needed. Experience shows that when average raw density is optimised, raw material is reduced by 2.5 % or more by using the STENOGRAPH.

When switching from one product type to another, a certain "running-in" time is necessary for new product parameters. With the STENOGRAPH, the specified parameters are achieved within a much shorter period of time. In a typical MDF production plant, the costs of substandard products from product switch over were reduced by 33 % using the STENOGRAPH system. Minimisation of the specific press time while the capacity is increased is possible.

Representation of a raw density profile



Measuring Principle

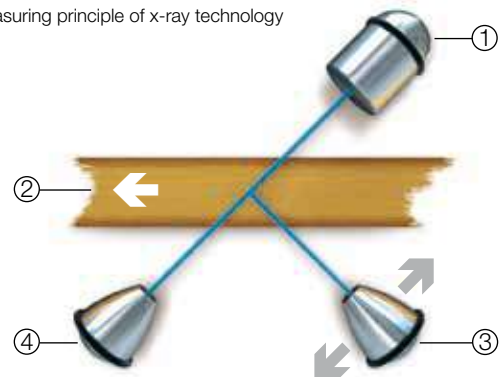
The STENOGRAPH works in a non-contact way. A narrowly focused x-ray beam penetrates the moving panel at an angle of 45° and is measured in two positions:

A stationary detector records the transmitted radiation, and a scanning detector system records the scattered radiation. By combining both density-dependent values, the density of any part of the panel cross section is calculated.

Installation Location

The measuring position can be freely selected across the entire panel width, but is fixed for measurement. The installation place is at the outfeed of a continuous press, generally the density profile is determined before or immediately after the cross cut saw.

Measuring principle of x-ray technology





Software Functions

The visualisation software of all GreCon systems is based on Windows.

■ Network Connection

For the data transmission to higher-ranking process control systems, OPC network connections with different protocols (S7, H1, Modbus, CLX) are available.

■ Visualisation

The core of the software package is the visualisation software. It records all measured values and processes them graphically. The simple menu structure makes intuitive operation possible.

Clear information and graphics enable the operator to quickly and effectively adjust the running production process. Using a waterfall graphic (optional), it is possible to represent the last six raw density profiles in order to monitor the development of the raw density profile during production start-up and the running production process. Standard profiles are faded in so that deviations from the rated value can be easily recognised.

■ Recipe Management

This is a product database in which different panel types and production parameters are stored.

■ Database

The database stores the measured values and provides a function to export them to other file formats for additional processing and evaluation. A uniform data structure provides easily accessible data for process control systems.

Service

GreCon measuring systems are equipped with GreCon online support SATELLITE. This provides safe, simple and fast remote support when there is trouble or to check the system. Each online support is logged and stored in the system's history.

Technical Specifications

- Supply voltage..... 230 V / 115 V
- Frequency 50 Hz / 60 Hz
- Power consumption approx. 5 kVA
- Compressed air supply..... 6 bar
- Panel thicknesses..... 6 up to 42 mm
- Measuring velocity..... 0.1 to 2 mm/s
0.004 to 0.079 inch/s

Calibration

The STENOGRAPH is equipped with a calibration check. Calibration is done outside the material flow.