

EFFICIENT PRODUCTION LINES FOR HIGH QUALITY INSULATION BOARD

Growing market for ecological insulation materials

The market for insulation materials is continuously growing. Reduction of energy consumption offers the overall most important potential for reduction of costs and emission of Carbondioxyde. Insulation of buildings based on ecologically produced wood materials has gained growing interest and importance worldwide. Dieffenbacher has developed a unique concept for the production of rigid or flexible wood fiber insulation boards.

Insulation materials made from wood fibers are preferred materials because of their excellent characteristics like heat conduction and high heat storage capacity, as well as diffusion permeability and moisture balancing capacity.



Insulation boards

Advantages of the Dieffenbacher production method:

- New ecologically friendly dry process on the basis of increased requirements, more strict legislation for building insulation and development of more efficient binders
- Potential to produce 250 mm thick boards and to achieve a density range from 35–250 kg/m³
- Up to 1400 m³ insulation board can be produced per day requiring max. 6,5t/h (oven dry) wood chips as raw material

DIEFFENBACHER

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CSS System

The new dry process is based on the known MDF production by using a special blending technology and the unique curing system "CSS".

The important process steps are as follows:

- 1) Fiber production from chips in a pressurized refiner
- 2) Fiber drying in a flash dryer
- 3) Blending of
 - Dry fibers with MDI/PMDI (rigid insulation board) or
 - Bonding-thermoplastic fibers mixed with wood fibers (flexible insulation board)Uniform blending is a most important process step with distinct influence on resin consumption and on the final board properties
- 4) Forming machine with integrated high efficiency dissolving rolls
- 5) Forming belt with fiber mat densification and lateral mat trimming
- 6) Calibration and curing in the "CSS" system. Steam injection is activating the MDI resin or the bonding-thermoplastic fibers in the specially designed curing machine "CSS". Special control loops ensure a homogeneous density profile and excellent physical properties of the insulation board as well as a minimized raw material consumption
- 7) Raw board handling with cut to size and profiling of insulation board



Benefits of the insulation boards produced with the new technology:

- Heat conduction capacity of 0,031 W/m*K
- Pressure resistance (referring to 10 % compaction) of more than 160 kPa
- Possibility to add hydrophobizing substances or flame retardants
- Usage in special approved design concepts for the fire resistance classes F30 – F90
- Improved living comfort based on moisture balancing

The advantages of the the new Dieffenbacher wood fiber insulation board will lead to an important growth of this product.

... please contact us for further information

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