

HOMANIT Polska, Karlino

A Dieffenbacher High Capacity MDF-/HDF Thin board line

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DIEFFENBACHER

HOMANIT - A pioneer in thin board production

The German HOMANIT group is a pioneer in thin board production. In 1943 already HOMANIT has begun production of thin hard board on a small scale line using the “wet process” technology. Production on industrial scale started in 1949 with a second, bigger hard board line. By offering high quality thin hardboard HOMANIT entered in to a number of fast developing markets such as the furniture-, flooring- and automotive industry.

Since 1990 HOMANIT was forced by economic and environmental issues to look for other options than the expensive and environment unfriendly “wet process” for the production of thin boards. In 1991 finally the first HOMANIT thin board line using the new sophisticated “dry process” technology was started up with a capacity of approx. 100.000 m³ per year of thin MDF- and HDF panels. A second production line, designed for approx. 140.000 m³ per year followed in 1995 in order to adequately being able to respond to the requirements of the considerably grown customer base.



New standard in THDF line with Dieffenbacher

A further THDF (thin high density fibreboard) line with an annual capacity of approx. 250.000 m³ has been built for HOMANIT in the years 1999/2000.

This line, which has been completed under Dieffenbacher`s responsibility in an 18 months period from ground breaking to first board production, produced the first quality panel in October 2000.

This plant, built under Dieffenbacher`s responsibility has at this time already set new standards in technique and technology for the areas of fibre spreading and continuous pressing at high operating speed. The quality thin board produced has found extremely good acceptance in the market from the first day on.

State of the art thinboard line in Karlino

The rapid growth of the markets in the Eastern European countries finally led to the decision of the HOMANIT group to build a new state of the art high capacity thin board line in Karlino, the former location of an old hardboard plant in the North West of Poland.

- Capacity: 240.000m³ per year
- Panel thickness: 2,9mm
- Total thickness: 1,5 - 12mm

The previous excellent experience with Dieffenbacher`s competence, cooperation and reliability has resulted in the decision of HOMANIT to award the Engineering- and Supply Contract for the new line to Dieffenbacher. Contract signing ceremony was on December 21, 2006.

The clearly defined common goal was to design and build a latest state of the art high capacity THDF-line integrating most modern equipment technique and technology.



Specifications

In a very close cooperation between the HOMANIT thin board experts and the team of engineers of Dieffenbacher the detailed technical and technological specifications have been defined .

Based on these definitions the line concept has been developed with special care on advanced detail engineering solutions for the areas of fibre spreading, forming line and hot pressing.

Here are the most important results of this focused engineering development work :

- Effective dissolving technique integrated into the fibre discharge device of the fibre spreading bin avoids discharge of fibre agglomerates and glue lumps
- Special design of the height adjustable fibre spreading head with precise gap control and subsequent gentle and evenly distributed laying of the fibre fleece over the full width of the forming belt
- Area weight control and levelling scalper in closed loop control ensure optimum forming accuracy in longitudinal direction (Deviation $\pm 1\%$) and perpendicular direction ($\pm 2-2,6\%$)
- Continuous prepress with staggered pressure from 300 N/mm in first section to 150 N/mm in last section
- Mat spraying units above and below forming belt for surface sealing
- “Dieffensor” continuous density control for effective protection of steel belts from hidden high density contaminants travelling in the mat

Specifications

- Continuous hot press type CPS, 28 m pressing length, designed for a maximum operating speed of 2000 mm/s and for finished products width dimensions from 1900 mm to 2500 mm.
 - Simultaneous mat contact above and below in the special design in feed zone of the press avoids “blow back” at high operating speed
 - The Dieffenbacher “double hinge” system in the area of the lower heating plate in feed zone offers in conjunction with “Vario” cylinders and a “Multipot” cushion and by the option of perpendicular bending of the lower heating plate right from the first press frame the possibility of setting of the ideal pressing geometry and optimum degassing through the lateral faces of the mat resulting in reduced cure time factors, narrow thickness tolerance ($\pm 0,04$ mm) and lower sanding allowance
 - “Multipot”-arrangement below the lower heating plate over full press length allows flexible adjustment to technological changes and fine tuning of the perpendicular profile of the panel
 - Special design safety devices ensure rapid emergency stop of the press and instantaneous release of pressure to avoid press or steel belt damaging

- Sextuple diagonal saw for cutting a panel length of 2400 mm while running at 2000 mm/s line speed

- Extended length finishing line for board cooling, avoiding expensive speed up, brake down, board doubling and stack building steps (127 m distance from press out feed to first stacking box)

HOMANIT Polska THDF line

The new HOMANIT Polska THDF line produces in continuous 3-shift-operation since June 9, 2008. On September 3, 2008 the contractually agreed production run for 2 mm board has been successfully completed with an operating speed of 1800 mm/s. The major portion of total production is represented by the 3 mm board for direct painting without prior sanding, which is produced, depending on board width dimension, with line speeds of 1225 mm/s to 1400 mm/s.

HOMANIT operates two direct painting lines arranged adjacent to the THDF line.

The modern, high capacity THDF production line is a great achievement, a success story which has become reality because of excellent cooperation between the specialists of HOMANIT group and Dieffenbacher group.

