Coding:	TLBP005
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Technical Leaflet

Manufacturing of EGGER DHF

This document refers to the production of EGGER DHF at our plant in Wismar.

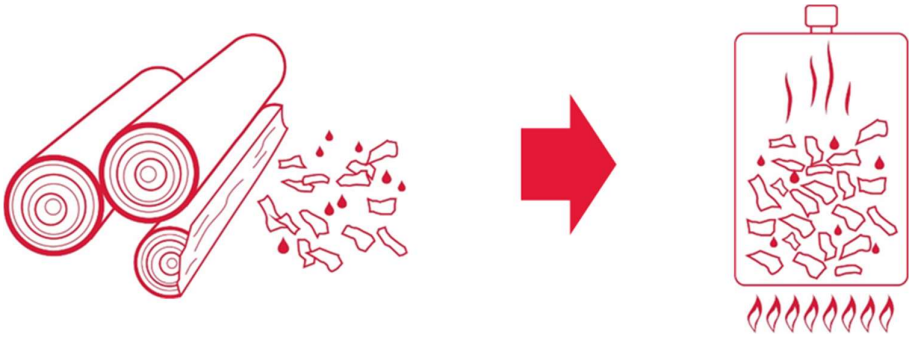
It is intended to enable all interested parties to familiarize themselves with the manufacturing process and gain an insight into the process steps.

Product description

EGGER DHF is a resin-bonded, medium-density, vapour permeable wood fiber board with CE marking according to EN 14964 and EN 13986. Due to the formaldehyde-free gluing and the use of exclusively natural softwood (sawmill by-products), the boards are particularly environmentally friendly and have low-emission.

Manufacturing process

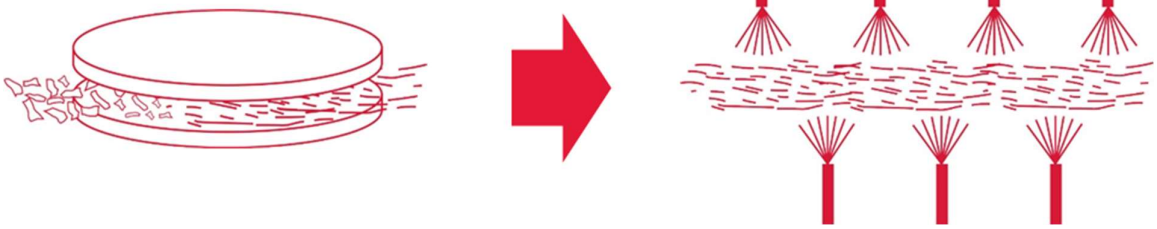
The manufacturing process of the EGGER DHF consists of the production steps listed below.



Step 1: Production wood chips

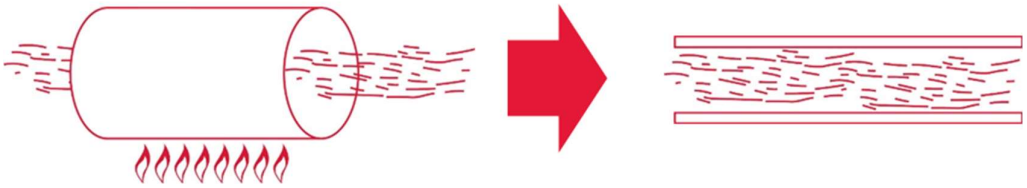
Step 2: Cooker

Note: Step 1 is only used when necessary. For the most part, wood chips and sawdust from the production process of the neighboring sawmill are used for the production of EGGER DHF.



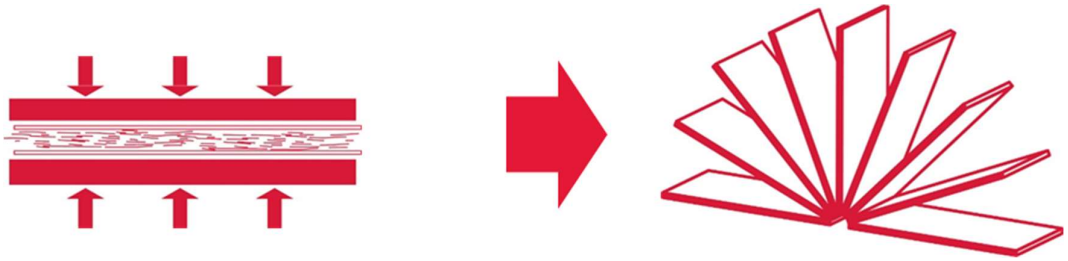
Step 3: Defibering in the refiner

Step 4: Blow line – glue coating of fibres



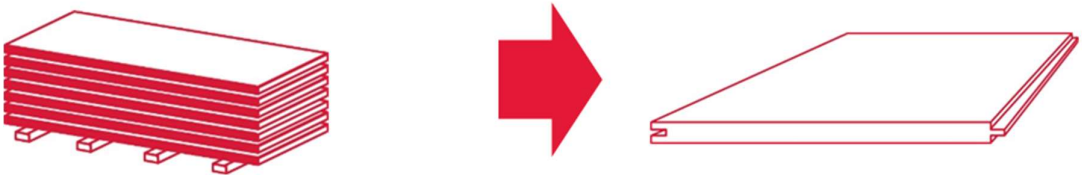
Step 5: Drying of fibres

Step 6: Mat preparation – spreading and prepress



Step 7: Contiroll® hot press

Step 8: Cooling - star cooler



Step 9: Acclimatization - Stacking large stack

Step 10: Finishing - cut-to-size + tongue&groove

Detailed process description

Production of wood chips

The production of EGGER DHF is mainly based on the use of wood chips from spruce and pine. Most of the wood chips used are transported from a neighboring sawmill directly to the production site by means of a transport line. If required, there is a drum chipper that can produce wood chips from fresh logs. The wood chips now enter wet chip silos via a push floor. These silos serve as buffer storage to ensure a continuous supply to the production facilities.

Cooker

After the chips have been temporarily stored in the silos, they enter a cooker via various conveyors. Between the cooker and the silos there are several vibrating screens, electromagnets and other conveying equipment to filter out metals and to perform sizing of the wood chips. Now that the cleaned chips have entered the cooker, they are “soft-cooked” under the influence of heat.

Refiner

The soft-boiled chips are fed directly from the cooker into a refiner, where two grinding disks break them down into their individual fibers. The chips are "pressed" into the refiner by a plug screw and transported from the inside to the outside by pressure and speed of the grinding discs, thereby "pulverizing" them.

Blow line

The refiner passes directly into the blowline. The blowline is a tube in which the fibers are "shot through" at high speed. Pressure nozzles are installed at various points in this blowline, through which glue, water and other possible additives can be sprayed onto the fibers.

Dryer

From the blowline, the finished glued fibers pass into a fiber dryer, which operates on the principle of a stream tube dryer. In this dryer, the fibers are dried down from approx. 100% to 10% residual moisture. From there, the fibers are conveyed via belt weighers and sifters into a fiber bunker. Like the silos, this bunker serves as a buffer store to ensure a continuous supply to the press.

Mat preparation

From the fiber bunkers, the fibers are fed to the scattering machines. These scatter the fibers onto the conveyor belt and produce a so-called fiber cake. This cake then passes through a cold pre-press, which pre-compresses the fiber cake so that the first air can be pressed out of the fibers and the spaces in-between.

Press

After the pre-compressed fiber cake is again screened for metal and the basis weight is checked, the cake enters the Contiroll® press. There it is reduced in size by about 6 times from its original thickness. This is done under the influence of pressure and temperature, so that the binder reacts and hardens at the same time as compaction takes place. Immediately upon leaving the press, the side edges of the finished board are trimmed and the boards are cut to the master board size with a diagonal saw.

Cooling

The temperature of the boards after the press is about 100 °C. To avoid the risk of spontaneous combustion, each board must be cooled down to about 40 °C before stacking. This is done with the help of the "star coolers", which swing each plate back and forth in a semicircle, lowering the temperature and greatly reducing the load on the board.

Acclimatization

Once the boards are cooled down, they are stacked in large piles and sent to the semi-finished product warehouse for conditioning. The plates are conditioned for a minimum of 48 hours to relieve stresses in the boards. This time is required by the mill's quality department to assess product testing to the appropriate specification standards.

Finishing

Once laboratory testing (FPC) is complete, the boards are released for further finishing, which includes cutting the unsanded boards and milling the tongue and groove.

Finally, each board is marked with trade name, technical class, CE mark, formulation no. and production code for traceability.

Boards are removed at regular intervals to check dimensional tolerances and visual appearance. The boards are stacked in packages, covered with cardboard at each side and strapped with underlays. The packages are labeled with the necessary information and prepared for shipment in the warehouse.

General Notes

All documents can be found at www.egger.com. For further information please contact our hotline.

Additional documents

CE Declaration of Performance DOP-506 for EGGER DHF

TLBP001 Transport and Handling Instructions

TLBP002 Storage Instructions

TLBP130 Installation and Usage Guideline for EGGER DHF

TLBP132 DHF special – Use of EGGER DHF on the roof

For questions please contact:

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