

## MHM TECHNOLOGY

MHM® is a solid wood wall element that does not contain any films, glues, or chemicals, allowing for natural heat and moisture exchange to maintain a self-regulating indoor climate. The structure is very strong and durable, thanks to a simple yet ingenious solution. Cross-layered solid wood wall is produced with a special machine.

### Tehnology

Massiv-Holz-Mauer® is made from high-quality softwood boards is produced by layering profiled boards on a substrate and connecting them using aluminum nails. CNC processing is used to create door and window openings in the semi-finished wall elements, and high-precision computer cutting is employed to make all necessary holes, grooves, and cutouts for heating, sanitary equipment, electrical plugs, and other devices.

MHM® offers more architectural possibilities than a log house, while maintaining a similar indoor climate.



### Why choose MHM technology?

- ✓ Natural living – without glue and chemicals
- ✓ Healthy interior climate for generations to come
- ✓ Tailored to your family
- ✓ Ecological and cozy – from basement ceiling to roof

CONTACTS

## Production process

### The production process is divided into three parts:

Grooving the individual boards, producing the individual wall plates and the so-called joint, which means the final finishing of the wall plate into a ready-to-install element that is accurate to the millimeter.



### Step - 1

The dried boards are grooved which later forms a standing layer of air in the finished wall and consequently results in a better insulation value than with pure solid wood. Side-cuttings, which are left over from beam manufacturing form the basic material. The remarkable thing is that what used to be treated as a left-over now has its own value because this side-cutting is the raw material for the MHM® wall. Therefore, this is genuine "upcycling".



### Step - 2

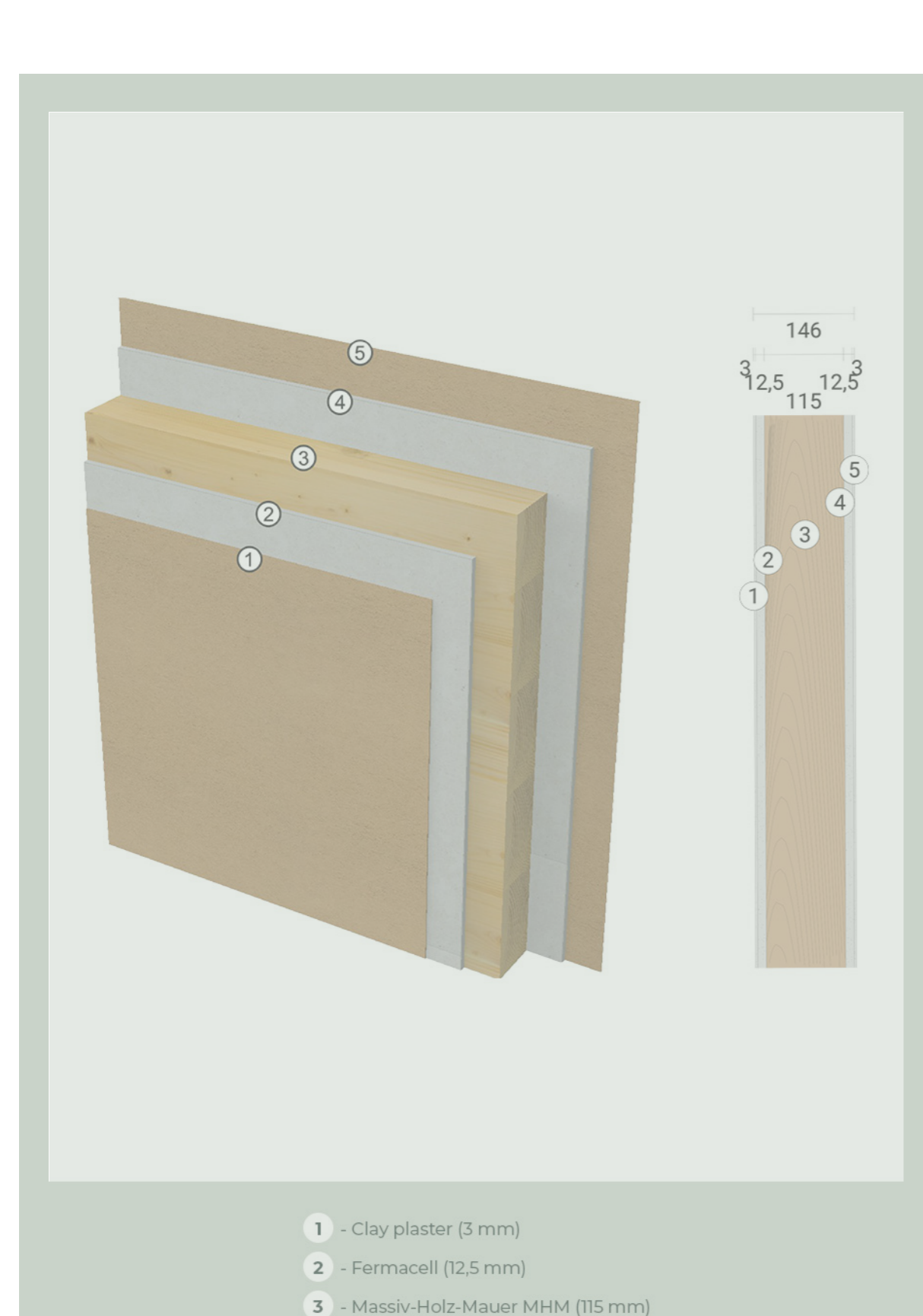
The "wallmaster" produces raw wall elements from the profiled boards varying in size from 2 m x 2 m to 3.25 m x 6 m and in thicknesses of 11.5 cm to 34 cm, into which the boards are pressed cross-wise (lengthwise and crosswise) and connected with aluminum groove pins layer by layer. This ensures the highest possible degree of stability.



### Step - 3

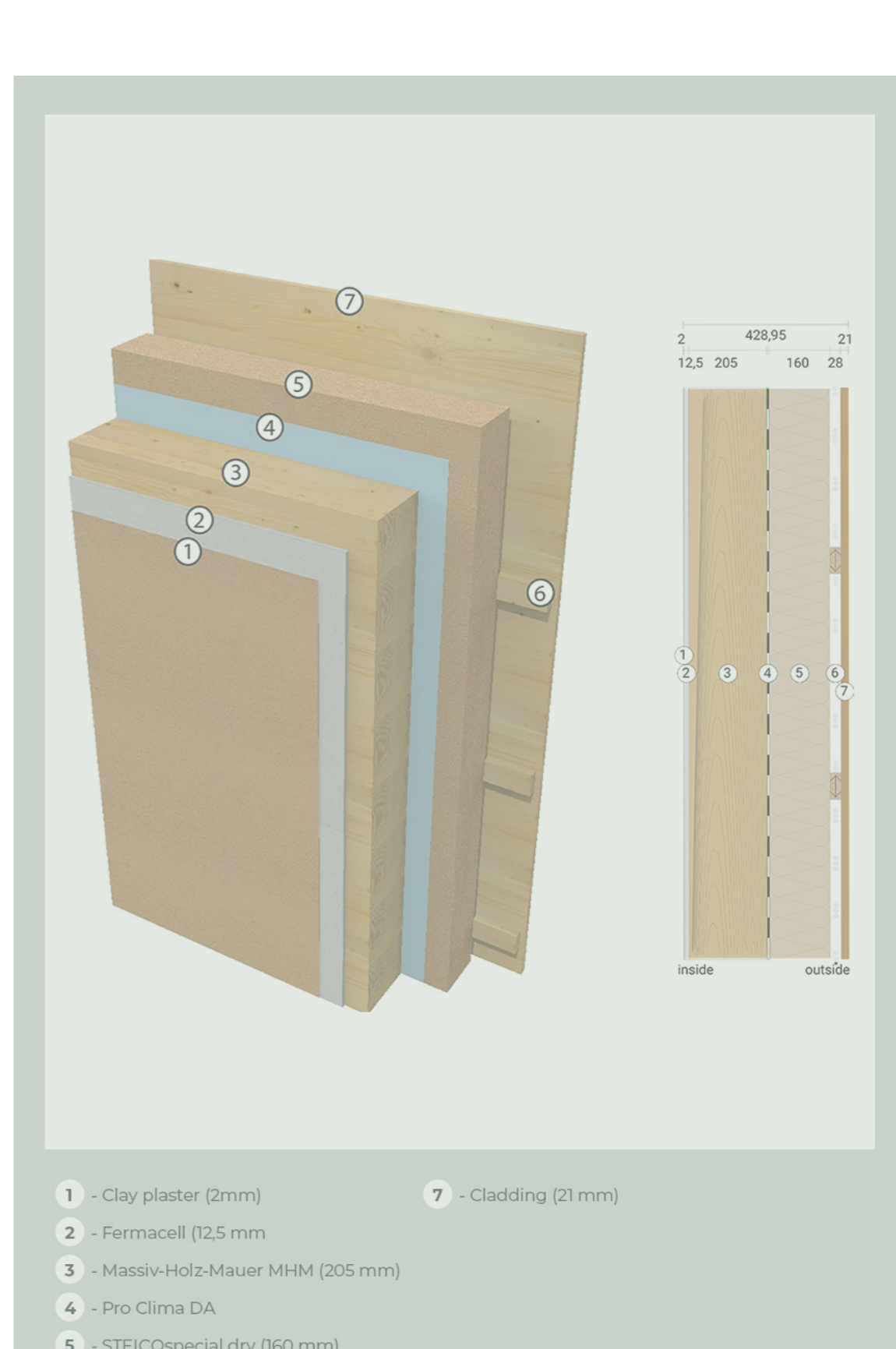
The raw wall element is moved to the CNC panel cutting machine standing in line, where the element is formatted in a third stage and the necessary door and window openings are cut. There is no more than +/- 2 mm tolerance. The drill holes for lifting slings, slots and recesses for heating and sanitary facilities, as well as electrical sockets and other installation preparations are milled into the element by computer-controlled tools.

## Walls



### Internal walls

In the Internal walls we use also only MHM construction. To add strength, stability and naturality we use Gypsum fiberboard, which is one of the factors in ensuring a healthy indoor climate. For even better indoor climate we suggest to use clay or lime products. On and lime products are sustainable building materials with a small ecological footprint.



### External wall

For external wall we have made a recommended layers for construction. This way the MHM and materials work together for healthy indoor climate. External walls must protect you from cold, sun and rain. All selected materials work together to provide you a tough and stable home. These materials are free of chemicals and adhesive.

## Characteristics Of The MHM® Construction Material

### • Characteristics Of The MHM® Construction Material

Massiv-Holz-Mauer® walls consist of untreated wood. The boards are joined together by aluminum groove pins, the resilience of which ensures extremely stable and strong wall elements. Thus, the MHM® doesn't require any glue as an adhesive agent. Due to this permeable construction method and the intrinsic properties of wood, absolutely no vapor brakes are required for MHM® walls. On the interior, no chemical wood protectors are generally required in timber construction because the drying process makes the wood dimensionally stable and resistant to parasites. On the exterior, constructive wood protective measures reduce the use of wood protection agents to a minimum. Once fitted with insulating elements, the façade of MHM® houses can simply be plastered.

### • High degree of fire retardancy

While construction materials such as brick, steel and concrete are actually classed as REI-30, official fire measurements confirm that MHM® are actually classed as REI-90. Wood has a further advantage: Due to the material's low thermal conductivity, heat does not reach neighbouring rooms so quickly. Fires can only spread slowly whilst remaining controllable.

### • Remarkable heat storage, low thermal conductivity

The solid construction of Massiv-Holz-Mauer® walls and the consequent mass forms a much larger heat store than in other construction systems. The thermal conductivity of wood is so low that the surface warms up quickly. When the indoor temperature drops, e.g. during the night, the high retention capacity means that only the indoor air and not the walls needs to be heated the following day.

### • Insulation value

The MHM® wall stands out on account of its remarkable insulation value. This is caused by MHM's unique construction method: The boards are given rabbet joints and are profiled with many small grooves which form an air cushion. These standing layers of air give the MHM® wall elements insulation values which are roughly 30% better than with pure solid wood.