



## Verlegung

■ INSTALLATION

■ POSA

■ POSE

■ COLOCACIÓN

# FOREWORD

mafi : walk on art

For us, genuine natural wood floors are a kind of walkable artwork.

The art form arises from nature and its uniqueness on the one hand, but also the orchestration within room spaces.

The latter requires professionals with a sense of aesthetics and a feel for the material wood.

Our floors are only as good as their installation. This requires specialist knowledge, experience and the right eye. In our installation instructions, we will give a quick overview of the decisive factors for the ideal installation of mafi natural wood floors.

We cover topics such as surface preparation, installation and the process of re-oiling. With this we want to help simplify the work and enable optimum installation.



“In the end, it is the professionals who significantly affect the satisfaction of our customers.

We would like to thank you for this and hope to offer you a good service with this guide.”

Friedrich Fillafer,  
CEO mafi Naturholzboden GmbH

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## GENERAL INFORMATION ON UNDERFLOORS

mafi natural wood floors can be easily installed on the following surfaces:

- Screed / heated screed - cement / anhydrite screed
- Plywood / chipboards / OSB boards
- Supporting structure / pressure-resistant insulation boards
- Flooring beams / load-bearing laths / battens

Depending on the underfloor, mafi natural wood floors can be installed floated, nailed / screwed, or fully / partially glued down.

Planks with a thickness of  $\leq 14$  mm and Domino floors must be bonded to the underfloor.

**Caution:** The manufacturer's information must be observed in respect of any primers or moisture barriers, exact use or other preventative measures.

### Installer's inspection requirements:

1. Inspection of the underfloor for its standard compliance (e.g. scratch test, hammer blow test, or similar standard testing procedures in the country) before the installation.
2. Measurement of dryness of the screed (using CM measuring) before the installation.

Maximum values:

	Cement screed floor unheated	Cement screed floor heated	Anhydrite screed floor unheated	Anhydrite screed floor heated
Max Moisture [CM - %]	$\leq 2,0$	$\leq 1,8$	$\leq 0,5$	$\leq 0,3$

Country specific variations possible. Generally, the guidelines given by the manufacturer must be complied with.

## ADDITIONAL INFO FOR INSTALLATION ON HEATED UNDERFLOORS

The screed must be heated prior to the start of each installation (even in summer).

This also applies to renovations in old buildings, when installed on old screed, and where other flooring types have already been installed.

Before installation, a heating protocol performed by the plumber / screed technician is to be requested to ensure the correct installation.

For the installation a screed surface temperature of approx. 15 - 18°C (59 - 64,4°F) is necessary.

Upon completion of the installation, this temperature should not be modified (depending on the curing time of the adhesive) for three to four days.

Only standardised commercially available, permanently elastic adhesives and primers, as designated by the manufacturer as “suitable for underfloor heating”, may be used on the installed screed on-site.

To control the surface temperature, a heat seal, Fidbox or similar is recommended in an exposed area to allow for documentation of the values.

This serves not only for the end-customer service but also assists in the event of any complaints. Only gradually heat up during initial start-up and commissioning at the beginning of each heating period.

Due to the technological properties of the natural product wood and the room climate conditions during the heating period, gaps (in the mm range) cannot be ruled out.

They generally occur evenly but do not represent a quality defect and must be tolerated.

The gaps should close again under normal room conditions.

## Guidelines for the thermal Resistance of mafi Natural Wood Floors

### Softwood Floors

16 mm	21 mm
0.14 m <sup>2</sup> K/W	0.16 m <sup>2</sup> K/W

### Hardwood Floors

10 mm	16 mm	19 mm
0.07 m <sup>2</sup> K/W	0.12 m <sup>2</sup> K/W	0.15 m <sup>2</sup> K/W

### Please note:

To heat a room the thermal resistance should be not higher than 0.17 m<sup>2</sup> K/W.

Please also consider the insulating underlays (e.g. PU-Cork mats 2 mm = 0.04 m<sup>2</sup> K/W).

A higher thermal resistance does not mean that the heat is lost. It simply needs a little longer before it comes through the wood, but then remains warm for longer.

## PREPARATION FOR INSTALLATION

Store the individual plank packs away from moisture and at a temperature of between 15 and 25°C (59 and 77°F), and open the packs before installation.

A natural product may vary in colour and structure due to the original growth location of the tree.

In order to get a balanced and suitable surface appearance for you, we recommend opening several packs and mixing the planks to achieve a beautiful natural wood mix.



## GENERAL INSTALLATION

The following four installation types can be applied for mafi natural wood floors with 3-layer symmetrical structure.

- Floating installation
- Nailed / screwed installation
- Installation on flooring beams
- Full / Partial bonding (Slot mats)

mafi floors of  $\leq 14$  mm and end-grain floors (Domino must be fully glued down.

### Important for any Installation

The strike via a suitable tapping block has to be carried out only on the tongue and never on the surface layer.



Thus, fine splinters are avoided which would only be seen after the re-oiling or first wiping process.

mafi offers the suitable tapping block, which together with a min. 1 kg heavy hammer provides for an easy installation.

Tapping block

### Aligning the Installation Area

With crooked walls, align the first plank on the length side and cut-out. The expansion gap of 10 mm must be maintained.

### Re-oiling

mafi natural wooden floors are already oiled once in our factory. In order to ensure a perfect surface, the floor must be lightly re-oiled once after installation.



## FLOATING INSTALLATION

With this quick installation method, the planks are glued together using a tongue and groove type.

The floating installation is the most ecological installation method for mafi floors.

### Underlay Mats

As underlay we recommend a Cork underfloor (2 or 4 mm) or a sheep wool insulation mat (3.5 mm).

If a special sound dampening is necessary, we suggest a PU mat. This is characterised by a low heat resistance (0.04 m<sup>2</sup> K/W) and is therefore ideal also for installation on underfloor heating.

### Gluing

The glue is applied evenly to the upper groove edge with the use of a glue injection or glue bottle, along the length and face sides.

**NAILED / SCREWED INSTALLATION**

Appropriate nails and screws must be used for the installation, such as plank screws. These are set at an angle of 45° to the top inner edge of the tongue.

**Installation on Flooring Beams**

The thickness of the planks should be at least 19 mm (3/4 in).

The distance between the flooring beams should not exceed 40 cm (1.5 ft).

With shortened planks under 1.5 m (5 ft) we recommend using an additional supporting structure.

## FULL / PARTIAL SURFACE GLUING

Bonded installations are especially recommended in the following application areas:

- In commercial Areas
- With heated Screed (to get the lowest possible thermal resistance)
- In difficult Installations (connections to tiles, stoves, etc.)
- In damp Areas (bathrooms, spas, etc.)

### Adhesives and Coatings

For bonding, elastic adhesives with EC1 – certification are recommended to prevent harmful emissions.

For difficult underfloors like old screed or with low adhesive properties, it is advisable to apply a primer prior to the glue.

A suitable product such as Sika® Primer or equivalent products matched to the appropriate adhesive. The drying time according to the manufacturer's instructions is to be observed. By applying twice, some of these products are also suitable for a capillary moisture barrier (up to 5% moisture).

### Installation

The underfloor must be free of any dust before applying the glue. The adhesive is applied using a suitable toothed trowel on the underfloor.

As per each adhesive use the correct trowel (TKB-Standard):

- mafi Planks: B5 / B11 / B13
- mafi Piccolino: B3
- mafi Domino: B2 / B3

(Note the Domino installation instructions on Page 39)

## PLANK INSTALLATION

The planks must be evenly interlaced with the adhesive bed. It is therefore necessary to ensure a uniform application of adhesive and a clean processing.

Adhesive stains and leftovers should be promptly removed by means of cleaning cloths (e. g. RT 5960 in the mafi pricelist).

Expansion gaps in the screed must also be applied when installing the planks. These should be closed with permanently elastic, colour matched Parquet filler.

An additional gluing of tongue and groove is not required (risk of block cracks).

Expansion gaps in the screed can be bridged with a decoupling fleece in the adhesive bed.

### IMPORTANT NOTES FOR INSTALLATION IN BATHROOMS

For damp areas (Bath / Spa), a pre-coating relevant to the adhesive is necessary. The application instructions of the adhesive manufacturer are to be strictly followed.

It is necessary to thoroughly stick the planks to the under-floor with the use of an elastic adhesive (recommendation e.g. Sika® Bond T54 or similar).

Expansion gaps of min. 5 mm to walls and other material have to be considered, especially when connecting to sanitary ceramics (baths, shower trays etc.).

After installation, a round cord can be inserted into the gaps, the edge of the parquet protected and the gaps securely filled with parquet filler.

Thus, mafi natural wood floors are protected from so called “Moisture Infiltration” from underneath.

## HERRINGBONE / CHEVRON INSTALLATION

All mafi natural wood floors can be laid as herringbone and must be glued or nailed.

The floor for herringbone installation must have 50% of the planks with the tongue on the left side and 50% with the tongue on the right side.

### Preparation for Herringbone Installation

Mark the measured and computed centre of the room with the help of a chalk line and a string cord.

With the help of a pre-cut triangle in the exact size of a Herringbone / Chevron braid, place the first planks exactly to it and firmly glue or nail in place.

Then create the other lines based on the first.

For installing borders to the room walls, mark the exact width of the boarder planks by means of a cord and lay the Herringbone / Chevron over these lines. Then precisely cut with a circular saw and mill in a new groove to connect the boarder planks with the herringbone planks.

## RE-OILING OF MAFI FACTORY OILED FLOORS

Every mafi floor must be re-oiled after installation. Only fully re-oiled floors may be handed over to end-customers.

### Processing

We recommend to reoil the surface 6 hours after installation at the earliest, for full surface adhesion of the floor. The instructions of the adhesive manufacturer should always be observed.

The mafi wood floor oil is applied locally in small amounts on the floor.

The oil is to be distributed immediately using a single-disc polishing machine with a matching white polishing fleece and massaged into the wood.

The polishing machine and the white pad should be placed directly on the spot with the oil and only then activated. This prevents any oil splashes. It is recommended to apply only in small areas, and always in the direction of the planks.

Any remaining oil residues (splash, excess oil etc.) must be removed immediately with a cloth or polished using the fleece.

Edges and hard to reach corners should be re-oiled manually. After polishing the oil in with the white polishing fleece, the entire area should be polished dry with sheep's wool pads. No oil residue should remain on the surface. Any leftover oil will get sticky.

After oiling, the floor can be gently walked on after 24 hours. The final hardening of the oil needs approx. 10 - 14 days - depending on the room temperature, humidity and ventilation.

If the floor should take heavier use after the first 24 hours, it is recommended to cover the floor with a breathable mat. Before the mat can be laid, the surface must be checked to ensure it is dry.

During this time, the floor may not come into contact with water or be treated with other cleaning agents – risk of stains.

**Coverage per 1 Litre mafi Wood Floor Oil:**

approx. 60 – 90 m<sup>2</sup> depending on absorption rate of the wood. With Vulcano floors, the demand may be higher. With raw floors, the demand may be twice as high.

## IMPORTANT INFORMATION

Soak cloths and pads in water and dispose of them appropriately –  
**BEWARE OF SELF-IGNITION DANGER!!**



- Should the oil become sticky during the processing time, so that an optimum polishing is no longer possible, new oil must be thinly applied immediately and rubbed in with the white pad. Then, the floor is immediately polished dry again.
- **Caution:** wood floor oil white and wood floor oil grey should be processed quickly and on small areas to avoid transitions. Working in the direction of the planks leads to a smooth surface.
- We recommend re-polishing grey oiled floors after installation with mafi Balsam Oil Floor Care natural.
- The floor should be shaded from strong sunlight, as well as warm temperatures. Otherwise, the oil cannot evenly cure due to the high surface temperatures.
- The rooms should be aired sufficiently.
- The recommended floor, room and product temperature during processing is 18 - 25 °C (64 - 77 °F).
- After re-oiling, slight discolouration may occur.

## Oiling by Hand or Orbital Sanders

The finishing should be done similar as with the single-disc polishing machine – however this should still be done on small areas.

Edges and difficult areas can also be oiled in this way.

mafi Wood Floor Oil



## Correct Care

For optimum cleaning and care of a mafi natural wood floor, exclusively mafi care products must be used. This is important for any warranty issues or warranty claims.

For regular use we recommend the appropriate mafi wood floor soap.

Detailed information on the care of mafi natural wood floors can be found in the mafi care instructions, which are delivered with every mafi floor and on [www.mafi.com](http://www.mafi.com).



## DOMINO INSTALLATION

Only professionals should install Domino floors. We recommend mafi certified or trained installers for the installation of this product.

### Underfloor in Domino Installations

The installation is possible only on standardised and static safe underfloors.

mafi Domino floors must be fully surface bonded.

Inspection of the underfloor for its standard compliance (e.g. scratch test, hammer blow test, or similar standard testing procedures in the country) should be done before installation.

The maximum relative humidity of cement screed may not exceed 2 CM% (with underfloor heating 1.8 CM%).

Additionally, the appropriate adhesive tensile strength (min. 1.2 N/mm<sup>2</sup> - highest stress class) must be noted.

The underfloor may differ by 3 mm maximum in any direction on a length of 2 meters.

A gap plan should be requested from the relevant heating engineer or screed builder (especially for commercial surfaces). The gaps must absolutely be planned along with the installation of the floor.

**Only permanently elastic parquet adhesives may be used.**

### Installation and Joints

The Domino elements must be stored in the room where they are to be installed, for at least two days.

If the 20 x 40 cm large elements are slightly arched, then the net on the bottom of the floor can be cut into several parts. The room should be aligned prior to installation.

In order to achieve a straight run of the elements, several rails should be installed together.

## DOMINO FLOORS

The adhesive is applied evenly on the surface with a toothed spatula (size B2 / B3).

The valid standards are the OENORM B 7218 and EN13892. The individual pieces of wood must sit snugly in the adhesive and be pressed down well into the adhesive.

Areas, that are larger than 5 x 5 metres require an expansion gap of 10 mm. Here the inside of the wood joint is coated with an appropriate primer and then a 13 mm round cord is inserted.

For 9 mm thick Domino elements a 3 mm cellular band is required.

Then the joints are filled with permanently elastic filler material (e.g. Sika® Primer 290 DC or joint compound in the appropriate colour).

**Caution:** expansion gaps must be already taken care of during installation.

### Sanding Domino Floors

Domino floors can be sanded after complete hardening of the adhesive.

We recommend first to grind with a coarser grain diagonally and then with a finer grain in the direction of the light.

Thereafter, any cracks or gaps can be filled with sanding dust and sealing compound.

After hardening of the putty, perform the final sanding with a fine grain, to create a uniform surface effect.

For processing at the edges of the room, we recommend to use a rotary sander.

### Oiled Domino Surfaces

Domino floors should be treated with mafi wood floor oil or mafi Profi oil after the final sanding.

It is necessary to finish a small test area (natural or white)

first as the mafi factory finished samples may have colour variations.

The floor must be vacuumed before oiling. The oil is applied evenly with a short hair roller or spatula – it is advisable to work in small areas. With white oil, special care should be taken for an even pigmentation.

A second application is recommended with the highly absorbing endgrain wood. The second oiling may only be done after 24 hours. The demand of mafi oil for 2 oiling is 4 - 5 litres for approx. 25 m<sup>2</sup> of floor area.

The floor is polished after every oiling with the single-disc machine and a green pad. Finally, the surface is polished dry with a sheep's wool pad.

The floor can be gently walked on 24 hours after oiling. The floor should not come into contact with any liquids for 2 weeks, so that the oil can completely penetrate into the pores and cure.

## Soaped Domino Surfaces

Domino floors can also be treated with a soap treatment after the installation. For this however, the adhesive must be allowed to harden for 3 - 4 days beforehand.

We recommend installing skirting boards after the soap wash.

Mixing ratio: 1 : 3

Mix 1 litre mafi wooden floor soap with  
3 litres of warm water

The soap solution should be applied with a cotton cleaning mop, however not too wet. Please work quickly in edge areas so that no water marks remain.

After drying, the process can be repeated as often as necessary until a deep / velvety surface is achieved. When the floor is dry, it should be polished with a sheep's wool pad. This results in a smoother surface image.

**Attention:** Through the very damp treatment, Domino floors may expand. Therefore, the distance to the walls and gaps should be checked after two days – immediately re-work where necessary.

### Domino Care

mafi Domino floors are to be cleaned and cared only with the mafi wood floor soap.



## TIPS, TRICKS & USEFUL INFORMATION

Every floor is unique! Colour and structure differences are in the nature of the wood. Samples may vary in colour due to the influence of light or the type of care.

### Lyed Floors

The colour shades of the individual planks vary after the lye application through the different resin content of the woods.

By UV irradiation and care with the mafi wood floor soap, the entire surface image evens out approx. 6 months after installation.

### Vulcano Floors

The fine, dark colour of the Vulcano floor is achieved by a special thermo treatment (high-temperature wood drying process) without any chemicals, only with heat and water. Swelling and shrinkage behaviour, as well as internal tensions are reduced and in addition, the resistance to mould and pests increases.

Furthermore, the dimensional stability is also increased. As the floor remains perfectly natural due to the thermo treatment, it is also necessary to shade it from intense UV radiation to reduce the risk of lightening of the floor.

### Glue

mafi only uses PVAc (white glue) for gluing. White glue is made from water, carbon, lime and acetic acid – without solvents which can cause allergies.

Health hazards from white glue are unknown.

**No formaldehydecontaining systems are used at mafi.**

Thus, our floor can be classified in the E1 classification (to OENORM EN 14342).

## Surface options

Factory surface = pre-oiled surface from the factory

Installation surface = professionally re-oiled surface after installation on-site

Samples normally have a factory surface.

## Installer

The installer has to inspect the goods prior to installation for colour and visible defects.

## Surface Temperature

In the winter months it is recommended to reduce the surface temperature before each cleaning of the floor.

The surface temperature of the floor should not exceed 29 °C (84 °F) at any point with a room temperature of 21 °C (70 °F). Where carpets or furnishings are on the wooden floor, formation of gaps must be expected because of the higher surface temperature.

Detailed information can be found in our care instructions.

## Room Climate

The room climate is a decisive factor both for your health and for your natural wood floors.

At a temperature of 21 °C (70 °F) and a relative humidity of 40 - 60% the ideal conditions are reached.

## Lacquered Floors

You have a lacquered floor and would like to sand it and oil it?

More information can be found on our internet site at

[www.mafi.com/en/change](http://www.mafi.com/en/change)

## All mafi floors are tested and certified to E1 Cfl-s1

Emissions Class:

**E1**: Formaldehyde equalisation concentration below 0.1 ppm.

## Fire Performance

Flammability Class:

OENORM EN 13 501-1

Combustibility Classification (fl = floor):

A1fl / A2fl = not combustible

**Bfl / Cfl = poor combustible**

Dfl = normal combustible

Efl / Ffl = easily combustible

Development of Smoke:

**s1 = smoke  $\leq$  750 % min**

s2 = not s1 (> 750 % min)

None of the samples tested causes burning droppings according to the tests carried out (corresponds to d0).

*Testing Institute: OETI, A-1050 Vienna.*

## Areas of Application

you can find for each wood type in our pricelist or online at [www.mafi.com](http://www.mafi.com)

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