

Installation Guide

End Grain Mosaic



HØRNING End Grain Mosaic is made of small solid square blocks just like end grain flooring, which are cut opposite the annual year rings.

As opposed to end grain flooring, our end grain mosaic is available placed in a Square pattern or English pattern on net on delivery, which makes it very easy to install.

The dimensions vary depending on the wood species and the raw material.

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HØRNING End Grain Mosaic is made of solid square blocks, cut opposite the grain structure with annual year rings exposed (cross-cut end of timber). The blocks are normally 10/18 mm in thickness, 23 mm in width and 69 mm in length and glued together on nets of 140x558 mm for residential use. This flooring is always delivered untreated.

The specifications of the blocks depend on the wood species and the client's wishes. They are available in 10 and 18 mm in thickness. The most commonly used thickness is 18 mm for residential and office use etc. as 18 mm is suitable for general humidity and usage levels.

HØRNING End Grain Mosaic is very hardwearing and it is particularly well suited for rooms with heavy traffic. This floor may be sanded many times, as this wooden floor is without tongue and groove. Installation should be carried out by a specialist.

Moreover, it is possible to deliver our workshop and industrial grading where the blocks are typically thicker, wider and longer. In addition, the quality of the wood is more rustic and the moisture content in the wood is higher and acclimatized to the climate in the room.

Depending on the usage and the dimensions of the block, the installation method for workshop and industrial grading may differ from the installation method described in this installation guide. Please contact our technical department before you start installing workshop and industrial grading.

As the surface of the flooring is the end of the wood, it can absorb moisture from the air or for example from floor cleaning. Therefore, direct moisture effects should be avoided.

Receipt of goods and quality control

By the delivery of the material the building must be dry and free of construction humidity, such as bricklaying and painting. Never have the floor delivered until the building is sealed, dry and warm, and the humidity levels are under control. Carry the material inside immediately after delivery, do not leave them outside under any circumstances.

Carry the floor into the room where it is to be installed – and stored before installation. Make sure to carry out a detailed quality check of the flooring as well as of other related materials that you have received before signing the freight note. Any complaints regarding visible defects must be made in writing before the floor is installed and no later than 8 days after receipt. A floor which has been installed has also automatically been approved.

Contractions and expansions

The moisture content in wood floors will always seek to adjust in equal weight with air relative humidity (RH) and temperature. The tree absorbs and releases moisture by changes in the relative humidity. It happens in all the wooden floors, but the movement of wooden floors in form of contractions or expansions (swelling) depends of product type, wood species, thickness and surface treatment.

In practice, it is often necessary to know how much a floor-board or an entire floor contracts or expands. A commonly and internationally used realistic average used wooden floors of oak, douglas, beech, oak, ash, bilinga and walnut, a mean of 2.2 mm contraction or expansion per meter meters can in practice be calculated for each 1% change in the humidity of the wooden floor.

Preparations

The room temperature must be constantly 18-24 °C and the relative humidity should always be 35-65% (R.H.) before, during and after installation. If the humidity is less than 35% (R. H.), there is a risk of cracks and damage to the wooden floors, which is not covered by the warranty.

The building must be closed and heating must have been installed and be in operation. The residual humidity in the concrete floor must not exceed 85% (R. H.).

Any and all work, which may expose the building to humidity must have been finished before you start installing wooden floors, such as bricklaying and painting.

Wooden floors and any possible glue must be acclimatized in the rooms where they are to be installed for a minimum of 48 hours or until the temperature of the floors is the same as the room temperature, which may take more than 48 hours.

Underlying sub-floors

The underlying sub-floor must be dry, firm, level, ready to be glued and thoroughly clean. In order to test the solidity of the underlying sub-floor, you may apply the scratch and pull test. HØRNING recommends that you carry out an adhesive test in the form of a pull test with a minimum solidity of 1.5 MPA.

Use a two-metre straight-edge and check the entire area thoroughly. If you find any unevenness of more than 2 mm, the underlying sub-floor must be primed and filled.

The residual humidity in a concrete underlying sub-floor must not exceed 85% (R. H.).

The underlying sub-floor must be damp proofed and rising or penetrating damp must be prevented. In case of uncertainty or residual humidity in the underlying sub-floor in excess of 85% (R. H.), then a suitable moisture barrier must be applied to the floor. Please follow the manufacturer's instructions.

In the case of fully glued wooden floors, please use 'HØRNING MS Flexlim' or a similar type of adhesive, which meets the requirements, on the underlying sub-floor with a residual humidity of up to 85% (R. H.). Please note that 'HØRNING MS Flexlim' is not a moisture barrier! If you use boards, you may use chip-board or plywood of minimum the same thickness as the wooden floor.

Under-floor heating

Today most under-floor heating systems are of a type, which may be used with wooden floors. The system's supply-pipe must be automatic and it must produce an even

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heat distribution across the entire floor area.

The heating system must be closed down completely at least one week prior to the installation of the wooden floor. The room temperature must be 18-24°C before, during and after installation.

Open the heating system carefully and gradually no earlier than 72 hours after the completion of the installation of the wooden floor in such a manner that the temperature is increased by no more than 3 °C each day.

The floor's surface temperature must **never** exceed 27°C – not even under carpets or furniture. Higher temperatures increase the risk of damage to the wooden floor as a result of shrinkage or expansion movements in the wood and this is not covered by the warranty.

Such wood species as beech, birch, jatoba and wenge may react to under-floor heating with more vigorous movements than other types of wood, which may result in an increased number of cracks both in and between the individual floor components. This is natural and consequently, it is not covered by the warranty.

Distances to walls etc.

Normally the minimum distance between wooden floors and walls, pipes, stairs, permanent fixtures etc. must be at least 20 mm. However, the minimum distance should be at least 1.5 mm per one metre of flooring. Please use distance floor wedges and leave them in until the glue is completely dry.

Wooden floors expand and shrink depending on the climate in the room. In certain instances, it is necessary to use an expansion joint. This applies, for instance, in the following circumstances:

- By doors and permanent walls
- If you are installing a floor covering through several rooms
- In case of climatic deviations across the floor area, for instance, if there is only under-floor heating in parts of the floor area
- If there are expansion gaps in the underlying sub-floor.

Some projects may require an individual specification of distances. Contact HØRNING for further information.

Expansion joints and movement gaps are to be filled with permanently elastic material, such as HØRNING cork expansion strips, joint filler or by using a special profile. Please always follow the manufacturer's instructions.

Direction of installation

Wooden floors are generally installed in the same direction as the light from the windows, i.e. in a vertical line from the windows. In long, narrow rooms the rows must be installed lengthwise. The floor appears more beautiful if the parquet strips are installed symmetrically onto the floor. Consequently, please measure the floor before starting the installation, so that the adjustment pieces by the walls are the same size.

Board floors

Various types of boards may be used, however, they do not

all have the same stability and tensile strength. Two layers are stronger and more stable than only one layer. Plywood is stronger and more stable than chip-board.

The boards must be of at least the same thickness as the wooden floor. Follow the guidelines of the board floor manufacturer.

We advise to use HØRNING MS Flexlim to glue- down our floors

Residual moisture in the concrete subfloor must not exceed 85%. We generally recommended 1 liter/m², and to use a notched trowel no. 6 for the subfloor in a comprehensive manner in order for the glue to act as a moisture brake.

Intrusive glue on the sides of the wood material must be avoided. When installing products with a thickness of less than 22 mm, it may be necessary to reduce the amount of glue to 0.6-0.8 liters/m² to avoid intrusive glue. In this case, we recommended to use a suitable moisture barrier in accordance with the supplier's instructions.

In case of any special country-specific and possibly statutory requirements as well as industry regulations these must be observed by the executor.

Cut short the door frames in order for the parquet to go under them.

It is recommended that you install a guide panel to the underlying sub-floor, which must be installed at right angles to the walls, so that the rows of parquets do not shift in the wet glue while installing the floor.

Mix up the rows of parquets from several bundles in order for your floor to have a harmonious appearance. Then push down the rows of parquets into the wet glue and push them together carefully without any glue appearing between the rows of parquets, as this may result in uneven cracks because the rows of parquets will then be prevented from moving individually. Do not spread glue on too large an area, as you ought to be able to cover the area within approx. 20 minutes. The rows should be installed in staggered joints.

Should you get glue on the surface, please remove the wet glue immediately. Ensure that any and all adhesive is removed from the surface to avoid any subsequent shine from adhesive.

Please ensure at all times that you spread sufficient glue and that the adhesive trowel is vertical. If you use too little glue, the parquets will not stick properly to the sub-floor. Use sandbags on the pressure points/boards (especially along the edges) until the glue is completely dry.

Please do not walk on the floor while the glue is drying. Consequently, please do not use the floor until at least 48 hours after its installation. Remove the distance floor wedges once the glue has dried completely.

Expansion joists should be covered by skirting boards or special profiles.

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Products without tongue and groove it's important that no adhesive gets stuck between the units as this may leave permanent marks on the surface of the wood.

Filler

All unfinished products without tongue and groove should be filled with eg. HØRNING MASTIC E850.

After installation

In the case of fully glued floors or floors, which have been glued in tongue/groove, please do not walk on your new floor for at least 48 hours after installation or until the glue is completely dry.

48 hours after completing the installation of the floor you may remove the distance floor wedges, as the glue should then be completely dry.

When using 'HØRNING MS Flexlim', you must not start sanding any untreated floors until at least 2-4 days after installation depending on the climatic conditions in the room

For the best result, office chair mats should be laid out under office chairs. All chairs and table legs and other items that can scratch or mark marks on the surface should be fitted with felt. Remember to check the felt continuously and replace them if they get worn. Keep in mind that latex-containing pads, mats and black rubber wheels may leave marks on the surface of the wood floor.

Any oiling or lacquering of the floors after installation must be carried out in accordance with the manufacturer's instructions and you have to ensure that the oil or the lacquer is completely dry before the floor is uncovered or before you start walking on it.

May we suggest that you always cover the floor carefully in floor felt or a similarly appropriate material. If any additional building work is carried out in the room after installation and any surface treatment, the floor must be particularly well protected from dirt and pressure marks.

HØRNING always recommends that oiled floors should be re-treated with maintenance oil in order to achieve the best possible result. Oiled floors must not be washed or be subjected to water for at least 14 days after installation or the most recent oil treatment, as the oil dries when it comes into contact with air after installation. Please only use small quantities of water!

Wash lacquered floors with a neutral washing detergent and a firmly wrung cloth.

You should always clean the floor thoroughly before you start using it.

Avoid any type of dirt. Use mats by the entrance doors etc.

Avoid any damage to your wooden floor: Use felt or felt caps under chairs and furniture, use chair mats under office chairs etc.

Hoover and clean the floor regularly once you start using it.

The installation guide is based on long-term experiences and accommodates the most normal conditions in most building constructions.

Hørning Parket accepts no legal responsibility in connection with this indicative information. If you are unsure how to install the floor, please contact Hørning Parket.