HØRNING
FLOORS FOR GENERATIONS

Installation Guide

Engineered Flooring

3-strip 13.5 mm and planks 14 mm

Layers of good quality

Just because a floor is not solid wood, you do not need to compromise in terms of quality.

HØRNING slat floors come in a variety of woods, 13.5/14 mm thick and with an approximately 3.6-mm wear layer. In other words, it is a sound alternative, if you do not have the budget for a solid wood flooring solution.

The range includes both plank floors and 3-stave, all of which come either oiled or varnished.

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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 (RF) and temperature. The tree absorbs and releases moisture by changes in the relative humidity. It happens in all the wooden floors, but the movement 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 floorboard 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 in practice be calculated for each 1% change in the humidity of the wooden floor.

Installation
HØRNING engineered flooring with a click-in-place system should be installed as a floating floor. However, it may also be fully glued.

Acclimatization
Engineered flooring must be acclimatized for at least 48 hours in the room in which it is to be installed. No complaints about visible defects will be accepted once the floor has been installed. Visible defects may, for instance, be manufacturing defects. Boards with any visible defects should be discarded, cleaned and used as the starting point for the following row. Minor pressure marks in the wear layer should not be regarded as defects. HØRNING engineered flooring may be used anywhere in your residence, except for wet rooms. In order to achieve the best possible result, it is essential that you adhere to the installation guidelines.

Under-floor heating
HØRNING engineered flooring may be used with under-floor heating. However, the surface temperature of the concrete floor must not exceed 26 degrees centigrade. The under-floor heating must be switched off for at least 48 hours prior to the installation and the room temperature should be approx. 20 degrees centigrade. A week after installation, the under-floor heating may be switched back on and the temperature should be gradually increased by 3 degrees centigrade each day.

When you install wooden floors with under-floor heating, it is essential that the temperature is low and the temperature must be even across the floor area. Make sure that you always follow the manufacturer's instructions regarding switching on the under-floor heating under wooden floors. Under-floor heating systems must have their own heating circuit with individual and lockable temperature control in order to ensure the correct supply-pipe temperature in the system.

When using under-floor heating, the floor's surface temperature must never exceed 27 degrees centigrade.

During the cold season wooden floors will always shrink more than normally when affected by under-floor heating. Consequently, you are likely to experience larger joints in the floor during the winter period.

The surface temperature may be higher, for instance, under rugs than on the rest of the floor area and therefore you may expect to find larger joints in such areas. When using a water-based under-floor heating system, the pipes must not touch the wooden floor directly. Please note the instructions in GSO 2006.

Naturally, any shrinkage cracks and other damage caused by the extra drying of the wood are not defects and they are not covered by the warranty.

General information
The room should be dry, closed off and a heating system should be in place and in operation. Especially in the case of a new build, it is important that the room has been warmed up for at least a month prior to the installation. 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.

The relative humidity in the room before, during and after installation must be between 35-65% (R. H.) and the temperature must be between 18-24 degrees centigrade. Any deviations may result in damage to the floor, which is not covered by the warranty. Please take special note and care during the winter when the relative humidity often decreases, which will make it necessary to humidify the air to avoid any damage due to drying. Make sure that you use the correct air humidifier for the size of the room in question.

The residual humidity in concrete must not exceed 60% (R. H.). If you encounter higher humidity, you may, for instance, use a dehumidifier. Only 4 hours after you have switched off the dehumidifier can you re-measure the level of humidity. A humidity level, which is too high or too low may – with time – result in shrinkage or cracks in the engineered flooring. Any damage to floors caused by humidifying or drying is not covered by the warranty.

Please always use a moisture barrier if there is a risk of rising damp. As for ground decks, please use insulation against both building moisture and ground moisture when applying a moisture barrier, i.e. a long-term/durable PE foil of a minimum of 0.2 mm and a minimum overlap of 20 cm

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with taped joints, directly onto the concrete. The same applies to service space, although the moisture barrier should be applied immediately below the boards. As regards existing wooden or chip-board floors, we recommend that you use floor felt.

Installation of floating floors

The engineered flooring must be acclimatized in the room in which it is to be installed for at least 48 hours prior to installation. Please open 3-4 bundles, go through the boards to spot any possible damage or defects. Boards with minor defects may be used along the walls and any major defects should be sawed off, so that the boards may be used as a starting point or at the end of a row. However, do not open anymore bundles than you can install within 1-2 hours, seeing as any additional humidity may make the installation more difficult.

If work is going on for several days, it is important to close already opened packages so that they are sealed until the work is resumed.

HØRNING engineered flooring may be installed on any and all firm bases. The base must be level (+/- 2 mm measured by a two-metre straight-edge). The correct planeness may be achieved by filling or possibly by using a board. After any hard stopping has dried, please put down a base (floor felt or foam).

Please put down a base with a minimum moisture barrier of 0.2 mm on any non-organic bases (concrete, stone etc.). A 25 cm overlap is required and the joints of the base must be taped. The overlapping joints and the moisture barrier should be glued together with double-sided tape.

Wooden floors shrink and expand depending on the air humidity and temperature and consequently, it is important to ensure that the floor can move as much as required. Please ensure a minimum distance of 10 mm to any and all walls and permanent fixtures (kitchen units, pipes, woodburning stoves etc.).

The necessary tools

A hammer, a fine toothed saw, a square, a block made of hard wood, a chisel, distance floor blocks, a line, a folding rule, a pencil and wedges.

Start the installation in a corner of the room and put the floor board's groove against the wall – from left to right. Check the floor boards thoroughly before installation. In order to achieve the best possible result, put down the floor boards along a line and then place the distance floor blocks against the wall (including a minimum distance of 10 mm) in order to allow the floor to move slightly. The remaining piece of floor board from the first row is then used to start off the following row resulting in staggered joints. The boards must be staggered by a minimum of 500 mm at the jointings at the end.

Make sure that there is always a relative humidity of at least 35% in the room in order to avoid drying damage on the boards. Cover up the floor as and when you have installed it in order to avoid mellowness and dirt. When installing the final row of boards you have to make sure that the boards are adjusted to take into account the minimum distance of 10 mm to walls and permanent fixtures.

As for larger areas of more than 100 square metres, it is necessary to establish an expansion joint of at least 10 mm for every 10 metres in length and 8 metres in width to ensure that the floor is able to move slightly. Please also allow a distance of 10 mm to any pipes etc. You drill a hole of which its diameter is 20 mm larger than the pipe, then you cut the piece behind the hole and afterwards this piece is glued back again behind the pipe.

Point by point installation

1. Measure the total width of the room and calculate the length of the final row of boards. If it is less than 6-8 cm, we recommend that you adjust the first row so that the first and final rows are of the same length.
2. Start in a corner of the room and install the boards from left to right.
3. The first board and the entire first row are to be installed with their tongue against the longitudinal wall. The part which goes beyond the wear layer against the walls may be sawed off – also as regards the short end.
4. Please use distance floor wedges/blocks of at least 10 mm against the walls - however, at least 1.5 mm per metre on the basis of the length of the room (for instance, if the room is 8 metres long, please use distance floor wedges/blocks of 8x1.5 mm = 12 mm).
5. The subsequent boards in the first row are installed by lifting the far end and pushing the board into the click-in-place system of the board that has already been installed.
6. The last board in the row is sawed off at the appropriate length and installed. Use a distance floor wedge against the end wall. The piece of board, which is left over, is then used to start off the next row – however, the boards must be staggered by a minimum of 500 mm.
7. Make sure that you adjust the first row according to a line, so that it is completely straight.
8. The first board of any subsequent rows are installed by lifting the boards to an angle of approx. 30 degrees and then pushing it into the click-in-place system. You may wish to give it a light tap with a wooden block, but please ensure that you place the wooden block in such a way that the wear layer is not damaged.
9. Squeeze a saw wedge under the short end of the board that has already been installed. The short side of the following board is then angled in and the board is put back down carefully. Pull out the saw wedge and tap the long side lightly with a wooden block, so that the board is completely in.
10. The final row in the room must be sawed to fit in with the width allowing at least a distance of 10 mm to the wall and it is then pushed tight with a pull bar without damaging the wear layer (see figure 6).
11. If there are any pipes, drill a hole in the floor which is at least 20 mm larger than the dimensions of the pipe. Carefully saw and possibly bevel into the drilled holes. Once the board has been installed you may

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glue in place the piece that was sawn off and use it for cover.

After installation

Once you have completed the installation of the floor, please remove the distance floor wedges/blocks before installing the skirting boards etc.

Remember that your new HØRNING engineered flooring is a natural product. In order for you to maximize the enjoyment of your floor for many years, it is important that you keep the room temperature and the relative humidity as constant as possible throughout the year.

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.

We recommend that you have a room temperature of approx. 20 degrees centigrade and a relative humidity of between 35-65%. We would recommend that you use a hygrometre to measure the air humidity carefully. Please note that any direct sunlight from larger windows will dry out the floor just as intense heat from a woodburning stove. Keep the sun out!

Daily cleaning

The daily cleaning is carried out by means of a hoover or a broom. Please clean the floor with a firmly wrung cloth with 'HØRNING Trægulvspleje 380' (wooden floor maintenance oil) as and when required.