



# HIRAM

## Habitat



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GUIDELINES FOR GLUEING SOLID  
AND ENGINEERED FLOORBOARDS

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# General information on

## 1 wood floors



### WOOD, A NATURAL PRODUCT

**1.1** Hiram solid or engineered floorboards are genuine natural products and are produced from the best quality raw materials, sourced in our local forests. As the requirements will be different for every construction project, we recommend using experienced parquet-laying professionals to prepare the underfloor and lay our large-format floorboards.

The most important prerequisite for laying wood floors is an indoor climate which is as constant as possible, whereby small seasonal variations are not a problem. Wood is a hygroscopic, breathing material, which means that if there is increasing humidity in the atmosphere, the wood will absorb water (the wood swells). Correspondingly, when the humidity level sinks, the wood emits the moisture again (the wood shrinks). The floorboards are delivered with a residual moisture content of c. 8 - 10 %, as is standard for wood flooring. Accordingly, the room humidity throughout the year should be between c. 35 – 65 %. If the room humidity varies too much, this will result in too much movement of the wood. This can lead to cracks and severe distortion damage of the floor.

When the room is heated during colder periods, the room humidity sinks and the floorboards emit moisture into the atmosphere. They are trying to counterbalance the low room humidity and as a result gaps may form between the boards, even if they have been correctly laid. As a rule these gaps will close again by summer at the latest, as the wood absorbs the rising moisture in the atmosphere again.

If there are generally any doubts about the constant indoor climate within one's own four walls, it would be worth procuring a hygrometer, to measure moisture and temperature. The readings allow appropriate measures to be taken to ensure better climatic conditions in the room.

### PREPARATION OF THE CONSTRUCTION SITE

**1.2** The building itself should be free of building moisture, and the room humidity and temperature should be within the above-mentioned humidity values. A room temperature between 18 and 25°C is recommended. If these conditions are met, the floorboards can be delivered and stored in the designated room to acclimatise (min. 48 hours).

All other work in the rooms should already be completed, and the surface of the sub-structure or screed should be dry, even and clean. If any other trades-work still has to be carried out, the wood flooring must be protected and covered up.

Particularly in the case of new-builds, it is important to check the residual moisture in the sub-structure (screed, anhydrite screed). Mistakes can often be made when testing the residual moisture, for example through false measurements or insufficient drying-out. This can either push the schedule back by months or damage the floor when it is later laid on top. In both cases this can be very expensive. Take care, therefore, that the screed has had enough time to dry out. If in doubt, and depending on the state of the sub-structure, a moisture barrier in the form of an epoxy resin primer or similar should be applied.

For concrete or cement without underfloor heating the maximum residual moisture should 2 CM (residual moisture measurement using the calcium-carbide method). For concrete or cement with underfloor heating, a maximum of 1.8 CM, for sub-structures of anhydrite with underfloor heating no more than 0.5 CM and for anhydrite with underfloor heating no more than 0.3 CM. Wood based boards (OSB) should have a residual moisture between 8 and 10%, and timber battens or joists max. 10 – 12 %. It is important to measure your rooms very accurately before ordering, especially if you would like to order room-length boards. This is best done with the help of laser measuring instruments. The boards are generally produced in 50 cm increments.

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## Glueing the 2 floorboards

The sub-structure must be prepared according to DIN 18356. It must among other things be compression- and tension-proof, free of cracks, sufficiently firm on the surface, permanently dry, even, clean and free from release agents, sintered layers, etc. The surface must also be assessed for its porosity and traction. Further areas to check are the moisture content and absorbency of cement (self-levelling) and calcium sulphate (self-levelling) screeds, as well as room temperature, room humidity and sub-structure temperature.

When preparing the sub-structure it is important to ensure that it meets the requirements for laying, as described in the previous section. Depending on the type and condition of the sub-structure, this may involve mechanical preparation (sweeping up, vacuuming, machine-brushing, sanding, milling, or shot-blasting). Any cracks and gaps which are not expansion joints or otherwise related to the construction process should be sealed securely with cast resin and screed anchors.

Holes and indentations can be filled with a stable filler. Apply a suitable compound to make the surface even, non-slip and absorbent.

Any discrepancy in evenness should measure no more than maximum 1 mm per 1 m-length with a spirit level. We recommend that the work of measuring and laying should be carried out by a specialist.

#### GLUEING ON SCREED

## 2.1

Once the screed has been prepared with a suitable sanding machine, the floorboards must be bonded with a parquet adhesive recommended by Hiram (suitable for engineered or solid flooring). Work with a tamping block and large hammer to knock the floorboards together. Do not hit the floorboards directly with the hammer, work with a piece of square timber, as otherwise their tongue-and-groove joints and surface area will get damaged.

We are happy to provide technical datasheets from the adhesive manufacturer. We recommend applying the adhesive to the substructure with the appropriate comb notch size, using a steady pulling motion to avoid globs of glue or over-thick layers. Within the prescribed time limit, lay the boards on the adhesive, quickly slot them in and press firmly.

The fitted boards should be weighted down with buckets of sand or adhesive, so that they sit solidly in the bed of adhesive, until the adhesive hardens. The tongues and grooves must be free of adhesive, so that the wood can move. In the case of solid floors, extra tension straps should be used at intervals to keep the floorboards in position

#### SCREED WITH INTEGRATED UNDERFLOOR HEATING

## 2.2

It is perfectly feasible to glue our floorboards on screed with underfloor heating, even when the heating generally dries out the wood somewhat more. Occasional cracking in the core area and small gaps between the floorboards may occur as a result of the artificially-generated heat.

The general rule is: the thicker the floorboard, the longer the warmth takes to penetrate through the wood. Energy input is therefore somewhat higher for solid than for engineered floors. A further aspect is the formation of gaps. A solid floor moves somewhat more due to the artificially-generated heat and therefore forms minimally larger gaps, while an engineered floor has higher construction stability (centre layer and counter layer of spruce).

Here too the boards should be firmly adhered onto the screed. It is important to follow closely the step-by-step installation instructions for heated screeds. We recommend that the heating engineer and parquet layer work in close consultation and that prior to installation the moisture content of the screed and the wood are checked.

*on 2.2 "Screed with integrated underfloor heating"*

Prior to laying, the underfloor heating must have been turned off for at least two days or the surface temperature brought down to under 20°C. The underfloor heating can be turned on again after 6 – 7 days. The floor surface temperature must never exceed 29°C. Rapid warming up or cooling down should be avoided, rather one should ensure there is a balanced ambient climate [35- 65 % humidity, 18°C – 25°C temperature].

*The above information serves as guidelines for laying our floors. As we have no influence on the laying process and requirements on the construction site itself, these guidelines are non-binding and in every case a parquet layer should be involved for consultation as well as in the actual laying process.*