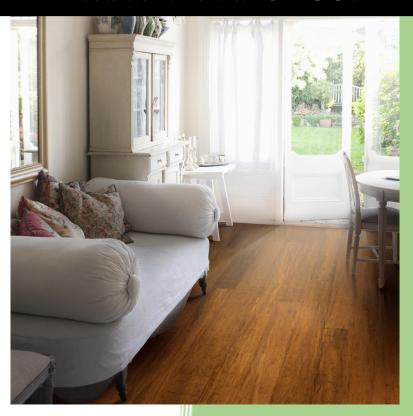
2019

BAMBOO FLOOR INSTALLATION & MAINTENANCE GUIDE



Created by BAMBU GOLV OCH TERRASS 1/1/2019

STEP 1 - BEFORE YOUR BAMBOO FLOORING ARRIVES

RELATIVE HUMIDITY MUST BE CORRECT

The Relative Humidity (RH) which is a measurement of how much moisture is present in the air. The correct RH of a room's atmosphere, for bamboo flooring to be installed, falls between 40-60% with an ambient temperature between 18 to 24°C. If necessary employ a dehumidifier to maintain suitable conditions.

The amount of movement varies depending on the preventative steps taken at the time of installation (i.e. acclimation, moisture barrier application, etc.) and the stability home environment thereafter. Care should be taken to control fluctuating levels of moisture indoors.



WET TRADES & DECORATING SHOULD BE DRY

All wet trades such as concreting, screening and plastering should be completed and the building should be thoroughly dried out. Bamboo, like all hardwood flooring species, is hygroscopic; its size and shape changes naturally with the absorption or release of moisture.

ROOM TEMPERATURE MUST BE JUST RIGHT

Room temperature will have an effect on relative humidity and should be stable before your flooring is delivered to site. Heating including underfloor heating should be fully tested and working for at least two weeks before the flooring is laid. Room temperature should be between 18 to 24°C.

DIRECT HEAT SOURCES MUST BE INSULATED

Flooring must not be exposed to excess heat such as from hot water pipes below floors.

NOTE

Plaster may take several months to dry satisfactorily and concrete screeds depending on thickness may take considerably longer. As a rule of thumb drying time for cement and water based screed is one day per millimetre for the first 50 mm and unto 2.5 days for each subsequent millimetre.

STEP 2 - PREPARING THE SUBFLOOR

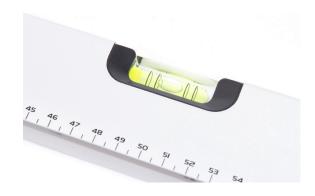
SUBFLOOR PREPARATION

The subfloor is key to a successful installation and will help ensure your floor performs to its very best. The subfloor is likely to be either wooden or a cement based screed.

Sweep and vacuum to remove any dust and debris, any decorators dust should be removed as this can be very abrasive and hard if not impossible to remove from the surface of a floor without drastic sanding and resealing. Existing floor coverings should be removed, this includes carpets, underlays, parquet blocks, ceramic tiles and any adhesive residues should be removed. It is important to do this so the subfloor can be verified as stable.

SUBFLOORS SHOULD BE LEVEL

The subfloor must be free from excessive undulation and flat to within 3 millimetres over 2 lineal metres across the whole floor area. This means a maximum 3 mm gap under a 2 m long straight edge, at any point across the subfloor. Failure to keep to these tolerances may result in squeaking or deflection which may produce undue stresses on the joints, cause gaps between flooring elements and with fully bonded floors may result in inadequate contact between flooring and adhesive.



SUBFLOORS SHOULD BE STRUCTURALLY SOUND

Occasional floor noise is due to structural movement and may relate to sub-floor type, flatness, deflection, and/or

related to the fasteners, changes in environmental conditions, relative humidity and the amount of topside pressure applied to the flooring. For these reasons floor noise is not considered a product or manufacturer defect.

MOISTURE CONTENT OF WOODEN SUBFLOORS

Wooden sub-floors should contain no more than 11% moisture content and must not be more than 2% higher in moisture than the bamboo flooring. When installing wood flooring at ground floor level (or below) above a ventilated cavity (e.g. floorboards suspended on joist), it is essential that a purpose made moisture barrier building paper is installed over the sub-floor before flooring can be installed. The moisture barrier must taken up the walls by 30 mm at the perimeter, and all joints overlapped by a minimum 200 mm and taped with a water proof jointing tape.

MOISTURE CONDITION OF CONCRETE SUB-FLOORS

Concrete must be fully cured and at least 60 days old. Concrete must be free of dirt, oil, paint, old adhesive, wax, sealers and curing agents.

If there is any doubt that the sub-floor meets the required standard for moisture or the sub-floor does not have an effective integral damp proof membrane, a suitable surface applied damp proof membrane must be installed.

Test the subfloor for moisture content before installation. If high moisture readings are found, identify the moisture source and correct the problem. Extend acclimation time and increase ventilation until the proper conditions have been met.

To minimize moisture transfer from the slab, apply: Primer FAST 500, Moisture Control System for limited moisture protection.

Moisture control system works when subfloor moisture content does not exceed 3 % for heated sub-floor and 5 % for not heated sub-floor.

IMPORTANT:

All sub-floors should be tested for moisture. If the test results show moisture vapour exceeds the minimum requirements (1,8 % for heated sub-floor and 3 % for not heated sub-floor), do not install the floor without an moisture barrier retarder to block the moisture.

The moisture content of concrete sub-floors over 1,8 proc. without moisture control system may cause dimensional and structural changes to the floor.

During installation, it is the installer's responsibility to document all jobsite conditions and measurements including the installation date, flooring moisture content, site relative humidity, temperature, and subfloor moisture content. This information must be retained by the installer and left with the property owner as a permanent record.

STEP 3 - ONCE YOUR FLOOR ARRIVES

ACCLIMATISATION

Once you are satisfied that the correct preparations have been made, your floor can be delivered and as part of your guarantee conditions, it is essential to acclimatise your flooring prior to installation.

The goal of acclimation is to allow the moisture content (MC) of the bamboo flooring to fully adjust to its new surroundings before installation.

Your floor should be kept in it's sealed, unopened boxes and should only be laid flat, ideally in the room in which it is to be installed or as close to typical living conditions as possible. Operate temperature / humidity control systems as normal. Allow normal ventilation through rooms.

Solid strand woven bamboo floors should have at least 5 days. for acclimatisation prior installation.

If your flooring is not correctly acclimatised planks can warp and bow and become difficult or impossible to install.

IMPORTANT:

Do not store packs outside or anywhere with different ambient conditions to the rooms where it is to be installed.



STEP 4 - PLANNING THE INSTALLATION

TYPE OF INSTALLATION

Solid strand woven bamboo flooring is recommended to install with glue down method only.

IMPORTANT:

Underfloor heat system must be turned on and in operation for at least 6 days before installation.

The flooring heating system must be turned down to 18°celsius and maintained 24 hours prior to installation. Once install is complete, turn system back on and slowly bring back up to normal operating temperature over a period 4-5 days.

DIRECTION OF FLOOR

Where practical install floor parallel to the longest walls so that the direction of greatest potential expansion (i.e. across the width and grain) does not coincide with the direction of greatest dimension of the floor, especially in large areas. Before you install the first row measure the width of the room and divide this measurement by the width of the board, this will give you the number of rows of boards. This is useful as the last row should not be less then 60 mm. If it is then the first down should be rip cut along the length to make the last row wider.

WHEN YOU ARE READY TO LAY - CHECK FOR DEFECTS

Check each board before it is installed for possible damage or defects, this is important as installed defects are the responsibility of the installer.

THE INSTALLER IS THE LAST LINE OF QUALITY CONTROL

Samples must be taken as a guide only and colour/shade and other characteristics will vary. Before installation commences rack out a small section of boards for the client approval. The installer is the last line of quality control. This product may include up to 3-5% of boards which do not meet the normal tolerances or grade.

IMPORTANT:

No claim will be accepted for materials with visible defects once flooring are installed.

WASTAGE

Bamboo flooring should always be over ordered by 5-8% of the actual area required. This allows for wastage material which may include boards with natural blemishes or filled spots that are within the grading tolerance but are not your taste. It is also good practise to keep at least a pack of flooring stored in case flooring from the same batch is required for any unforeseen repair work.

RANDOMISED INSTALLATION

As bamboo is a natural product, natural variations in colour may occur within and between individual flooring planks.

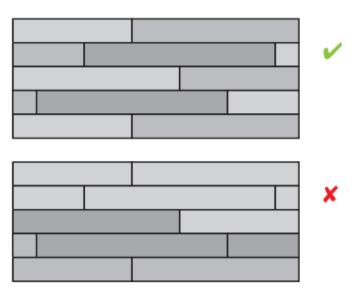
To visualize the range of colours within the flooring style you are considering, compare your samples to the photos on our web site.

During installation, work from several cartons at a time to achieve a uniform appearance across the entire floor. Mix and mingle planks when dry laying the floor for maximum aesthetic appearance. Natural variations in colour are not covered under warranty.



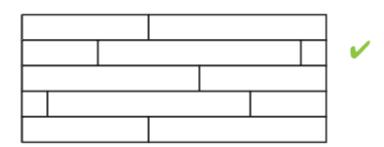
LAYING PATTERN

For installation of flooring planks which run in the same direction, header-joints must be staggered by a minimum of two board widths apart. It is also important to even patterns across the floor as this can cause dimensional weaknesses as the floor expands and contracts.



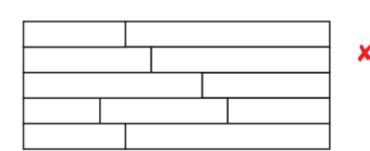
CORRECT STAGGERED LAYING PATTERN

Header joints should be staggered by length equivalent to at least two boards width. This random stagger will stabilise the floor and limit any dimensional movement as the bamboo naturally expands and contracts.



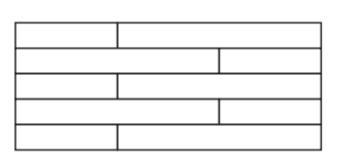
INCORRECT PATTERN HEADER JOINTS ARE TOO CLOSE

The header joints are too close in this pattern and will cause a line of weakness in the floor which could open up as the floor expands and contacts.



INCORRECT PATTERN HEADER JOINTS LINED UP ACROSS THE FLOOR

Avoid this type of 'H' pattern where header joints line up as it will lead to weak points in the floor where parallel boards may warp and cause an accumulation of excessive movement.



STEP 6 - FULLY BONDED INSTALLATION

"BAMBU GOLV OCH TERRASS" recommends using "2K PREMIUM" floor adhesive and moisture barrier system "FAST 500" in accordance with suppliers specifications to receive full installation warranty.

Solid strand woven bamboo flooring are installed directly to concrete or sand-cement screed sub-floors, or to suitable wood based sub-floors (e.g. Plywood, OSB) by fully-bonding with a purpose made permanently adhesive.

"BAMBU GOLV OCH TERRASS" / "CHIMIVIER",2K PREMIUM" adhesive and primer are specially created and fully tested with strand woven bamboo floorings.

2 component adhesive is applied to the sub-floor only using a V-notched trowel no. 5, which creates ridges of adhesive which the flooring is bedded into when laid. Always use the trowel type which is recommended by the manufacturer of the flooring adhesive.

FULLY BONDING/ IMPORTANT NOTES

- 1. Before you start, ensure that the job site, subfloor and environmental conditions are acceptable for installation of bamboo flooring. All requirements specified in this installation guidelines must be met.
- 2. For under floor heated hot water system embedded into concrete full bond is recommended as it improves the TOG rating.
- 3. Previous floor coverings and the adhesive residues used to adhere floor coverings to sub-floors must be removed before bonding of bamboo flooring.
- 4. Ensure screeds are of adequate cohesion strength of before installation.
- 5. Avoid accelerated drying of new screeds as this can lead to poor cohesive strength, especially over under floor heating.

NOTE

Always follow flooring adhesive recommendations. "BAMBU GOLV OCH TERRASS" does not warrant against other adhesive related problems.

- 6. Always check the recommendations of the applicable adhesive manufacturer, esp. regarding other sub-floors. e.g. asphalt, anhydrite etc.
- 7. Some chipboard products have a moisture resistant treatment which can seriously impair adhesion. A layer of plywood may be laid over and securely fixed to the chipboard before installation may commence.
- 8. Any residues of MS type adhesives which come into contact with the face of the board must be removed whilst wet, as cured residues are not removable.

IMPORTANT:

PROVISION FOR EXPANSION

Even fully bonded bamboo flooring is affected by seasonal climactic changes and will expand and contract, so it is important to allow room for this expansion.

Expansion spaces of minimum 10mm for floors less than 25m2 or minimum 15 mm for larger areas must be left wherever the floors meets obstructions including all walls, door frames, thresholds, structural support, fireplaces etc. These expansion gaps can be covered using the skirting, or other flooring accessories. It is recommended that an expansion break is always employed where rooms join. T- Bar threshold strips can be used for this purpose.

USING UNDERFLOOR HEATING

All our bamboo floors can be used with underfloor heating following by this guide.

IMPORTANT:

When turning off the underfloor heat system it must be turned down slowly at a rate of 1.5° degrees per day. You should never just turn the system off.

The flooring installer should ensure that all services (not only heating services) running beneath the floor have been tested fully by the services installer before laying starts.

IMPORTANT:

Where underfloor heating is involved, particular attention should be paid to ensure that the top surface temperature of the bamboo flooring should not exceed 27 °C

Avoid thick insulating rugs. (Note: as this will lead to high floor temperatures).

Do not commission the UFH for 48 hours after the installation is complete. This gives the adhesive time to fully cure and allows the floor to generally settle.

Do not turn the system straight up to maximum. Gradually increase the temperature 1oc per day until you reach your optimum operating temperature. And never exceed 27°C at the surface temperature. We strongly recommend a dual thermostat system is used to monitor the surface temperature and the ambient temperature of the room.

NOTE

Installation should be fully bonded when possible to insure optimum heat transfer.

The following information will help you get the most from your heating whilst keeping you bamboo floor in good condition.

Do not allow humidity below 45% RH, or above 65% RH.

A small domestic humidification unit can be employed to avoid low humidity during the winter heating cycle if necessary.

Do not turn the heating on or off suddenly. When turning off the underfloor heat system it must be turned down slowly at a rate of 1.5° degrees per day. Throughout the life of the flooring avoid any rapid or big temperature changes as fluctuating the heat within the product runs the risk of drying out the bamboo. This can result in dimensional changes causing the floor to split and crack.

FLOOR CARE

"BAMBU GOLV OCH TERRASS" bamboo flooring is treated with an industry-leading scratch resistant coating, and its density and strength surpasses almost any other flooring in the world. Bamboo flooring is tough, but all hardwood flooring is pervious to dents, scratches, discoloration or other natural or man-made damage. Prevention is a big part of the care for bamboo floors.

1. AMBIENT CONDITIONS

During the life of the bamboo floor ambient humidity must be maintained within the range of 40% to 60% RH and 18 to 24°C. This includes during periods when the property is unoccupied such as during holidays. Please note that high humidity may lead to warping and other issues, whilst excessive drying caused by high temperature &/or low humidity may lead to splits and warping. Avoid rapid changes in temperature. Bamboo floor should never be heated over 26°celsius. Consult with your heating system manufacturer to successfully limit the maximum temperature.

2. ENTRANCE MATS

Use interior and exterior doormats at entrances to prevent dirt and moisture from being tracked onto the floor. Area rugs are also recommended in front of kitchen sinks and in high traffic areas. Do not use rugs with solid rubber or vinyl backings. Rugs must be made of a breathable material to prevent moisture entrapment. We recommend using a breathable rug underlay. Mesh or grid patterns are best.

3. PROTECT FROM FURNITURE

Use self-adhesive felt pads on flat furniture feet to protect the floor from excessive scratching, and use felt based castor cups under wheeled furniture. A purpose made polypropylene floor mat must be used below wheeled office chairs. (Note: Heavy scratching will break the seal of the lacquer causing damage to the timber by ingress of dirt and moisture from cleaning.

Pick up heavy furniture or appliances; do not slide.

4. FOOT TRAFFIC

In areas of high foot traffic pay special attention to daily cleaning and where possible use protective rugs and matting.

5. PET CARE

Keep pet's claws well trimmed to avoid scratches and protect areas where they sleep and feed to avoid damage from moisture and spills. The animal's urine is acidic and may have negative effects left on the oiled floor.

6. SUNSHINE

Limit direct sunlight on floor by using curtains and blinds in areas that are exposed to high UV rays. Floors treated with stains and UV lacquer are more stable in strong UV conditions.

7. CLEAN UP SPILLS

Avoid standing water or liquid. Mop up any liquid spills and never allow spills to stay on the surface for any length of time. If moisture ingresses into the surface of your floor it may cause lasting damage.

8. REGULAR CLEANING

Daily/weekly cleaning consists of sweeping with a soft broom or dust attracting flat head mop.

Floors can be periodically cleaned with an almost dry wrung out mop, avoiding use of excess moisture.

Never use any of the following products on your floor: ammonia-based cleaners, acrylic finishes, wax-based products, detergents, bleach, polishes, oil soap, abrasive cleaning soaps, or acidic materials such as vinegar. Never apply wax treatments to your bamboo floor.

All Strand woven bamboo flooring has a domestic guarantee of 30 years and if properly cared for your floor will last for generations.