



WOOD FLOORING
INSTALLATION GUIDE

WOOD FLOORING INSTALLATION GUIDE

Thank you for selecting Ecora as your flooring supplier. Before commencing with the installation it is important that you and your floor installer read the following instructions carefully.

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OWNER/INSTALLER RESPONSIBILITY

Wood is a product of nature and an allowance should be made for some milling, finish or grade variations. Owners requiring a great deal of consistency should consider allowing for additional material over the recommended cutting/wastage allowance¹.

IT IS THE DUTY OF THE OWNER/INSTALLER, WHETHER PROFESIONAL OR NOT, TO INSPECT THE FLOORING BEFORE INSTALLATION.

The installer or owner assumes all responsibility for final inspection of the product quality prior to installation. The owner has final responsibility to ensure that they have received the correct product and finish that was selected, before installation has began.

The installer or owner must also determine that the job site environment and sub-floors involved meet or exceed all requirements within this document. No claim will be accepted for flooring which is visibly noticeable or preventable if such product is unpacked and/or installed. If the installer or owner feel the flooring is faulty or not suited for purpose the flooring **should not be unpacked and installed** and we should be contacted immediately.

1. What is the cutting/wastage allowance?

When installing a wooden floor some of the planks will be cut around doorways, bay windows, etc. and the offcuts may be unusable. For wideplank flooring we recommend allowing an extra 10% above the footprint of the area to be installed while parquet blocks should be ordered with a minimum 15% wastage allowance.

STORAGE AND ACCLIMATISATION PERIOD

ALL FLOORING MUST BE STORED IN THE CORRECT CONDITIONS PRIOR TO INSTALLATION.

The product **must not** be stored on site until the site is watertight and all subfloors, plastering, cement work, decorating and all other wet works (i.e. plaster, paint, tiling etc.) are completely dry and finished. The product must be stored horizontally on a flat surface in its original packing, no more than 2 - 3 packs high and wide. Stacked packs should be separated with battens to increase air recirculation. The product should not be stored next to a radiator.

We strongly recommend **keeping record of moisture and humidity conditions on site prior to installation**. These measurements will be required by us and/or the manufacturer if there are any future problems. A form has been provided at the end of this guide to assist with this task.

Solid wood must be allowed to acclimatise² for at least 10 days prior to the installation, whereas most engineered boards can be installed within a couple of days after delivery. Once delivered, the product must be stored according to our guidelines until the installation date.

2. What is Acclimatisation?

The process of placing wood flooring in the area or room where it is to be installed, to enable it to “acclimatise” or adjust its moisture content to that of its surroundings.

GENERAL SITE CONDITION

Moisture conditions, temperature and humidity levels play an important part in the life of natural wood flooring. Although the installation process requires skill and precision, the success of an installation is in many ways reliant on the acclimatisation and moisture conditions during and after installation. As environmental conditions greatly affect the behaviour of natural wood floors, temperature and humidity should be controlled, before, during and after the installation process to avert potential disaster.

Prior to installation it is the installers responsibility to ensure that all internal site conditions are stable and suitable for the installation of the agreed flooring. Room temperature of between 18° - 22°C (65° - 73°F) and Relative Humidity³ of between 45 - 65% must be maintained at all times. Failure to maintain these conditions could cause ongoing behavioural problems with the product and invalidate any warranty.

3. What is Relative Humidity (RH)

Relative humidity is a measure of the amount of moisture in the air relative to the total amount of moisture the air can hold. For instance, if the relative humidity was 50%, then the air is only half saturated with moisture.

SUBFLOOR PREPARATION

Preparation of the subfloors will depend on the condition of the existing structure and chosen method of floor installation (described in the following sections). Before any installation takes place it is essential to determine the condition and moisture content⁴ of the subfloors.

Subfloor level should have no more than 3mm deviation when measuring over a 2 metre distance. The subfloor must conform to BS 8204: Part 1 1987, which states that it must not deviate by more than +/- 3mm under a 3mm straight edge in any one direction. Failure to keep to these tolerances may result in the floor squeaking or deflection of the floor in service.

Subfloors must also be vacuum clean, smooth and free of any debris, staples, visible nails, old adhesives, or other dried substances before installation.

Timber Subfloors

Wooden subfloors usually consist of pine floorboards or wood panel sheeting like plywood, chipboard, etc. laid over joists or battens as a suspended floor. Prior to any installation the installer should check to see if the materials used are adequate and there is no water, moisture or rot present. A hygrometer⁵ reading should be used to see if the conditions are suitable and no damp is present. If the floor is on or below ground level the installer should also make sure there is adequate ventilation beneath and between the joists and air bricks are present and not blocked.

In the event that the timber subfloor is not fit for purpose or the work involves the construction of a new subfloor, the installer should use a minimum of 18mm thick External Grade Plywood or OSB Boards direct on the joists⁶. If the existing subfloor is adequate but not level, for example old uneven pine floorboards, a 12mm minimum External Grade Plywood or OSB Board can be glued directly on to the existing subfloor. Where new sheeting is installed over an existing subfloor, any loose floorboards or boarding should be screwed down using long enough screws to penetrate and hold into the joists.

Concrete Subfloors

The main responsibility of the installer prior to installation is making sure the moisture levels within the subfloor are low enough to lay the floor. Where concrete or other cementitious slabs are present, mainly in ground/basement levels, the installers should take a hygrometer reading to see if conditions are suitable and no damp is present. Screed or concrete subfloors must have under

4% moisture content. Failure to maintain these conditions could cause excessive dimensional change resulting in problems like delaminating, cupping, cracking etc.

In addition to checking the moisture, in ground/basement levels the installer should check to see if a Damp Proof Membrane (DPM) exists and if not or if it has been compromised it is important that a new DPM is fitted before moving on to installing the floor.

Heating Systems

If an Underfloor Heating System (UFH) exists or is to be installed, whether electric or water-fed, some additional checks and processes will be required from the UFH installer - pre, during and post installation. Please refer to our Underfloor Heating Guidelines available on our website at www.ecora.co.uk.

IT IS IMPORTANT THAT THE OWNERS AND/OR INSTALLERS INFORM US OF THE EXISTANCE OF AN UNDERFLOOR HEATING SYSTEM. THIS MUST BE DONE DURING THE ORDER PROCESS AND BEFORE WORK HAS STARTED.

As with UFH, water-fed radiator systems can provide excessive heat at subfloor level if pipes are running close to the subfloor or are not insulated. It is important to prevent the temperature at subfloor level from exceeding 27°C (81°F) and insulating or distancing pipes from the subfloor level may be required. This will help avoid hotspots at floor level, which may compromise the structure, glue and/or finish of the new timber floor.

4. Moisture Content

The amount of moisture contained in a material. The moisture content of most wood flooring is between 8% - 10%. The moisture content of a screeded subfloor when laying wood should not exceed 40% RH which is about 2%.

5. What is a Hygrometer?

A device for measuring the moisture content in the air. Hygrometers are calibrated in % relative humidity or RH.

6. What is a Joist

A Joist is a wooden strut (usually softwood) used to support the floorboards/subfloor to which the wood flooring planks are usually nailed. The size of the joist will depend upon the expected load and the span.

EXPANSION

All wooden floors will react to changes in the presence of moisture. In the summer months when the humidity is higher the planks will expand, while during the winter months when central heating is present, moisture is reduced within the planks causing them to shrink. This natural process needs to be taken into account by ensuring that the floor is fully acclimatised, and when installing the floor, an expansion gap of 6-10mm (about ½ Inch) should be left around the perimeter.

There are several methods of covering the expansion gap once the floor has been installed, depending on the existing site/room and personal preferences or budgetary constraints. Where skirting boards exist, the installers can either remove prior to installation then reinstall above the new flooring or alternatively, the skirting boards can be bottom-trimmed to allow for the new floor to slide underneath. Where skirting boards do not exist, or owners prefer to avoid any disruption to the existing boards/walls, the gap could be covered with hardwood beading (i.e. Scotia , Quadrant⁷) or filled with cork.

7. What is a Scotia and Quadrant?

A Scotia is a concave beading and a Quadrant is a quarter-round beading. Both are used in flooring installations to cover the expansion gap between the floor and the wall or skirting-boards. They are usually from the same species of timber as the floor, or as near in shade as possible.

INSTALLING PLANK FLOORING

For aesthetic reasons we recommend having the floor run the length of the room towards a natural light source. This will enhance the grain and provide a better overall look.

Before laying the floor the fitter may need to undercut the bottom of door-frames, wardrobes, kitchen plinths etc. to allow for the planks to fit under. Doors may also need to be undercut as the new floor may end-up higher than the original one.

IT IS THE DUTY OF THE INSTALLER/OWNER TO JUDGE THE SUITABILITY OF ANY PIECE FOR PLACEMENT IN A CONSPICUOUS AREA OF A ROOM

Nail-Down Installation (Secret Nailing)

Commonly used with tongued boards, the installer should start at one end of the room and leave an expansion gap around the entire perimeter to allow for expansion. They should carefully select several of the straightest boards and once they have been nailed in place, go back and nail the same boards through the tongue, pre-drilling and nailing at a 45° angle. After the third row or so in place a manual or pneumatic floor-nailer⁸ can be used.

The floor nail or cleat used should be ring-shanked or jagged and no less than 2.5 times the thickness of the boards. They should be set into each floor joist or batten, assuming 400mm (about 16 inch) spacing and an additional nail between each set. This should result in a spacing of every 200mm (about 8 - 10 inch) as recommended by the *National Wood Flooring Association*. All boards must have a minimum of two nails each.

No two connecting boards should end on the same line so the installer should alter lengths, to stagger joints at least 150mm (about 6 inch) apart. Often the last row will not fit a full strip of flooring and should be cut so the installer is able to hand nail the last row, leaving enough space for an expansion gap between the wall and the wood. For better aesthetics the installer should run the boards through the doorway and continue into the adjacent room, although it may not be possible in all property types or room layouts.

8. What is a Nailer?

There are various types of nailing machines on the market, but perhaps the best known of which is the Portanailer. These machines drive nails into the flooring at exactly the correct angle and can be manual, electric or pneumatic.

Floating Installation

Using the floating method of installation will require the pre-laying of an underlay⁹ in order to provide a cushion between the floor and the subfloor. This method will only lend itself to engineered boards although wide engineered planks are not recommended to be used with this method. The other downside with this method is that the floor is more likely to 'creak' and the glue that is commonly used can break down over the years, and the joints work loose.

Using the correct underlay is essential when floating a floor! Underlay combining a built in DPM should be fitted at ground and basement levels or above concrete subfloors, where an acoustic reduction underlay should be used in multi occupant buildings to provide sound reduction between floors.

Once the underlay has been fitted according to manufacturer instructions, the installers should start installing the planks on one end of the room and leave an expansion gap around the entire perimeter to allow for expansion. In this method **no nails are to be used** and the board's either connect using a click system or the tongue and grooves are glued together using specialist adhesive.

No two connecting boards should end on the same line so the installer should alter lengths, to stagger joints at least 150mm (about 6 inch) apart. Often the last row will not fit a full strip of flooring and should be cut so the installer is able to fit the last row, leaving enough space for an expansion gap between the wall and the wood. Although providing a better overall look, continuing boards between adjacent rooms may not be suitable for all room layouts or property types due to excessive movement.

9. What is Underlay

A material placed under a wood floor to smooth the subfloor, help cut down airborne noise, protect against damp and/or as a resilient layer under a floating floor.

Glue-Down Installation

Glue-down installation is our preferred method and requires the use of an adhesive or bonding agent applied directly onto the subfloor. This method can be used on both concrete and timber subfloors, providing an extremely stable floor when done properly, although will require a slightly longer overall installation process.

For optimal application, a flexible adhesive should be used and the trowel should be worked at a 45° angle so the adhesive left on the floor by trowel teeth is just the right amount. Adhesive should only be applied to surfaces that can be reasonably covered in under an hour. Most flexible adhesives are also designed with under floor heating in mind and can be used for both solid and engineered floors. Laying over a concrete subfloor may first require a liquid Damp Proof Membrane to ensure no damp rises into the new floor.

As with other installation methods, the installers should leave an expansion gap around the perimeter then carefully select the boards, setting aside any with imperfections or high colour variation for less visible areas of the floor. The installer should then press the planks down into the adhesive with a slight sliding movement, keeping adhesive out of board grooves and sides to ensure perfect fit with adjacent board tongue.

No two connecting boards should end on the same line so the installer should alter lengths, to stagger joints at least 150mm (about 6 inch) apart. Often the last row will not fit a full strip of flooring and should be cut so the installer is able to glue the last row, leaving enough space for an expansion gap between the wall and the wood. For better aesthetics the installer should run the boards through the doorway and continue into the adjacent room, although it may not be possible in all property types or room layouts.

INSTALLING PARQUET BLOCKS

As with wide plank flooring, before laying the floor the installer may need to undercut the bottom of door-frames, wardrobes, kitchen plinths etc. to allow for the planks to fit under. Doors may also need to be undercut as the new floor may end-up higher than the original one.

Determining pattern direction

Although Herringbone or brick patterned flooring can be installed from any point in the room, we recommend considering architectural features (main entranceway, wall with window, fireplace) and the longest section within a room before deciding on pattern direction. The information in this section refers mainly to installation based on the Herringbone pattern as it is more complex.

Installing guidelines

Using a chalk line, the installer should mark a guideline in the centre of the room to indicate the centre of the pattern then mark one line on either side of the centre line. These lines will provide a guide through laying the upper corners of the boards. Additional parallel guidelines across the entire floor surface can be marked if required to help with subsequent rows.

Installing a backer board

The installer can use a piece of plywood to make a backer board that will assist in starting the first row of boards. The board should be cut perfectly square, at approximately 5mm shorter than the length of the block (i.e. 345mm x 345mm plywood backer board for 350mm long blocks). Installation should begin in the centre of the room, aligning two opposite corners of the backer board with the guideline, securing it to the subfloor. A block should then be placed on each side of the backer board to ensure measurement accuracy, then removed.

Applying adhesive

For optimal adhesive application, a flexible adhesive for wood blocks should be used and the trowel should be worked at a 45° angle so the adhesive left on the floor by trowel teeth is just the right amount. Adhesive should only be applied to surfaces that can be reasonably covered in under an hour.

Installing the first line

At this stage the installer should carefully select the boards, setting aside any with imperfections or high colour variation for less visible areas of the floor. To install the boards the installer will be required to align the right and left corners with the guidelines while pressing the board down into the adhesive with a slight sliding movement. If installing blocks with a tongue and groove, the tongue side should be laid against the backer board. It is important to keep adhesive out of board grooves and sides to ensure perfect fit with adjacent board tongue.

IT IS THE DUTY OF THE INSTALLER/CLIENT TO JUDGE THE SUITABILITY OF ANY PIECE FOR PLACEMENT IN A CONSPICUOUS AREA OF A ROOM

Securing the blocks

If installing over a timber subfloor, in addition to the adhesive the blocks should also be manually fixed to the subfloor. If laying 10mm or thinner overlay blocks, secure the blocks with headless pin, four on each surface corner. For thicker tongue-and-groove blocks, nail down the first line to secure the floor properly. Proceed the same way with subsequent blocks until you are ready to cut the last board in the row. If you are installing a border, make sure it is installed before cutting the last row. Always leave an expansion gap between the wall and the end of the last board in each row. Make sure to check alignment every row to ensure that the blocks are still square.

POST INSTALLATION

Once the floor is fitted, the installer should clean up and remove any rubbish related to the installation. For parquet or wide unfinished planks the installers should now carefully sand and/or seal the floor using specialist tools and finishes, depending on type of flooring and required finish.

PRE-FINISHED FLOORS ARE FACTORY FINISHED AND MAY NOT BE SUITABLE TO RECEIVE AN ADDITIONAL FINISH ON SITE SO PLEASE CHECK WITH US PRIOR TO APPLICATION.

If additional building work is to be carried-out or heavy furniture is fitted and/or moved around we would recommend laying a 3mm hardboard, taped at connections, on top of the new floor. This will help protect against tools and equipment accidentally dropping, painting splashes and scratches due to furniture movement etc. Please note that this may not protect against brick-dust or other building dust reaching the floor and some maintenance work may be required to restore the floors lustre if a significant amount of work has taken place post installation.

FLOORS EXPOSED TO BRICK OR OTHER BUILDING/RENOVATING DUST MAY LOOSE LUSTRE AND REQUIRE A MAINTENANCE FINISH TO BE APPLIED FOLLOWING WORKS.

FLOOR MAINTENANCE

Preventive measures like area rugs, floor protectors on furniture legs and routine maintenance will help protect your wooden floor from unnecessary wear and damage and help keep it at its best.

WOODEN FLOORS ARE NOT IMPERVIOUS TO DAY TO DAY SPILS, GRIT, LIQUIDS AND FOOD.

- Sweep and vacuum the floor regularly to keep clean and free of dust, sand and other abrasive materials.
- Do not use any harsh household cleaners, oils, soaps, waxes or any abrasive materials or scouring agents on the floor. Instead, for a more thorough clean, use a wood floor cleaning solution approved for use with wood flooring.
- Put felt, or other, protector pads on all furniture feet and/or accessories placed directly on the floor surface.
- Place area rugs or doormats at entryways to help prevent sand, grit, oils, dirt and other abrasive or staining materials from being tracked from outdoors. Choose mats that enable airflow and avoid using rubber-backed or similarly dense matting materials that may trap moisture.
- Place protective mats at high-use work areas such as sinks, ranges and workstations.
- Protect the floor from any exposure to liquids, water and other forms of moisture. Clean up any spilled drink, food or other liquids immediately. Damage caused by flooding, broken pipes, wet mopping or any other exposure to liquid or moisture is not covered by the product warranty.
- Clean floors using a well wrung mop. Avoid walking on the floor with wet feet or footwear.
- Avoid sharp or pointed objects coming into contact with the floor surface. Do not walk on the floor with high heeled shoes, trainers, or other type of footwear which may cause damage to the finish or cause indentations to the surface.
- Use heavy duty moving mats or other moving aids when moving furniture, appliances or other heavy objects across the floor to avoid scratching or scuffing the surface.
- Hardwood flooring reacts to changes in the environment so it is important to ensure that environmental conditions are maintained with a temperature of 18° - 22°C (65° - 73°F) and humidity

at 45 - 55% at all times. Excessive humidity, moisture, heat, or dry conditions can result in cupping or splitting of boards, gapping between boards and/or other problems resulting from exposure to improper environmental conditions, and are not covered by the product warranty.

- Wood flooring installed over a radiant heating system should never exceed 27°C (81°F) at floor surface. In addition dramatic temperature changes should be avoided and temperature adjustments should be gradual, in maximum 5°C (41°F) increments a day it is important that a dedicated thermostat is installed at floor surface level to allow the temperature to be accurately controlled.

NOTE: This applies only to wood flooring specifically approved for use over radiant heat. Installing flooring not approved over a radiant heating system will void any product warranty and may result in damage to the floor.

- Pet nails may scratch and mark the floor surface and should be kept trimmed.
- Hardwood flooring will undergo a natural change in colour as it adjusts to its environment and new ambient light conditions. Although the degree of colour change varies by species, it is recommended that you do not place area rugs and large furniture items on the new floor for at least two months following installation to ensure a uniform change. Following which, periodic rearrangement of furniture and area rugs will help ensure natural even change.

GUIDELINE CHECKLIST

The following checklist should be completed by the installer before installation of the product. Failing to follow the checklist and its requirements may jeopardize product performance and/or warranties and guarantees. Overlooked items may cause short or long term installation failure. Once completed and signed by the installer, owners should keep a copy in a safe place in case of future concerns.

JOB NAME:	<input type="text"/>	INSTALLATION DATE:	<input type="text"/>
PRODUCT INSTALLED:	<input type="text"/>	TIME:	<input type="text"/>
ADDRESS:	<input type="text"/>		PHONE:
CITY:	<input type="text"/>	POST CODE:	<input type="text"/>
		EMAIL:	<input type="text"/>

THE FOLLOWING CONDITIONS NEED TO BE MET BEFORE ANY WOOD FLOORING IS INSTALLED

INTERIOR CONDITIONS

All Wet Trades (i.e. plaster, paint, tiles) have completed work on site

 Y N

The building is watertight and all windows and doors have been installed

 Y N

The Relative Humidity within the structure is between 45-65% and the air temperature is 18-22°C

 Y N

Heat ventilation or air conditioning are in place and functioning properly (3-5 days prior to delivery of timber)

 Y N

EXTERNAL CONDITIONS

Driveways and side walks are installed

 Y N

Gutters and downpipes are properly placed and surrounding soil is properly graded to drain water away from structure

 Y N

TIMBER SUBFLOOR

Moisture content of the timber subfloor is no more than 4 percentage points above or below the finish flooring and within regional moisture content guidelines

 Y N

CONCRETE SLAB

DPM has been installed under new slab

 Y N

DPM has been installed over existing slab

 Y N

Slab is flat and to specification

 Y N

Moisture testing of concrete began and test results are below 4% and are safe for the wood flooring installation to begin

 Y N

TESTING EQUIPMENT USED:

RESULTS/READINGS:

INSTALLER/COMPANY NAME:

CONTACT NUMBER/S:

I verify that jobsite is ready for wood flooring installation

SIGNED:

DATE:

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