

INSTALLATION INSTRUCTIONS

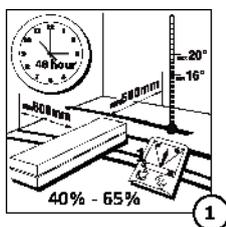


Carefully read these instructions before you commence installation. Check whether the floor boards are undamaged and fault-free, since the guarantee only applies to hidden defects.

BEFORE STARTING INSTALLATION

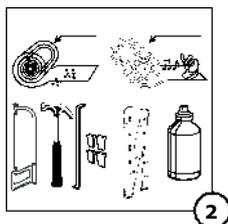
Product Inspection: The purchaser should compare the contents of each box to their floor sample to verify it is the expected product, if there is any discrepancy between what was expected and the actual product received **DO NOT proceed with the installation. Notify Pacific Floors immediately.** Any complaints regarding defects which are visible or which could have been discovered by you or your installer **MUST** be addressed prior to installation. Flooring that has been installed is deemed as acceptable. Pacific Floors Pty Ltd will not be liable for any costs or expenses incurred and will not repair or replace any flooring with visible manufacturing defects or defects which could have been discovered prior to installation. Please note: Individual wood products may vary due to dye lots and changes in the staining process.

Important note: Place the material in the areas receiving timber, without opening the packing allow it to acclimatize for at least 48 hours. The material should be placed flat on the floor in the horizontal position, at a distance of at least 50cm from the wall. (See 1)



WHAT YOU WILL NEED

The floor boards have a tongue and groove on all 4 sides to enable mechanical fitting. The only tools that you need is a hammer, a fine-toothed saw, a folding ruler, a string line, a set square, and an installation set that consists of a stop block, a stop iron and spacer blocks (see 2).



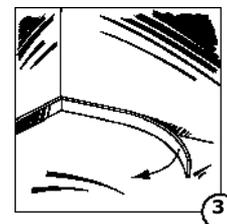
STORAGE

The room in which you will be installing the floor boards should be dry. In case of new buildings, ensure the concrete floor is dry. The floor boards should be installed at a room temperature of at least 10° C, and a maximum of 25° C. The relative air humidity in the room, to be measured using a hygrometer, should not be less than 40% and not exceed 65%. The humidity should also remain within these limits during and after the installation. If the floor boards are going to be stored (in the packing) for long periods of time, such storage should always be at room temperature.

The storage space should have an average relative humidity not exceeding 65%. The floor boards should not be stored in a room with a high level of humidity.

SKIRTINGS

You may remove the existing skirting boards and reinstall them after installation (see 3).



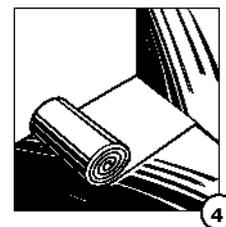
To enable the floor to shrink and expand freely under the skirting boards end-piece and transition skirting boards should be fixed to the walls. Flat, self-adhesive skirting boards may be affixed to the walls.

SUBFLOORS

Floor boards can be installed on practically any subfloor. It should however be permanently dry, hard, flat, clean, and have adequate load-bearing capacity. A floor is regarded as "Flat" if there is less than a 2 mm height differential over one metre. Floor levelling will be required for uneven floors exceeding 2 mm/ metre.

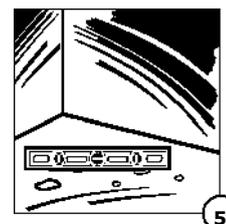
CONCRETE SUBFLOORS TO RECEIVE FLOATING INSTALLATIONS

A concrete floor should not contain more than 2% moisture. We recommend installing a 3mm insulating layer over the concrete. (see 4). Together with a moisture foil. Joints should be thoroughly sealed. The foil should extend behind and up the full height of the skirting board.



WOODEN SUBFLOOR

If the subfloor is wooden (moisture content of wood 10%, with a tolerance of $\pm 2\%$), check for loose joints and tighten as required (see 5). Your supplier can carry out the required measurements using a wood humidity meter. Floors should be levelled using sanding equipment or installing chipboard sheeting. Do not lay the boards if the crawl space is wet. Always make sure there is sufficient ventilation to allow the sub-floor to 'breathe'. Do not install floor panels in a wet crawl space



INSTALLATION INSTRUCTIONS



IN FLOOR HEATING

In-slab and above floor heating systems can be used under our 14mm, 15mm and 20mm thickness Pacific Flooring sawn cut timbers only. Please discuss in detail with a Pacific Floors sales representative. If using in slab heating we recommend our direct stick to slab method. **It is vital that any in floor heating system be fitted with a cut-off thermostat set no higher than 28°C when measured under the timber flooring.**

Irreparable damage to wooden floors occurs if it is subjected to temperatures above 28 degrees. It is important that the total timber thickness is no greater than 20mm otherwise the insulating properties of the timber reduce the effectiveness of the heating system. On request Pacific Floors can provide detailed installation protocols for installing timber over in floor heating systems.

REQUIREMENTS WITH REGARD TO NOISE REDUCTION

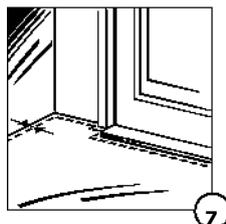
There are situations where a sound-damping sub-floor is required. Your retailer can best advise on the most suitable sub-floor underlay to meet these requirements.

MODIFICATION OF DOORS Check whether your doors can open and close with the combined height of the flooring and your subfloor (see 6).

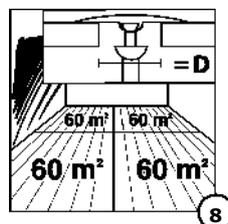


LAYING INSTRUCTIONS: FLOATING OF ENGINEERED PLANK WOOD FLOORING

The boards are laid 'floating' by gluing the panels together using water-proof PVAC wood glue. If the humidity level and temperature change, the floor may shrink or expand. For this reason, allow gapping the thickness of the floor (D) to all fixed boundaries ie walls, thresholds, columns and central heating pipes (see 7).



Movement joints should be installed if floors are more than 12 m long or more than 6 m wide, at door openings, between rooms, at turns in passages, etc. (see 8)

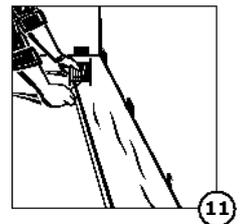
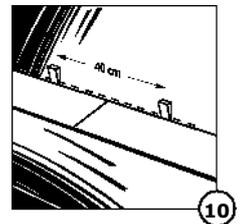


1. After the sub-floor underlay has been laid, the next step is to start laying the boards. We recommend that you start in a corner of the room which is immediately visible when entering the room (see 9). First calculate the number of rows that you will be installing. You will obtain best results if the first and the last track are of approximately the same width. Now, install the first panel with the groove of the length facing the wall.

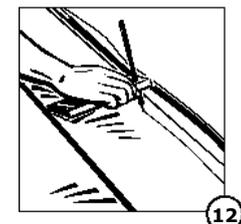


It is usual to install floor boards lengthways through the house (in the direction of the light).

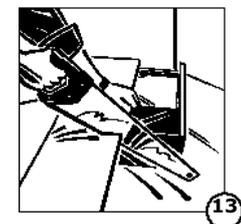
2. An expansion joint of approximately 15mm should be allowed to the perimeter of the wall. Place a spacer block at every 40 cm (see 10). Remove them 24 hours after the floor has been installed. Place the second floor board, and so on, until the installation of the first row of floor board is complete.



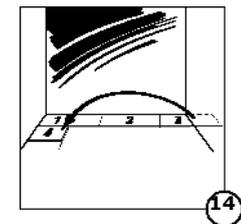
Check that the first row is straight using a string line along the length (see 11). After the third row has been laid, check again if the floor is level.



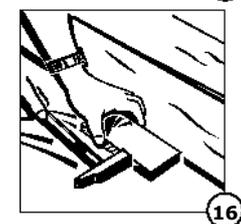
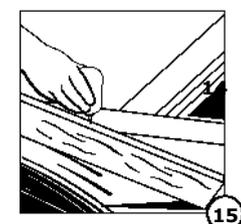
3. If the wall is not completely straight, you should template the irregular contours to the floor boards. This may be done using a spacer with a lead pencil (see 12). After the floor boards have been marked out, saw along the lead pencil line. Allow for expansion joints. When cutting with the saw please be careful not to damage the finished surface. (see 13).



4. Secure the first row of boards by gluing each board on the short side. In the second row, start with the remaining board of the first row (see 14). This board however, must be at least 40 cm in length, to ensure floor stability and minimize waste. The panels should be glued along the entire length and width. Do not use over use glue! (See 15)



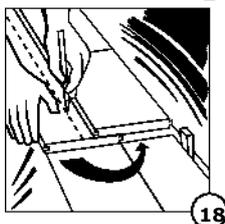
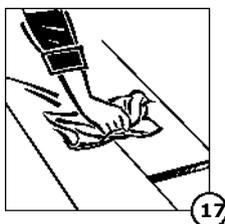
5. To tighten, use the stop block (see 16). This is to avoid damage to the board. Remove any residual glue immediately with a slightly moist cloth (see 17). After the glue has dried, it will be almost impossible to remove any residue.



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6. While fitting the last row of floor boards, lay the floor boards veneer side down, with the groove against the wall. Size and mark the boards and cut with the saw (see 18). Keeping in mind the required 15 mm perimeter expansion, if it is difficult to reach the last row, install the boards one by one as close as possible against the boards of the last row but one. Then push them together lengthwise using a pull iron and a hammer. The cross-cut ends are tightened using a stop block or a pull iron and hammer.



LAYING INSTRUCTIONS: DIRECT STICKING THE BOARDS TO THE CONCRETE SLAB

Over a prepared slab glue the boards with Mapei P990 to the slab using a 6mm notch trowel. Spot weight across the floor and weight any hollow or drummy areas to ensure floorboard and subfloor contact.

Installation of boards onto ply over concrete slab: The minimum thickness of ply which can be used over a slab in order to secret nail is 9mm. Over a levelled slab lay thick polythene sheet as a moisture barrier. Overlap each sheet by 150mm and attach the overlaps using duct tape. Lay the ply over the polythene sheet in the opposite direction (cross laminate) to the intended direction of the floor, for example; place the long length of the ply perpendicular to the direction of the boards. Attach the sheets to the slab using pre-drill sleeve pins only, at a rate of 28 pins per 2400mm x 1200mm sheet. Level ply as necessary by plane. Rough sand ply and glue in either a snake pattern individually to the back of the board or applied by 6mm notch trowel to the ply. Secret nail every 100-200mm.

Installation of boards by direct sticking to slab with acoustic matting:

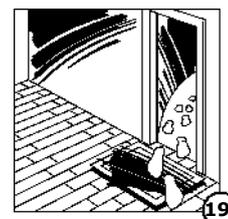
The matting system is a requirement in multi-residential developments to reduce noise transfer. The matting will need to be applied to the slab with Mapei P990 using a 3mm notched trowel and allowed to dry to the manufacturer's specifications. Glue the boards directly to the matting with Mapei P990 also using a 6mm notched trowel. Spot weight across the floor and weight any hollow or drummy areas to ensure floorboard and subfloor contact.

POST INSTALLATION

You may start using the floor 24 hours after installation. The spacer block should be removed immediately.

MAINTENANCE

A scheduled maintenance programme will increase the life of your floor. Protect your floor by placing a floor mat near the entry door. We also advise you to protect your furniture and chair feet with felt pads (see 19).



HUMIDITY

Wood is a natural product and reacts to the conditions of the room in which it is installed. Shrinkage or cracking can occur when the humidity is too low. The best condition for a wooden floor is a relative air humidity of between 40% and 65%. Shrinkage may occur if the relative air humidity falls outside these readings. Natural movement in the timber may result in the occurrence of slight cracks or checks

DISCLAIMER

These installation instructions are to be used as a guide only. The final installation methodology used will be dependent on job site conditions, types of adhesives, type of underlay (if any) used, Installer experience and individual preferences.

Installation works are warranted by the Installation Company, not Pacific Floors.

Pacific Floors is not responsible for claims resulting from the installation of the timber boards.