

Installation recommendations

Ultra10

SOLID HARDWOOD FLOORING



HURFORD
hardwood
QUALITY KILN DRIED TIMBER

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Application

This recommendation covers the installation of **Hurford Hardwood 86 x 10 mm Ultra10 flooring**.

Section 1 covers installation on plywood over a concrete slab.

Section 2 discusses aspects of sanding and finishing.

Section 3 looks at caring for the completed floor.

Note that due to the reduced thickness, these recommendations differ in some important areas to general recommendations associated with overlay flooring. All aspects of these recommendations are considered important.

Installation direct to slabs

With the quality of the floor in mind, Hurford's does **not recommend** its products for installation by direct adhesive fix to concrete slabs.

When floors are laid by direct adhesive fix to slabs there are many aspects that need greater consideration which include:-

- Slabs need to be checked that the surface is sound throughout and if found not to be, additional preparation is required.
- Slabs need to be flat, and if not within the adhesive manufacturer's tolerance corrective action needs to be undertaken which is conducive to the adhesive manufacturers guidelines.
- Slabs need to remain dry which can be difficult to check. Applied moisture vapour barriers need consideration and need to be that of the adhesive manufacturer or accepted by the adhesive manufacturer to maintain warranties.
- The slab needs to be clean. Paint, products that may have been spilt previously by others and products applied to slabs that are no longer visible can cause adhesive failures.
- Overlay flooring is thin and will flex with ease under foot pressure which can result in the adhesive bond being compromised resulting in numerous drummy patches.
- Contact between the board and adhesive must be maintained while the adhesive cures necessitating weights or pinning.

Section 1: Installation to plywood over a concrete slab

1.1 SLAB PREPARATION

- The concrete slab must be flat to the point where any gaps below a 1.5 m straight edge do not exceed 3 mm between two high points in the slab. Levelling compound may be used where this tolerance is exceeded.
- The slab (including any levelling compound) must be dry to the point where concrete moisture meter readings do not exceed 5.0% or the humidity within the slab does not exceed 85%. Tests to be carried out in accordance with equipment manufacturers instructions.

1.2 PRE-INSTALLATION

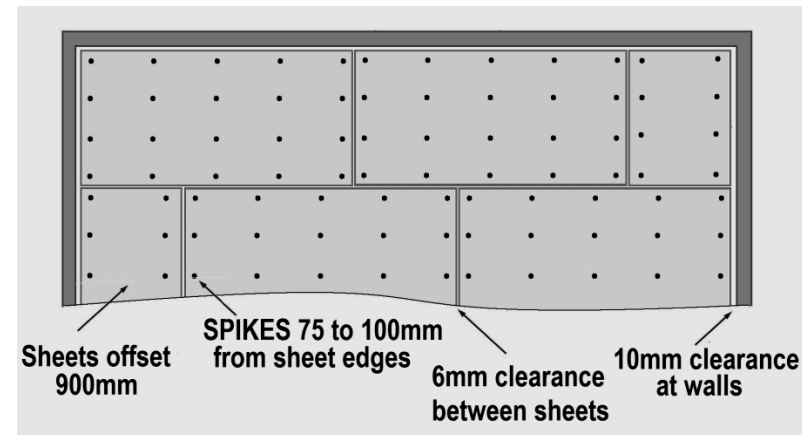
- The product has been provided with wrapping to top, sides and ends to minimise external influences. The protective wrap cannot be relied upon for protection from rain or other wetting. The product **must** remain out of the weather and intense sunlight during all phases of transport and storage. It should also not be stored where there are extremes in temperature and humidity such as an uninsulated metal garage or moist basement.
The site environment needs to be assessed as do the expected internal conditions after the floor has been installed. In high humidity environments natural swelling can be expected after installation and in dry climates shrinkage generally occurs. The effects of heating and cooling appliances must also be considered and particularly so if not in use when the floor is installed. The ATFA publication *Timber Flooring* provides more detailed information and this needs to be used when assessing the installation environment. Thinner flooring is more responsive to moisture content changes and

due to this it is recommended that the flooring is **not acclimatised** prior to installation. If used in very dry or very humid climates then Hurford Hardwood should be contacted for advice.

- The plywood subfloor must be dry at the time of floor installation (below 12% moisture content) and be no more than 2% higher than the overlay flooring. Note that plywood is manufactured at lower moisture contents, however the installation environment may result in some moisture uptake from the air and consequently higher moisture contents. The target manufactured moisture content range of Hurford overlay flooring is 9% to 12% with an average of approximately 10% to 11%. Note that if there are doubts as to the moisture content of the plywood due to wetting (by weather or other trades etc) or conditions of very high humidity, then the sheet flooring will require moisture content testing by the oven dry method. Moisture meters are inaccurate.

1.3 INSTALLATION

- A polyethylene moisture barrier, at least 0.2 mm thick is required to be placed over the slab, lapped 200 mm at joints and joints taped. The barrier is also required to go up the edge of the overlay floor at least as high as its upper surface.
- The recommended plywood sub-floor is structural grade, 15 mm thick and with a type A bond. Sheets are to be installed in a 'brick' pattern with a 6 mm gap between sheets and a 10 mm gap to internal and external walls. Sheets are to be staggered 900 mm so that from sheet to sheet, fixings do not line up.
- Plywood sheets are to be fixed to the slab with hand driven 50 mm long by 6.5 mm 'Powers SPIKES' to manufacturer's recommendations or equivalent. Twenty are required per 2400 mm x 1200 mm sheet, equally spaced and with the outer spikes 50 mm from the sheet edge. The head of the SPIKE is to be driven below the surface of the plywood.



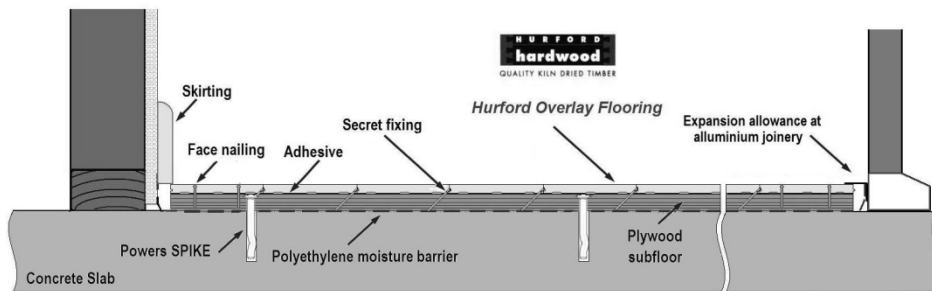
- If 12 mm thick structural grade plywood, type A bond, is to be used for the sub-floor, then the fixings to the slab are to be increased to 28 per sheet. Following installation of the plywood it is to be ensured that the surface is flat from sheet to sheet and that there are no contaminants or coatings that could affect the bonding of the adhesive. If this is not the case, rough sanding is necessary to provide the required surface.
- Mechanical fixing combined with adhesive is necessary to achieve the required fixing performance.
- The adhesive is to be a polyurethane flooring adhesive and where a higher bonding strength is desired or considered necessary a full trowel bed of adhesive is to be applied, otherwise beads of adhesive may be used.

When using polyurethane adhesives the manufacturer's recommendations regarding the application of the adhesive are to be followed.

Floor fixing is to be a combination of adhesive and mechanical fixing. The adhesive may be a full bed applied to adhesive manufacturer's instructions or beads of adhesive 6mm to 10mm in a zigzag pattern ensuring the pattern extends the full width of the board. Mechanical fixing is provided with Powernailer' cleats – 25 mm long at 225 mm spacing nailed through the polyurethane

adhesive and not within 75 mm of board ends. Note that staples are more prone to splitting the board and are not recommended.

A starter board is required when beginning to lay the floor and this will require face nailing. A gap for expansion allowance of at least 10 mm is also to be provided under the skirtings and around fixed obstructions. Additional expansion allowance is required in floors greater than 6m wide (always measured across the width of the boards). It is usual to lay boards parallel with the longest wall in a larger room and for boards to run parallel to walls in hallways. Although the flooring has been manufactured to maximize its straightness, it is still necessary to ensure that the installation remains parallel throughout installation.



Section 2: Sanding and Finishing

After installation is complete it is important that the flooring is not sanded for 3 days to provide time for the adhesive to cure and boards to adjust to in-service conditions. Equally if the floor is to be left more than 7 days before sanding and finishing then additional protection may be necessary to prevent possible damage by trades or from moisture changes. During these times the floor is not to be exposed to extreme conditions of high or low humidity and in particular it is important to protect the flooring from intense direct sunlight.

There are many aspects that need to be considered when choosing an appropriate finish. Not only are aspects such as gloss level and wear resistance of importance but also the interaction between timber species, board cover width and finish. A professional floor sander and finisher who are aware of and understands such aspects should be employed to sand and finish the floor.

Section 3: The Completed Floor

It is important to realise that this is a solid timber floor that will be subject to the same conditions that result in movement in other timber floors. It can therefore be expected to swell and shrink with seasonal changes in humidity, however the product and installation method outlined has been developed to reduce this movement. Even so, it can be expected that the floor will show gaps and that these are likely to be more prevalent with dry conditions within the dwelling. Recommendations for all timber floors indicate that to reduce the effects of shrinkage and cupping near windows, window coverings, tinted glass or floor mats are effective. This is also the case with Hurford's Ultra10 flooring. It must however be realized that even with such measures, wider gapping can be expected in these areas than other areas of the floor and a small amount of cupping may also occur. Floors should be cleaned regularly in accordance with the advice from the floor finish manufacturer.