

# *InStyle*

CLADDING

## FLOORING RESIDENTIAL INSTALLATION GUIDE

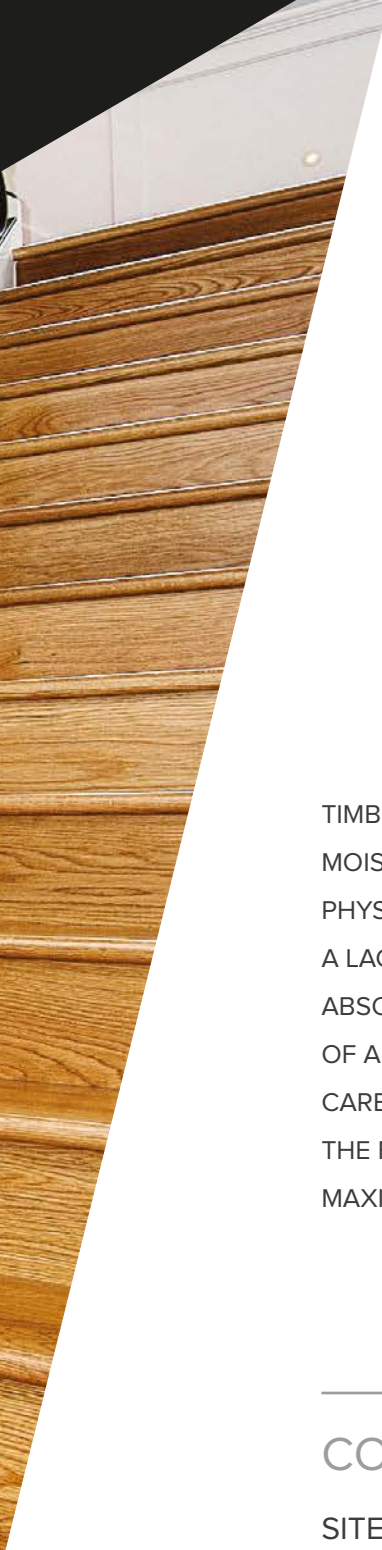


**BAYSWOOD TIMBER**  
WHOLESALERS PTY. LTD

USE TIMBER – THE MOST ENVIRONMENTALLY  
FRIENDLY BUILDING PRODUCT ON THE PLANET

**CREATE  
A LASTING  
IMPRESSION**



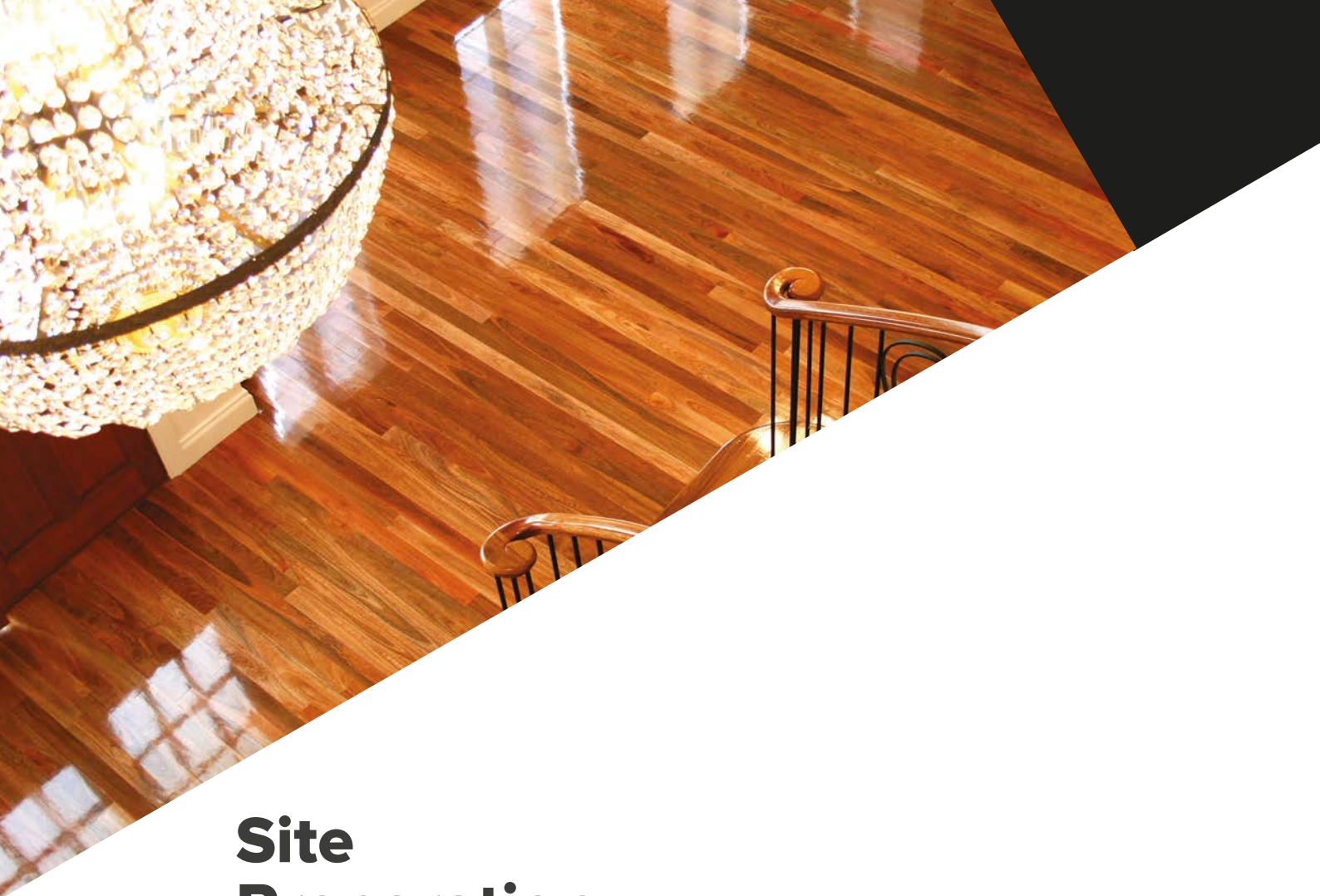


TIMBER IS A NATURAL PRODUCT. IT IS RESPONSIVE TO CHANGES IN MOISTURE WITHIN THE SURROUNDING ENVIRONMENT, AND CAN REACT PHYSICALLY TO FACTORS SUCH AS DIRECT SUNLIGHT, CLIMATE CONTROL, AND A LACK OF VENTILATION. DURING TIMES OF INCREASED MOISTURE, TIMBER MAY ABSORB THIS MOISTURE, AND AS A RESULT, EXPAND IN SIZE. LIKEWISE, IN TIMES OF ARID CONDITIONS, TIMBER MAY EXPEL MOISTURE, AND SHRINK IN SIZE. AS SUCH, CAREFUL CONSIDERATIONS MUST BE MADE BEFORE INSTALLING ANY TIMBER FLOORING. THE FOLLOWING GUIDE WILL PROVIDE YOU WITH A STEP BY STEP PROCESS TO ENSURE MAXIMUM SERVICEABILITY FOR YOUR NEW TIMBER FLOORING.

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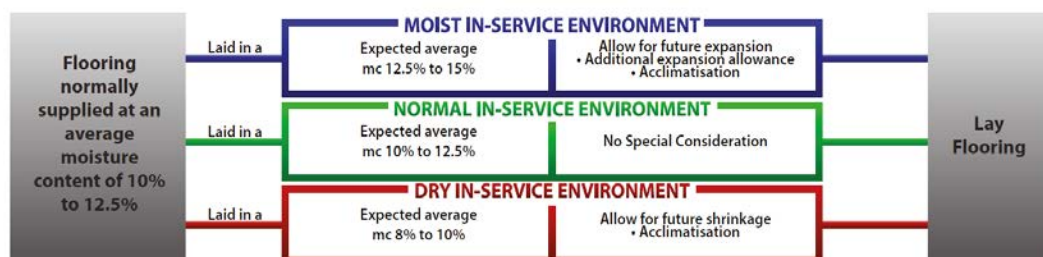
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# Site Preparation.

- 1) If installing hardwood flooring in a new home or renovation, it is important to ensure that the job is at a suitable stage for installation. Make sure the job is sealed from the weather, and all windows, doors, roof, cladding and window coverings are finished prior to installation of flooring, to avoid excess traffic from trades. There also needs to be adequate drainage under the subfloor.
- 2) It is important to assess the climate of the site before installing any hardwood flooring. Relative Humidity(RH) is the single most important factor in the long term stability of hardwood flooring. If the long term Relative Humidity is equal or close to that of the moisture content of the timber, then movement caused by changes in season should be minimal. If the Relative Humidity of a site is significantly different than the moisture content of the timber, issues can arise from moisture content changes due to the seasons.



As per Australian Standard AS2796, hardwood timber flooring is dried to a moisture content of approximately 9-14%. Recording RH levels before and during installation is recommended, and can be recorded using a Hygrometer.

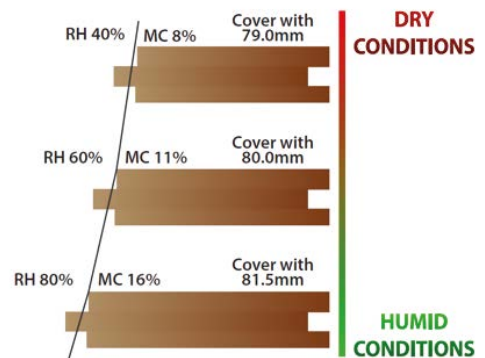
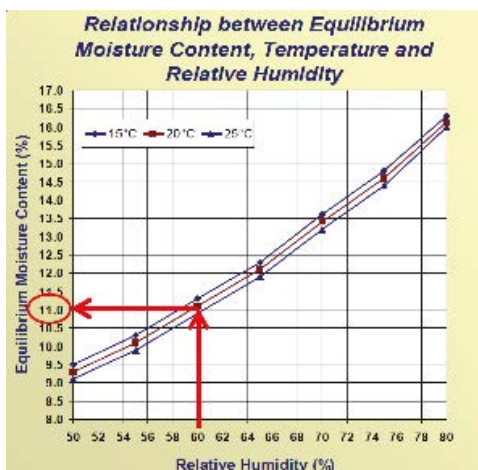
The Australian Bureau of Meteorology website will give you an indication of local site climates. If seasonal variations are greater than expected, it is normal that any movement will be exaggerated. Extra allowances for expansion may be required in areas that receive extreme variations in conditions.

Micro climates within a dwelling may be caused by factors such as direct sunlight, air conditioners, fireplaces, warm air vents, refrigerators, clothes dryers, and other appliances that may move air. Assessing each room is important, as timber may behave differently from room to room due to these micro climates.

Other things to consider are evaporative coolers, air conditioners and ducted heating, which may change the humidity and temperature within a room.

Even with adequate assessment of a site, allowances should be made for movement caused by differing moisture contents within individual boards, as well as variable conditions due to air conditioning and heating. Expansion and contraction of boards is an inevitable part of owning a timber floor.

- 3) Your subfloor is a very important factor to consider when looking to reduce expansion and contraction in hardwood flooring. The Australian Standards AS1684 and Building Code of Australia dictate the minimum requirements for your subfloor. Adequate drainage is important to avoid fluctuating moisture levels, as are unobstructed air vents and making sure there isn't any debris that could contain moisture below the dwelling. A plastic vapour barrier can be advantageous in improving the conditions beneath the flooring. Correct subfloor conditions are vital.



# Taking delivery.

- 1) Your new flooring will be delivered to site wrapped in plastic, to protect the flooring during transportation. Please make note of any damage to the packs and/or timber as soon as you receive delivery, and report it to your supplier and make note on your delivery docket.
- 2) Flooring needs to be kept inside prior to installation. Any covering that has the potential to hold condensation needs to be avoided, as this can have an impact on the moisture content of the timber.

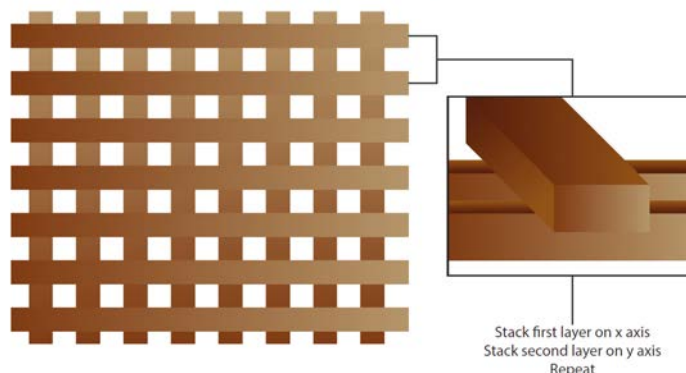
# Acclimatisation.

Acclimatisation is the process of giving the timber a chance to equalise its moisture content with the environment in which it will be installed. To achieve this, each board must be exposed to the atmosphere of the room, meaning that the boards will need to be restacked in a way that allows air flow to all sides of the boards. Acclimatisation will only work in a dry area, during a dry period, and is only considered to be finished when the moisture content of the timber is the same as the Relative Humidity of the room.

This process may take up to 3 weeks, and results can be confirmed by first measuring the Relative Humidity with a Hygrometer, and comparing it to the moisture content of the timber, which can be measured using a moisture meter.

For overlay flooring (12, 13 or 14mm thick), acclimatisation takes place *after* installation, by leaving the boards installed, but unsanded and unfinished for a period of 3 weeks after installation. If the environment is dry, gapping is quite normal using this acclimatisation method, and trowel filling any gaps with a suitable flooring putty is acceptable. If the environment is damp, extra expansion gaps may be required to allow for any expanding boards.

## STACKING TO DRY



# Preparing to install.

Check for any signs of moisture including, but not limited to leaks in the ceiling, windows, pipes and overflow from wet areas. Any moisture issues need to be dealt with prior to installation.

Your slab needs to be free from any potential contaminants such as oils, grease, paint, dust, plasterboard residue and mortar.

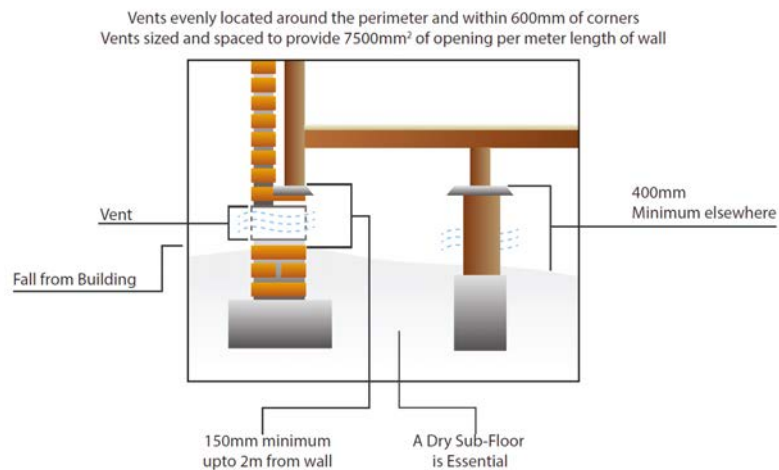
The slab needs to be level, in accordance with AS3600-2001: Concrete structures. No more than +/- 3mm deviation is allowed per 3 metre radius. If the slab falls outside these parameters, then a self-levelling compound may be used in accordance with manufacturers recommendations to achieve the above specifications.

If using battens over the slab, any issues around flatness can be remedied by the use of packers, or the planning down of the battens themselves.

A barrier of builder's plastic is recommended to use between the slab and battens/ply, to avoid any moisture being taken on by the timber from the slab. Any joins in the builder's plastic need to overlap by a minimum of 200mm.

If using a timber substrate, such as chipboard, ply or an existing timber floor, then these need to be sanded, and a clean, flat surface produced. Ply needs to be structural and conform to AS/NZS 2269, and needs to be within a few % of the moisture content of the timber flooring itself.

When installing over bearers and joists, adequate sub floor ventilation is of the highest importance. Excessive moisture on the underside of the boards can lead to an imbalance in moisture content between each side of the board, which may lead to cupping and expansion. Ventilation must meet to minimum requirements outlined by the Building Code of Australia, however it is worth adding extra vents and/or fans in particularly damp areas. Vents need to be installed on both sides of a building, to allow for cross ventilation.



# Installation.

## 19mm Flooring.

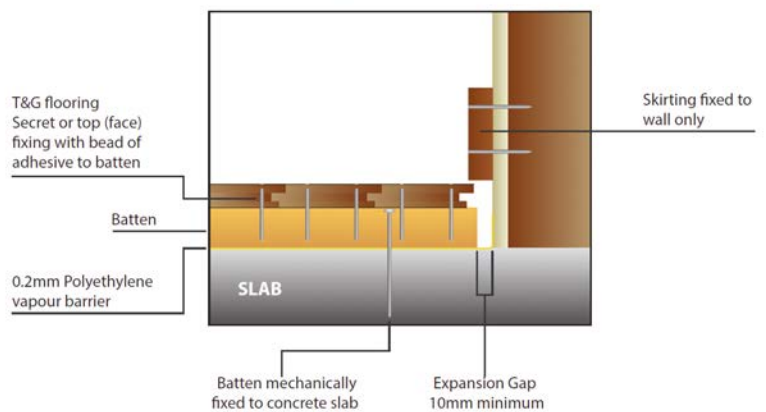
It is recommended that the installer lays the boards on the floor in a random pattern, taking into consideration any variances in colour and feature.

A 12mm expansion gap is required on all perimeter walls, as well as in any spots where the flooring may butt into an obstruction (column, kitchen cabinets, door jamb). This is to allow for movement when the timber expands due to changes in the environment of the room. Any floor with a width in excess of 6m will require an intermediate expansion gap, in accordance with AS1684.

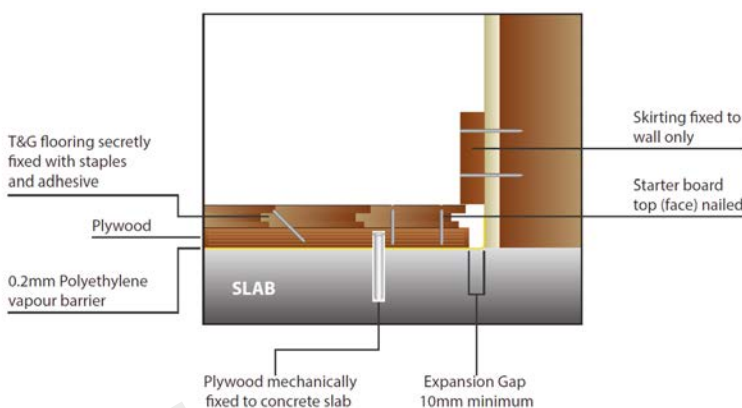
## INSTALLING 19MM SOLID FLOORING TO BATTENS AND PLY

Battens are a popular substrate when installing over a concrete slab. Battens need to be a minimum of 19mm thick for secret nailing, and 35mm thick if face fixing. Spacing of no greater than 450mm is required for battens. Battens can be adjusted using packers or planning, and need to be fixed to the slab using an appropriate masonry anchor.

### FIXING TO BATTENS



### FIXING TO PLYWOOD



Fixing plywood to the slab is another effective method, and this needs to be done in conjunction with a layer of builder's plastic below the ply. Do not top nail fix if using ply as a substrate. Ply must be compliant with AS/NZS 2269. Fixing to the slab is achieved with appropriate masonry anchors fixed to manufacturers recommendations. Fix plywood sheets through the membrane to the slab with hand-driven 50 mm long by 6.5 mm spikes. A minimum of 20 spikes to be used per 2400 mm x 1200 mm sheet, equally spaced (4 rows of 5 spikes down the length of the sheet) and with the outer spikes 75 mm to 100 mm from the sheet edge. If a brick pattern is used, it is preferable that sheets be staggered by 900 mm so that fixings do not line up from sheet to sheet.



## INSTALLING 19MM FLOORING TO BEARERS AND JOISTS

The two most important factors when installing on bearers and joists are the structural integrity of the existing joists, and the adequate ventilation beneath the bearers and joists. Joists will need to be planed or pack to achieve a level surface, however the structural integrity must not be compromised by reducing the size of the member below AS1684. All plain end boards must be joined on a joist.

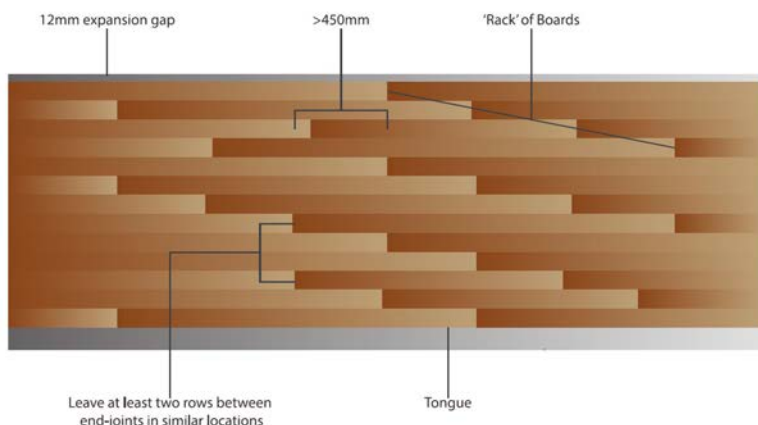
# Laying the Boards.

A common method for laying hardwood flooring is to separate the boards into two packs. One with boards that are of a similar length, and a pack of boards varying in length. The first random length board will be laid with the groove facing the wall (remember to allow a 12mm expansion gap, which will be covered by skirting boards), and one of the similar length board will be cut to length to finish off the row. Make sure there is a distance of at least 450mm between butt joints in adjacent rows of flooring. Make sure all joints are spread out evenly over the floor, avoiding any groups of joints in any one section.

Flooring will need to be fixed appropriately, using either a secret nail method or a top nail face fix, in conjunction with a polyurethane based, flexible flooring adhesive. A full trowel method is recommended on ply and particleboard, while a bead on every joist is recommended over a bearer and joist subfloor. Fixings need to be on every joist, or at an interval every 450mm as a minimum if fixing to a ply or timber substrate. Using a secret nailer will pull the board in as it drives the nail into the board. If using a top nail method, the use of a cramp can help in pulling a group of up to ten boards tight at once, allowing stability while you fix the boards.

Fixings need to be approximately 2.5 times the thickness of the board in length, to provide adequate bite into the substrate.

Secret nailing 108 and 130mm boards needs to be used in conjunction with a full trowelled glue method, using an appropriate polyurethane, flexible flooring adhesive. Secret nailing a wide board should be undertaken only in areas where there will not be a dramatic change in relative humidity. Appropriate substrates for secret nailing wide boards are 15mm structural ply (AS/NS 2269), and 19mm particleboard flooring. It is prudent to make sure the moisture content of the ply or particleboard is within 2% of that of the flooring. Secret nailing a wide board requires fixing at 250mm centres, with no more than 50mm from the end of a board.



## OVERLAY FLOORING

Direct sticking flooring to a slab, ply or particleboard substrate is recommended only in 85mm overlay (14mm) or smaller. The subfloor needs to be flat and free from dirt, dust, and wax. Direct sticking to an existing floor is also suitable, however the new boards will need to be run perpendicular to the existing floor. A waterproofing membrane should be installed as per manufacturer's recommendations. Direct stick method is not suitable for slabs that have a moisture content in excess of 5.5%. Ply needs to be structural, and a minimum of 12mm thick for overlay flooring, in accordance with AS/NZS 2269.

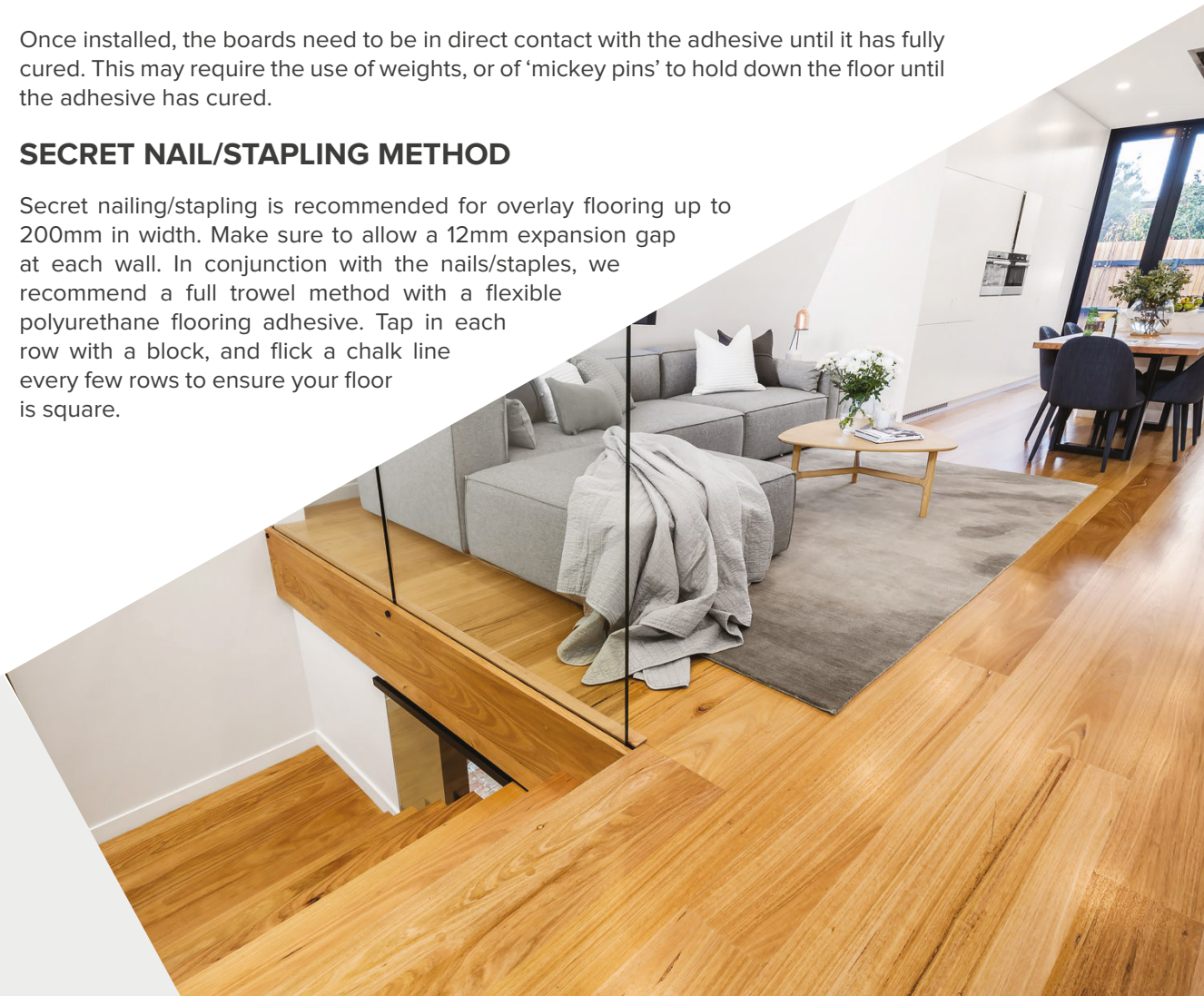
## DIRECT STICK METHOD

Set up a work area, approximately board widths (plus 12mm expansion gap), from the longest wall in the room. Using concrete nails, nail a board along a chalk line to work as a holding board, ensuring that the tongue is directed towards the starting wall. Trowel enough adhesive to lay out the next 3-4 rows of boards, and use a block to tap each row in as it's completed, being sure to allow a 12mm expansion gap at each end of the row. Be sure to start each row with a board that varies from the last by at least 300mm, to avoid grouping of end joints. Once the main floor area is completely laid, apply the same method to the work area.

Once installed, the boards need to be in direct contact with the adhesive until it has fully cured. This may require the use of weights, or of 'mickey pins' to hold down the floor until the adhesive has cured.

## SECRET NAIL/STAPLING METHOD

Secret nailing/stapling is recommended for overlay flooring up to 200mm in width. Make sure to allow a 12mm expansion gap at each wall. In conjunction with the nails/staples, we recommend a full trowel method with a flexible polyurethane flooring adhesive. Tap in each row with a block, and flick a chalk line every few rows to ensure your floor is square.



# Finishing Your Hardwood Floor.

There are many different types of finishes on the market for hardwood flooring, including oil based, water based and polyurethane finishes. Each has their own characteristics, benefits and potential issues, which is why we recommend sanding and finishes to be completed by a professional floor finisher.

## After Care and Maintenance.

- Dirt, sand and stones can all have adverse effects to your hardwood flooring. Try to eliminate these with mats, or a no shoes policy on the floor.
- Sweeping and vacuuming is recommended to keep your floor clean. If necessary, a damp mop can be used to remove dust and stains. However, steam mops and wet mops should be avoided, as they can affect the moisture levels of your timber floor.
- Sunlight can be harmful to hardwood flooring, and appropriate window coverings are essential to avoid cupping and checking, as well as any potential discolouration.
- Fabric protectors should be used on all household furniture to avoid scratching.



Who is bringing InStyle Flooring to you?

**USE TIMBER  
– THE MOST  
ENVIRONMENTALLY  
FRIENDLY BUILDING  
PRODUCT ON  
THE PLANET**

Manufactured by  
Bayswood Timber Wholesalers



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