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## INSTALLATION GUIDE- Straightboards

Hardwood floors are a product of nature and therefore not entirely free of typical timber features such as grain variation and knots. Every piece of wood has a different grain, colour and texture. These natural appearances are part of the unique beauty of timber products, which means that two wooden floors are never the same in appearance. Colour variation is normal because no two planks are the same, and exposure to direct sunlight will cause discolouration over time.

All products in the Plank collection are manufactured according to industry standards which permit tolerances in dimension by no more than 7%.

Timber is a living product and therefore is subsequently affected by differences in moisture content ie. contracting when dry and expanding when wet. This is a continuous process throughout the life of the product.

### INSTALLER / OWNER RESPONSIBILITY

Care has been taken during the manufacturing process of Plank timber floorboards to compose boards of the same colour and grain variation, however no two boards are the same. Colour, grain and gloss variation may occur from batch to batch due to the nature of the product and the manufacturing process. It is recommended that a min. of 5 packs are opened and laid out prior to installation to judge the colour and grain variation throughout the entire floor. Installation should commence according to a predetermined floor plan.

Note that different batches of timber floors may have colour and grain variation and due to the aging process, newly installed additions to a floor can have substantial colour variation. This variation should disappear over time depending on the exposure to the intensity of the UV component in light.

The installer is responsible for the final inspection of boards and must perform a quality check prior to installation. Examine for: colour variation blend, finish, milling, machining and quality. If the supplied material is not acceptable, **do not proceed with installation** and contact your Plank representative immediately.

The installer must determine prior to installation whether the site environment and subfloor involved meet or exceed all applicable standards and recommendations. The moisture content of the subfloor and the climatic conditions of the site should be verified, recorded and should conform with the applicable standards and manufacturer's recommendations. Use of stain, filler or putty for defect correction during or after installation should be accepted as normal. Responsibility lies with the owner/ installer to establish whether the subfloor and the circumstances of the work location are structurally and environmentally suitable for laying the floor.

Any piece of timber which is doubtful as to grade, manufacturing quality or factory finish should not be used by the installer and counted as waste material. Remove any pieces with defects or cut them off, regardless of the cause. In the



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case of doubts regarding the classification, manufacture or finish of the product, do not commence the installation and contact place of purchase immediately.

Please note that an incorrect installation will affect the warranty. Once the floor has been installed, it is deemed inspected and acceptable by the installer and homeowner, regardless of whether the homeowner is present at the time of installation. It is the sole responsibility of the installer to ensure that the site, subfloor and installation tools meet applicable industry standards. Plank accepts no responsibility for issues arising from incorrect or inadequate site preparation or improper installation techniques.

## 1) MATERIAL DELIVERY AND STORAGE ONSITE

Plank floors are supplied as a prefinished product and extra care needs to be taken when handling and storing the material onsite to ensure the moisture content is not affected. All packs are delivered individually wrapped in plastic and are to remain closed prior to installation. The packs are to be stored internally in a dry location and min. 100mm off the ground in a horizontal position. Never lay packs vertically against walls when storing the packs onsite. Storage location must be in a similar condition then the environment that the boards will be installed, with relative humidity between 40-60% and in a dry location. Please avoid basements that have high moisture due to surrounding trades that will impact the timber.

## 2) SITE INSPECTION AND ACCLIMATISATION- Applicable to all installation methods.

Boxes of timber floor boards shall be stored internally in a dry place, protected from wind, rain, sun and other adverse weather conditions. The product shall be delivered and stacked horizontally and flat. **Do not stack directly on concrete, packs must be min. 100mm off the ground and packs not to be stood up along the walls.**

- Packaging to only be opened immediately prior to the commencement of installation. This is particularly relevant during winter and periods of high humidity.
- Flooring products must acclimatise in the space for a minimum of 24 hours prior to installation in closed packs.
- Boards installed in a humid environment will grow naturally and therefore acclimatisation is imperative in areas such in tropical regions.
- Boxes must remain closed prior to installation.
- Under NO circumstances open the ends of boxes as this may cause tapered ends in the flooring.
- All concrete work must be completed at least 60 days prior to the delivery of hardwood.
- In new construction, timber should be the final element installed in order to prevent damage.
- Relative humidity must be within 50-60% for a minimum of 7 days prior to install.
- Normal living conditions should be regulated post installation to avoid drastic changes in climate.
- All wet trades to be completed prior to installation taking place.



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### 3) MOISTURE CHECKS PRIOR TO INSTALLATION

#### **Moisture Check- Concrete Subfloors**

Prior to commencing installation, measure the relative humidity in the room. Relative humidity should not exceed 40 - 60%. Moisture content on concrete sub floors must be under 5% and needs to be checked using a calibrated hygrometer. If the RH is less than 30% there is an increased risk of the planks concaving. Where installing Plank flooring in a new building, ensure that the moisture content of the subfloor measures below 75% RH in accordance with the methods prescribed in Australia Standard AS1884. For measuring concrete or anhydrite floors, the measurement must be executed following the CM method.

It is important that the floor's environment is regulated to normal living conditions once the installation is complete. The supplier is not responsible for any defects arising from climatic changes within the room.

#### **Moisture Content- Timber subfloors**

Prior to commencing installation, the sub floor must be free from all building debris and completely dry. A moisture test on a min. 6 points on the subfloor needs to be taken and recorded. The moisture content must not exceed 10-12% and note should be taken when testing sheet flooring that glues between the layers will impact the readings.

## 4) SUBFLOOR PREPARATION

The subfloor must be structurally sound, dry, clean and level before installing the wooden floor. This includes but is not limited to:

**Structurally Sound:** Engineered timber flooring can be installed over concrete subfloors and existing wood or tile floors provided they are dimensionally stable. Note that timber engineered floors cannot be installed over carpet, carpet tiles or any other soft material.

**Dry:** A high relative humidity can have a negative influence on the floor. The critical moisture content for the subfloor is less than 5% for concrete subfloors and between 10-12% for timber subfloors.

**Clean:** Ensure the subfloor is free and clean from all contaminants and loose material by vacuuming prior to installation. Do not wash the subfloor or expose to water prior to installation.

**Flat/Level:** For floating floors or direct stick installations, subfloors should not exceed **3mm variation over 3m** in any direction. Remove all irregularities greater than 3mm by using a suitable leveling compound.

### Concrete Subfloors

Concrete subfloors must be structurally sound, dry, level (**maximum variation of 3mm over 3 metres**) and clean. Remove loose, flaky concrete by scraping it off by hand or with a grinding disk. The concrete subfloor must be cleared of all paint, oil, glue, grease, wax, dirt, sealants and hardening paste. These products may be removed chemically or mechanically, however caution must be taken to never use caustic products on a solvent base. Residues of solvents may deteriorate the correct binding of flooring adhesives. It is critical to ensure that glue, concrete and wood adhere perfectly. Where there is doubt about the floor remaining sufficiently dry, always apply a moisture barrier and ensure that seams are absolutely watertight.

### Wooden Subfloors

Moisture content of the subfloor should not exceed 12%. Boards which are not level must be sanded, patched, or re-installed within the level tolerance of **3mm over 3m span in all directions**. All existing boards should be fully fixed. No nails or screws may protrude beyond the top layer of the boards. Loose boards must be securely fixed and it is essential that all protruding nails are nailed below the level of the subfloor surface. Loose or creaking floorboards will lead to a squeaking floor after installation. The timber subfloor must be dry and structurally sound without loose boards or sheets. Timber subfloors must be cleared of all paint, oil, glue, wax, and grease.

### Ceramic, terrazzo, slate, marble and other tiled floors

The moisture content of the subfloor should not exceed 5%. Tiles must be checked to ensure that they are securely fixed to the subfloor and addressed where necessary. All grout joints and broken corners which exceed 25mm must be filled with a cementitious leveling compound. Where a surface has a glazed finish, it is imperative that it be ground to a rough finish to allow for the glue to adhere sufficiently to the surface.

### Underfloor heating



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Plank Floors does not warrant under floor heating systems with our prefinished engineered flooring range.

## 5) INSTALLATION: TROWEL GLUE DOWN METHOD

When gluing the timber directly to the subfloor, the subfloor must be flat and free of any deviations greater than **3mm over 3m spans**. Use only PU (Polyurethane) based glues to adhere the boards to the subfloor. Never use water based glues! Use of other glue types will void the manufacturer's warranty. Always use a moisture seal between the subfloor and underlays/plywood or direct flooring. Ask your adhesive retailer or distributor for full advice on the moisture seal and adhesive system that best suits your site conditions . Only use a single component, (solvent free) moisture curing polyurethane timber flooring adhesive as glue for adhering the boards. If glue with a high water content is used, boards will expand uncontrollably. In areas where there is a concern with moisture, use a suitable moisture seal. Ask your retailer or distributor for full advice.

1) Once you have chosen a starting wall, snap a chalk line to determine the straightness of the wall. After the adhesive is spread and the first row of planks are installed and secured, this will serve as an anchor for the subsequent rows of planks, which will be pushed snug against it. An expansion joint of 10mm is also needed against the walls.

Using a trowel according to the adhesive manufacturer's instructions, hold the trowel at a 45 angle to the subfloor to obtain the proper ridges. Begin spreading adhesive at the starting wall and cover an area approximately 300mm wide along the length of the wall. The spread rate of adhesive and timing for installation should be according to the adhesive manufacturer's instructions. Never spread excessive amounts of glue at one time, never the entire floor, and always work in sections.

Proper placement of the first row of planks is very important. The tongue side of the plank will face away from the starting wall. Lay the first row parallel to the wall, ensuring that it is absolutely straight and tight relative to the starting wall. Use wedges to maintain a 10mm expansion gap and keep the first row of planks in place. **Any excess of adhesive should be immediately wiped off with the recommended cleaning wipes, Bostick wipes or similar, then damp cloth, followed by a dry cloth during the installation.**

2) For the following row hold the plank at a 45° angle, engage the side tongue and then press into the adhesive and slide lengthwise until the end tongue fits into the previous row. Use the tapping block to tap with a hammer or a rubber mallet to tighten the fit.

Continue laying planks until the entire spread adhesive has been covered. Always ensure that there is adequate glue on the subfloor to cover the entire plank. Ensure as you work that the planks are straight, otherwise the entire installation will be out of alignment. Avoid installing according to the "brick-laying" method. It is important that contact be made between the adhesive and the planks. A roller may be used after each section is laid to tighten the fit to ensure good adhesive transfer is obtained shortly after installing the flooring.



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Do not hammer the top of boards to ensure that the “anchor” row does not move or demand the edge of the board. If necessary use some weight(s) to hold the planks tight to the subfloor until the glue has properly bonded.

4) Heavy traffic should be kept off the flooring until the adhesive is firmly set, usually approximately 24 hours (see adhesive instructions)

5) On completion of the installation the floor must be checked, detailed and thoroughly cleaned to remove glue residue/ grit and building dust prior to installation of the recommended floor protection.

## 6) EXPANSION JOINTS

Timber floorboards are a natural product. Under the influence of moisture in the air and daily temperature and humidity variations, timber floorboards will expand and contract. This process is normal and to be expected. Although engineered timber floors are more stable than solid timber floors, it is recommended to take into account a sufficient expansion gap on either side of the width of the room. This will allow the floor to expand and contract as a whole evenly and will avoid but not entirely prevent gaps appearing.

In order to cater for normal expansion and contraction, installers must leave a **minimum gap of 10mm** between the edge of the floor and the wall or any other solid surface it meets. This gap should be covered by an appropriate trim after the timber floor is installed. A similar gap should also be left around other permanent fixtures such as kitchen cabinets or door frames and where flooring meets tiles, carpet or any other floor covering. An expansion joint in the subfloor must be provided with a matching expansion joint at the same location on the timber floor installed above it.

### Finishing Off

Once all laying procedures are complete and glue is sufficiently dry (see information on adhesive bottle), all spacing wedges should be removed. Any visible joins or gaps along the boards or at the ends where two boards meet shall be filled with a filler to match the colour of the timber or a cork strip/compound. Always test the filler on a leftover piece of plank to check for reaction (if any). Skirting-boards or scotia may now be installed by nailing, screwing or gluing directly to the perimeter walls or existing skirting. Never fix directly to the installed floor.



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## INSTALLATION - FLOATING METHOD

**Plank floors do not approve joinery, heavy objects or fixed points to be installed over the floating installation method. This will create a fixed point and will not allow the floor to move as a whole.**

1) Sub-floor shall be clean and free from dust. Use a broom or vacuum cleaner. The subfloor should not be washed or exposed to water prior to installation, always ensuring that the floor is fully dry prior to installation.

2) Lay a moisture barrier such as a polyethylene (builder's plastic) film of at least 0.02 mm thickness as a moisture protection barrier between the subfloor and underlay. Overlap parallel sheets by at least 200mm and tape with waterproof tape. Run the moisture barrier around the perimeter of the floor area up the wall by 50mm. Cut excess material to the height of the top of the boards and remove after the flooring has been laid.

3) Always begin the installation with the groove side of the board facing the wall. This is in order to avoid tapping the groove side of the board, as tapping is always at the tongue side. Allow for an expansion gap of approximately 10mm between the first row of boards and the wall by using spacing wedges regularly along the length of the wall. Commence laying the flooring at the corner of the starting wall with the tongue of the first row of boards facing away from the wall. Start the next row with the piece left from the previous row or a board with a length which is at least 450 mm shorter or longer than the first board in the first row. The end joints of adjoining boards should be staggered by at least 450mm. Do not install according to the "brick-laying" method.

Glue the boards along all joints including end joints. Use only a cross-linked D3PVA wood adhesive. Never use regular wood glue as this will avoid normal expansion and contraction and will lead to cracks and other defects.

Apply the glue to the top inside edge of the groove of the board (including the groove at the head joint) in a continuous line. Never apply the adhesive in a broken line as this will cause your floor to squeak and will lead to a deficient performance of your floor and avoid normal protection against moisture penetration via the joints. Any excess adhesive should be immediately wiped off with a clean damp cloth. Wipe dry with a dry cloth to avoid smearing.

4) The first board of the next row is pressed into position and tapped into the other board using a rubber mallet and a tapping block. Never strike the board directly with the mallet. This will increase the risk of damaging the board. If you notice that the boards do not fit together entirely (open gap between boards), check whether the correct amount of glue has been used. Excess glue will prevent your boards from closing due to a vacuum effect.

Cut door frames to the correct height so that the planks can be laid underneath. Often the last row will be less than the width of the boards which will require cutting along the length of the board. Take the expansion gap into account when installing the last row of boards and thus cut the timber to the width of the gap of the last row minus the expansion gap of 10mm. See above for the exact width of the expansion joint, and do not include the tongue in this width. Apply the adhesive in the groove and put the boards into place with the spacing bar and wedges using a protective piece between



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wall and tool, and between spacing bar and boards. Place the timber as low on the wall as possible and with the spacing bar force the board into position. Do this as many times as necessary to close the gap. Remove all spacing wedges once all boards are glued and fitted and the glue is sufficiently dry (see advice on glue bottle).

### **Finishing Off**

Once all the laying procedures have been completed and the glue is sufficiently dry (see information on adhesive bottle), all spacing wedges should be removed. Any visible joints or gaps along the boards or at the ends where two boards meet should be filled with a filler to match the colour of the timber or a cork strip/ compound.

Always test the filler on a leftover piece of plank to check for reaction (if any). Skirting-boards or scotia may now be installed by nailing, screwing or gluing directly to the perimeter walls or existing skirting. Never fix directly to the installed floor.

### **RECOMMENDED FLOOR PROTECTION**

On completion of installation the floors and prior to the floor protection being applied, the floors are to be cleaned using the recommended floor cleaner for the selected finish as per the maintenance manual. Any detailing, scuffing, minor scratches should be attended to prior by using a wax repair kit or fillers. If dust is present, vacuum off immediately, do not mop. Moisture can set the plaster dust into the low grain of the timber making it extremely difficult to remove.

Plank floors recommends to use floor protection on all installations as the product is prefinished and needs to be cared for as a finished product during the completion of the build. Depending on the level of traffic, the floors and the site conditions, Plank recommends using 2mm foam and MDF floor protection system. The foam is to be loose laid and then the sheet MDF is to be laid over the foam and taped along the inside joints only. No tape is to be applied to the surface of the timber floors. Tape adhesive residue will react with the coatings and soften the coatings, resulting in the removal of the surface coating on removal of the tape.

### **IMPORTANT CONSIDERATIONS**

Prior to handover the floors are required to be cleaned as per the Plank cleaning guidelines in the care and maintenance manual.