

1. Basics

Please read all instructions carefully before installation. Improper installation may void the warranty.

Product use

TERRA FIRMA may be installed over plywood, particleboard, concrete subfloor or over subfloor equipped with a radiant heat system. TERRA FIRMA floors can also be installed over existing flooring such as lino and cushion vinyl, rubber, marble, or ceramic tile as long as these materials meet the requirements and recommendations set out in this guide. WALK floors **should never** be installed on carpeting or any other soft floor covering.

For floating installation TERRA FIRMA only recommends Hurford Wholesales 2mm high density closed cell polyethylene underlay with an attached moisture barrier.

Installer and owner responsibility

Prior to installation, the installer and owner must ensure that the work environment and subfloors meet or even exceed minimal specifications listed in this installation guide.

Standard trade practice allows for up to a 5% margin of error for natural imperfections and manufacturing defects. Prior to installation, the installer and owner should conduct a final inspection of grade, colour, manufacturing and finish quality of boards to ensure that the floor conforms to purchased product.

Once installed, any board is considered as having been accepted by installer and owner, even if owner is absent at time of installation. When ordering hardwood flooring, it is recommended to add a minimum of 5% as an allowance for cutting waste.

2. Tools

Recommended tools, material and accessories

- Vacuum cleaner or broom
- Waterproof adhesive tape
- Scraper
- Miter saw
- Levelling bar
- Handsaw
- Level
- Claw hammer
- Spacers
- Measuring tape
- 2mm high density closed cell polyethylene underlay
- Chalk line
- Cross link PVA adhesive

Accessories such as underlay, transitions, reducers, stair nosing, etc. are available from your TERRA FIRMA Authorised dealer.

3. Preventative measure

Expansion Space Required

Wood needs a certain amount of room to expand and contract with variations in humidity. No part of the floor must be attached to any surface. A clear unimpeded 12mm space must be left for expansion around all room fixtures - walls, windows, sliding doors, kitchens, island benches, shelving, mouldings, columns, pipes, steel door frames, heavy objects and or transition strips etc. this is critical for the performance of the product. Attach spacers to each wall to ensure enough space is left.

In irregularly shaped spaces [L-, F-, T- or U-shaped], use a "T" molding for intersections.

The maximum width and length the product can be laid is 8 metres before additional expansion is required - widths and lengths beyond 8 metres require the rooms to be broken up and additional expansion allowance needs to be incorporated (1mm for every 1mtr).

4. Preparation

Preparation

TERRA FIRMA installation **requires a little more time and precaution than unfinished flooring**; handle with care to avoid board surface, component and finish damage.

Pre-installation check list

Basic requirements

- TERRA FIRMA floor installation should be the very last step of any construction or renovation project.
- Prior to installation, the heating/cooling system must be in operation, and room temperature must have been maintained at $\pm 22^{\circ}\text{C}$ for at least one week.
- To avoid any moisture-related damages, the subfloor must be dry and subfloor well ventilated.
- **Relative humidity should be maintained around 45%** [between 30 and 70%] at all times.
- **Radiant heat performance:**
 - The radiant heat system should be tested and in operation for a few weeks prior to installation.
 - The wood surface temperature must never exceed 27°C .
 - If the radiant heat pipes are visible or exposed in the subfloor, you must cover them with 12mm plywood to spread heat more evenly.

Subfloor moisture level check

Wooden subfloor (plywood, particleboard or old floorboards): The differential between TERRA FIRMA and subfloor must be less than 2%. If moisture reading is too high, postpone installation, find moisture source and correct it if needed, raise heat and increase ventilation until proper conditions are met.

Concrete subfloor: Prior to installation, the concrete subfloor should preferably be 45 to 90 days old, **30 days being the absolute minimum**. Concrete moisture meter must be used to check subfloor moisture level; the concrete subfloor moisture content is suitable if the reading is 4.5% or below.

Owner and installer are solely and jointly responsible for pre-installation subfloor moisture level check and must ensure that all conditions and/or specifications listed in this guide have been thoroughly met prior to installation of TERRA FIRMA floor.

Subfloor preparation

- **Sound:** Particleboard/plywood subfloor must be securely screwed down to joists to prevent any movement or squeaks. Thoroughly inspect and replace existing floor or subfloor that shows evidence of water damage or structural weakness. Concrete subfloor must be just as structurally sound before installing hardwood floor.
- **Flat:** Subfloor surface must be flat and maximum tolerance is 3mm per 3 metres. If necessary, flatten down any irregularities, by grinding high spots, and fill any uneven spots with leveling compound.
- **Dry:** Subfloor must be dry and within 2% moisture reading of the WALK boards.
- **Clean:** Vacuum and free subfloor from any debris or obstacles such as cleats, nail heads, dried glue or any other material.

Preparation

It is recommended that you sketch out your installation to avoid surprises.

- Decide starting point or wall.
- Decide layout angle.
- Boards in the last row must be at least 38mm wide to be attached properly. If the last row is to be less than 38mm wide, you must reduce the width of the first row so that both the first and last rows meet this minimum requirement.
- Remove any skirting board, doorsill and old floor covering if necessary.
- Trim the bottom of the doorstep with handsaw to insert boards underneath.

Naturally Australian Timber Terra Firma

BY COMPLETE FLOORS AUSTRALIA



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5. Installation

Helpful advice

It is very important to start off straight and square. Use the chalk line to draw a line parallel to the starting wall and perpendicular to the adjacent wall.

Leave the boards in their original packaging until ready for use.

To enhance the floor's look, use several boxes at once and mix boards to ensure variations in colour shade.

Never force boards into place. Clear away or remove anything that could get in the way of the tongue.

Procedure

1. Cover all of the subfloor as well as the base of the walls [approx. 50mm] with a 2mm high density closed cell polyethylene underlay with an attached moisture barrier. Place the underlay in the opposite direction to the boards, which is to be installed without overlapping. The recommended underlay includes a self-adhesive flap. Use waterproof tape to attach the strips on the short side.

2. While facing the wall, start on the left corner leaving a gap at both walls with the groove facing you. Leave a 12mm gap between the wall and the edge of the board. **This gap will be covered by a skirting board attached to the wall rather than the floor.**

3. Moving right, put the next board in place. Moving vertically, insert the end tongue into the end groove of the first board. Ensure the 5G end lock is correctly engaged and secure. Continue in this way until it is time to cut the last board to finish the first row.

4. The board chosen to finish the first row should be long enough to start the second row with the trimmed end, so as to minimise trim waste. **Leave a gap for the board to expand in all directions.**

5. Start the second row with the trimmed end of the board. It should be at least 150mm longer or shorter than the board used in the first row.

6. 5G End joints must be staggered by at least 150mm from one row to the next. Avoid lining the joints up or having them follow too regular a pattern.

7. Insert the tongue at the side of the board into the groove of the first row at a 30° angle. Line up the far left side, set the board down and apply slight pressure to lock in place. If the board requires more than slight pressure, then the locking joint is not correctly aligned and may be damaged if forced. Disconnect the board and insert ensuring the correct angle. Install subsequent rows in the same way.

8. As the floor can still be moved after the second row has been installed, it is recommended that you measure and realign with spacers, if necessary.

9. The boards on the last row must be at least 38mm wide. Remember to leave a 12mm gap for the expansion space.

10. If an obstacle prevents the last board sliding into place, cut the latch of the groove's locking system with a chisel.

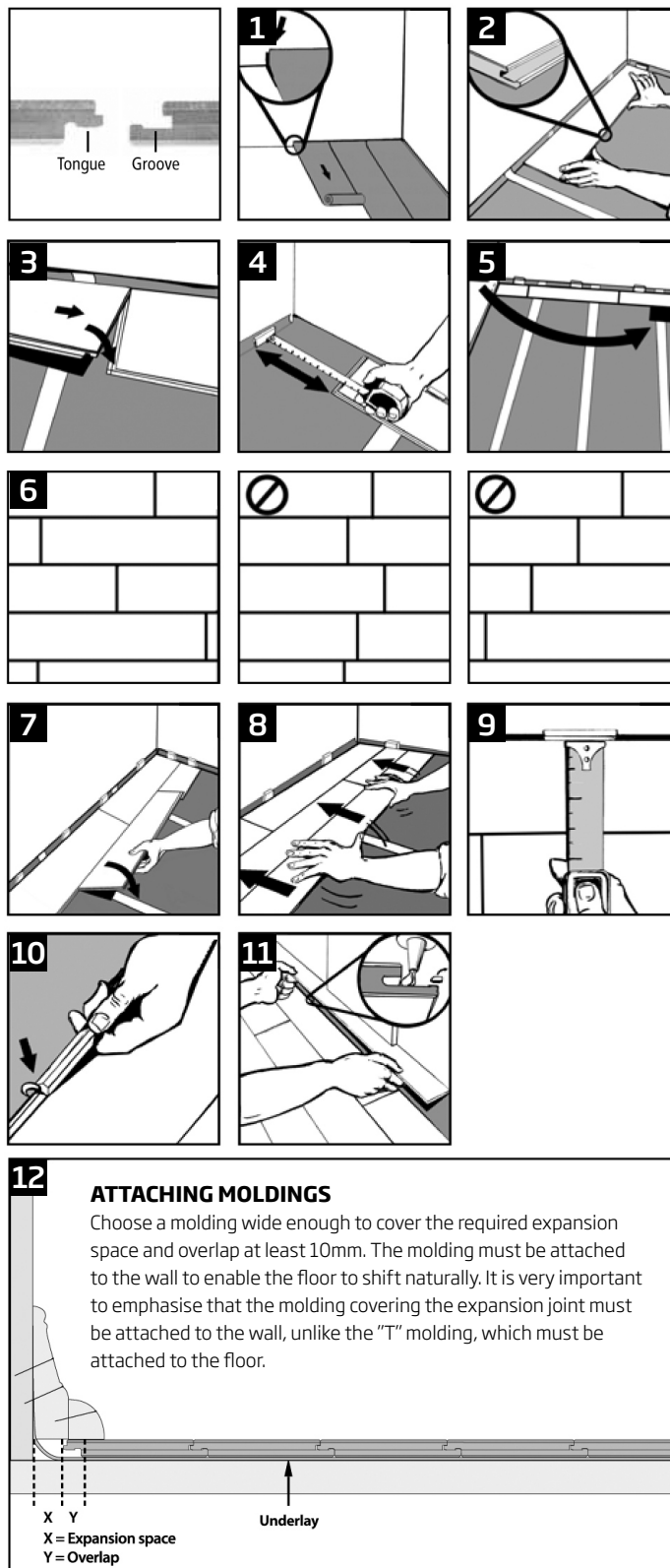
11. Apply wood glue to the groove and insert the last board.

Finishing touches

- If necessary, install the transition moldings, stair nosings and reducers.
- Remove the spacers.
- Reinstall the skirting board and quad as required, through the underlay [Illustration 12]. Nail them to the walls and not to the floor, so that the floor can move naturally.
- Cut the underlay that goes beyond the skirting board.

Maintenance

- Set a few boards aside in case future repairs are required.
- When installation is completed, vacuum the floor (bristles down) thoroughly, spray a light mist of cleaner on a terry cloth mop and clean the floor.



Manufactured By Complete Floors Australia
Postal Address: PO BOX 2270, Beenleigh QLD 4207
Email: sales@completefloorsaus.com.au
Web: completefloorsaustralia.com.au