PENTARCH
FORESTRY®

ENGINEERED PARQUETRY

INSTALLATION GUIDE

Note: Variations within a timber species are normal, therefore photographs, samples and displays can only be indicative of colour and should not be used for final selection. It is normal for natural timber products to react to changes in atmospheric and environmental conditions such as humidity and temperature.

pentarchforestry.com.au
1800 818 317

©2025 PENTARCH FORESTRY PTY LTD (ABN 22 159 663 420). Pentarch Forestry and the Pentarch Forestry logo are trade marks or registered trade marks of PENTARCH FORESTRY PTY LIMITED or one of its subsidiaries. PEN_0450

PENTARCH
FORESTRY®

Pentarch Forestry Engineered Parquetry is a pre-finished tongue and grooved hardwood flooring available in both Blackbutt and Spotted Gum.

Both of these Australian species are pre-coated with 7 coats of UV cured acrylic matte and wire brushed for added texture.

Each box contains both left hand and right hand boards that are required to be direct stuck to suitable subfloors. Boards are 670mm x 134mm x 14mm and 610mm x 122mm x 14mm and designed to be used for a traditional herringbone pattern but can also be used for other patterns such as brick bond and square on square.

The following should only be used as a guide and the installer should apply all Australian Standards, National Construction Code (NCC) requirements, and best practices when installing. This must include the relevant safety protocols required. This guide should not be used as the sole means of direction.

Pentarch Forestry recommends that a qualified professional timber flooring contractor install a Pentarch Forestry engineered hardwood timber floor. Read all instructions before starting and take the time to plan the job correctly. Please check all material for faults or defects prior to installation. If there are any problems before or during the installation of a Pentarch Forestry product, stop and do not continue laying. Contact your Pentarch Forestry representative.

1. Properties of Timber

Timber is hygroscopic - meaning it is capable of easily absorbing and expelling moisture in response to local conditions. As timber absorbs moisture it expands and as it expels moisture it contracts.

As such, factors such as relative humidity (atmospheric moisture), moisture ingress (sub-floor or other), direct sunlight, air conditioning and lack of adequate ventilation can cause timber to expand or contract.

Therefore, care must be taken to correctly assess the suitability of the site prior to the installation of timber flooring, as well as to maintain a suitable environment where the timber floor has been installed.

2. Product Handling on Site

The packaging around Pentarch Forestry Timber products is designed to protect it during transport only. Upon delivery timber flooring products should be stored indoors where they can be protected from the elements. Do not store outside using a protective covering such as a tarpaulin as condensation can occur underneath.

Responsible Wood RW/1-31-217 | PEFC PEFC/21-31-217

Sustainably Grown. Australian Made.

3. Suitable Subfloors

Pentarch Forestry Engineered Parquetry is designed for a subfloor thatis structurally sound, level, flat, clean and dry such as:

- Sheet flooring such as plywood or particleboard
- Existing strip timber floors.
- Concrete slab.

The ground level moisture and under floor humidity must comply to NCC and AS 1684 requirements.

- Air vents should always remain unobstructed.
- Number of air vents and size should meet or exceed NCC requirements.
- Ground level below flooring should be well drained and should be flat, level and clear of any debris.

Timber flooring boards need to be mixed on the floor according to colour and feature. This is at the discretion of the installer and the end user.

If there are any problems before or during the laying of a Pentarch Forestry Timber product, stop and do not continue laying. Contact your Pentarch Forestry Timber representative immediately. If the above preparation is not practical then plywood sheeting should be laid over the existing floor boards to act as a sub-floor.

If plywood is used it must comply with AS/NZS 2269 – Part 0 Plywood Structural Specifications.

4(a) Concrete Slab

The concrete must be sound and have a steel trowelled finish. The concrete should be clean, dry and free of but not limited to dust, wax, coatings, adhesives, curing compounds, oil or grease. The slab must be flat with no more than +/- 3mm deviation in a 3 metre radius as per AS 3600 – 2001: Concrete structures. If the deviations are greater than specified then the laying surface can be brought to level by using a self-levelling compound and/or grinding.

A concrete sub-floor should be moisture tested in accordance with AS 1884 -1985. Excerpt from ATFA guidelines - Concrete moisture assessment - A 'dry' slab is signified by impedance moisture meter readings of up to 2.0% and in-slab relative humidity (RH) up to 75%. Where floors have been covered by previous floor coverings values are often up to 3.5% and 80% in-slab RH. Higher readings require investigation as to possible moisture sources and may require more than the slab moisture protection outlined in this specification. Moisture assessment does not preclude the need for moisture vapour barrier assessment. It is also recommended to provide a 200 micron plastic membrane (builder's plastic) as a moisture/vapour barrier prior to installation of plywood substrate. This minimises the risk of moisture uptake into the timber flooring from the concrete slab after installation.

The plastic barrier should continue 75mm up the walls & all joins should overlap by 200mm. Joins should then be sealed with duct tape. If using a paint on moisture/vapour barrier apply as per manufacturer's instructions. Ensure a compatible adhesive is used with the moisture/vapour barrier.

4(b) Sheet Sub-Floor

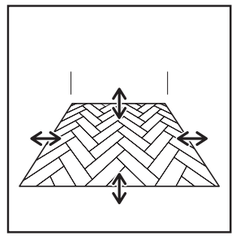
An alternative method is to fix plywood or particleboard sheeting to the concrete slab after first laying a polyethylene membrane (minimum 200 micron). Plywood sheeting must comply with AS/NZS 2269 – Part 0 Plywood Structural Specifications.

This subfloor must be level sanded prior to Pentarch Forestry Parquetry installation. This will remove any other surface irregularities, such as edge swelling at joints.

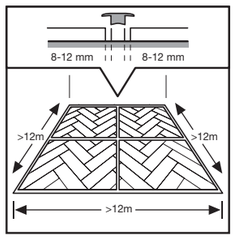
5. Acclimatisation and Expansion Gaps

Pentarch Forestry engineered Parquetry does not require acclimatisation however the flooring should only be brought to site when the site conditions are suitable. A timber floor should only be installed in a weatherproof building. The project should reach near completion before installation begins to avoid damaging the newly fitted timber floor from heavy trade traffic. The roof, external doors and windows, exterior cladding and wet trades should all be complete before a timber floor is installed. The storm water system must be complete or effectively directed away from the sub-floor.

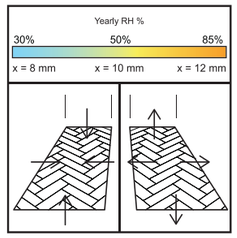
Perimeter expansion gaps between 8-12mm are required to all edges and are dependent of the average relative humidity of the area. Doorways and larger floors will also require expansions gaps. Moisture content varies with changes in humidity and temperature in the surrounding air therefore small seasonal changes in timber flooring are considered normal and fine gaps that open up between boards during dry periods are not considered a defect.



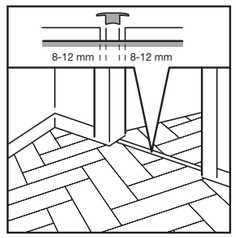
Full perimeter expansion gap required



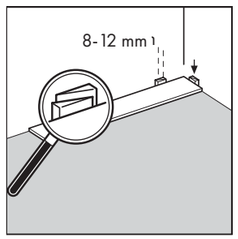
Additional expansion required for larger floors (greater than 12m)



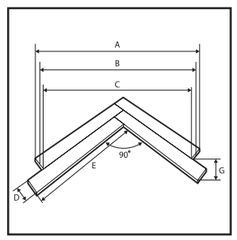
Expansion gap sizes based on RH



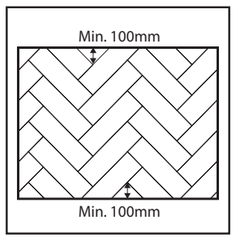
Expansion required in doorways



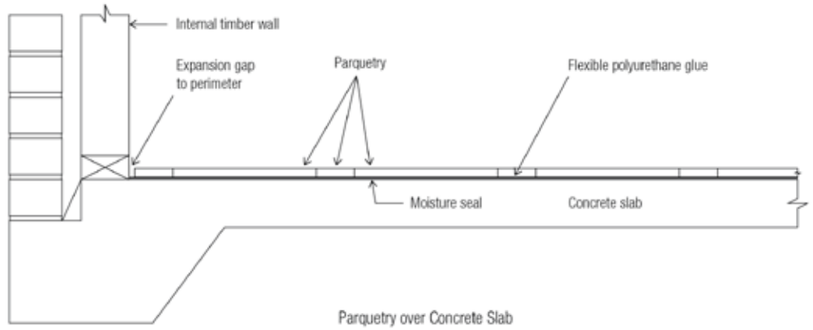
Packers to suit expansion gaps



Setting up first boards (square)

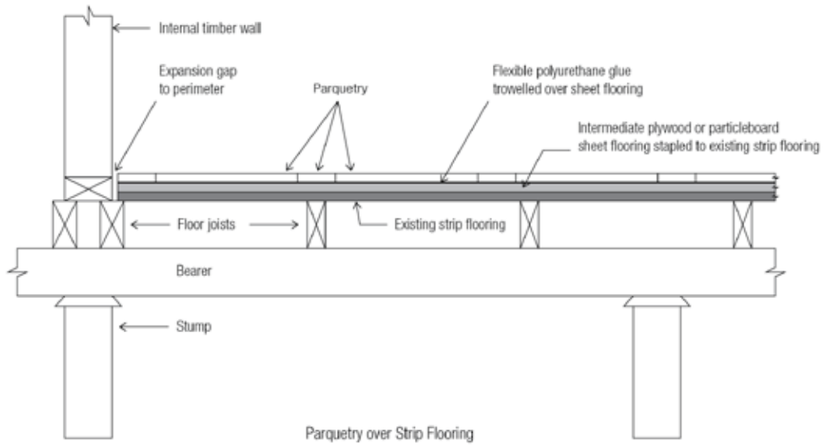


Pieces must be greater than 100mm



Parquetry over Concrete Slab

4(a)



Parquetry over Strip Flooring

4(b)

6. Setting Out

Parquetry floors can be set out in many different ways depending on the pattern chosen. The home owner or installer needs to choose the most important area e.g. entry/passage and set up the parquetry to look the best in this area. Entries and passageways are often chosen because it's the first impression once the front door is open and these areas usually have the least amount if not no furniture to interrupt the view
of the parquetry floor.

The parquetry is centred in these areas to balance the pattern between the walls (see diagram for herringbone setup). Once this first row is installed then all other rows follow from this first setup unless each area is setup individually and separated by
a threshold because the pattern will not matchup.

- If a border is to be laid, snap chalk lines.
- The width of the border plus 12mm from the perimeter.
- 24 hrs after laying re-mark the border lines and set the saw depth to the thickness of the block, cut out the border. Lay the border leaving a 12mm expansion gap.

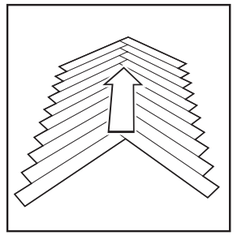
7. Laying the Product

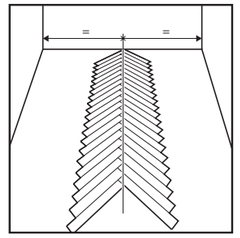
Pour a quantity of flexible flooring adhesive recommended for engineered parquetry flooring onto the sub-floor at the centre of the room and using an appropriate parquetry trowel vigorously comb onto the floor leaving ridges of adhesive the full depth of the trowel teeth. Sufficient adhesive for one square metre should be spread at a time.

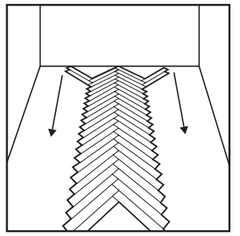
- With the abundance of different primers, levelling compounds, sealers and adhesives on the market always follow the manufacturer's guidelines.
- Always use compatible products. Manufacturers often have recommended "systems" that guarantee compatibility.
- Do not glue past this line when laying the body of the floor. Where the parquetry blocks extend past the glue area place the whole block (without extra glue) and trim later as described below.

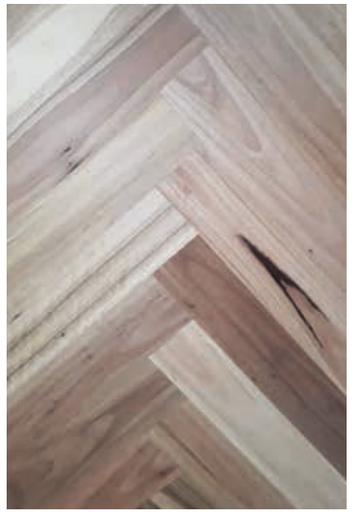
Select a number of parquetry pieces from various boxes/bundles to ensure colour and grain variations are evenly spread and lay into the adhesive. (Note: Pentarch Forestry Engineered Parquetry has both LH and RH pieces).

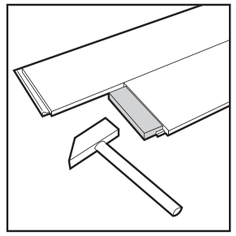
Keep the edge of the panel exactly to the chalk lines and continue laying pieces in sequence keeping them tightly together. Regularly tap the parquetry tongue and grooves together with a rubber mallet or tapping block ensuring to not damage the edges. Continue until the whole room is covered. Cut the last blocks with an appropriate saw leaving a 8-12mm clearance from the wall for expansion.

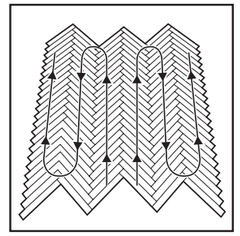


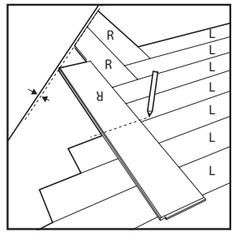




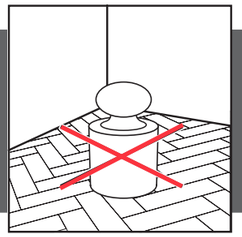


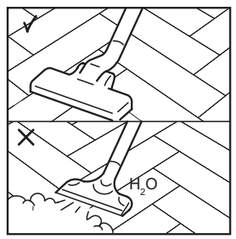


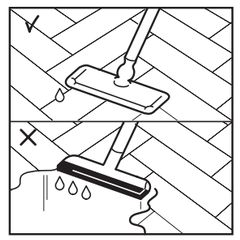


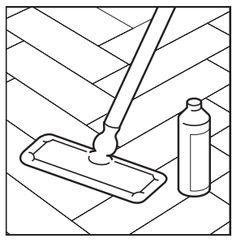


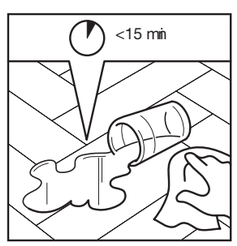
At the completion of each row of Parquetry and once alignment is complete the floor should be weighted down to hold the floor in place. Most commonly the unopened packs of Parquetry are used for this purpose and are spread out evenly, do not use point loads.

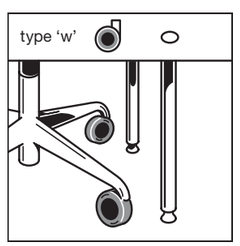


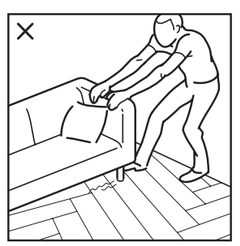












Pentarch Forestry engineered Parquetry is a pre-finished product so any residual glue from installation must be removed while wet by using a suitable wipe. This is usually done at the completion of each row of parquetry.

Once installed, Pentarch Forestry engineered Parquetry should not be walked on until such time as the glue has cured enough to prevent movement of the individual boards. Refer to glue manufacturers curing guidelines.

8. Care and Maintenance

For information on care and maintenance of a timber floor download a Pentarch Forestry Timber Care and Maintenance brochure at pentarchforestry.com.au