

- Following installation, vacuum thoroughly and clean the floor.

With the abundance of various different primers, levelling compounds, sealers and adhesives on the market, the following points should be considered and applied.

- Always follow the manufacturer's guidelines.
- Always use compatible products. Manufacturers often have recommended "systems" that guarantee compatibility rather than purchasing different products from different manufacturers with different warranties.

Post installation care and maintenance

- Use dirt-trapping mats at all external doorways to reduce the amount of stones, grit and sand entering the area damaging the pre-finished surface.
- Sweep or vacuum your floor regularly to remove dirt and grit. Sweep using an electrostatic mop.

Helpful web sites

Timber Design and Building	Timber Design and Building This site will provide specifiers (architects, engineers and other building professionals) with the information they need to increase their use of wood and wood products.	http://www.woodsolutions.com.au/
Forest and Wood Products Aust (FWPA)	A not for profit company that provides a national integrated Research & Development focus for Australia.	http://www.fwpa.com.au/
Flooring Associations	Find a floor layer	www.affa.com.au www.woodflooringassociation.com.au
Flooring installation guide	Timber flooring - design guide for installation	http://www.woodsolutions.com.au/Resources/Design-Construction-Guides

Visit our showroom at 123 Sydney rd Benalla or
Call (03) 5762 1877 - enquiries@ryanandmcnulty.com.au

- Floors should be damp mopped, with a well wrung out mop, to remove dust. Never wet mop or steam mop a timber floor.

- Felt protectors should always be fixed under furniture to prevent scratching.

- Protect timber floors from direct sunlight with appropriate window treatments. Failure to do so may result in localised cupping and or checking of the timber or changes in the surface coating.

- Monitor climatic conditions; extreme climatic conditions may require increasing the humidity using a humidifier, or decreasing humidity using an air conditioner. This is especially relevant during periods of non-habitation when there is little or no air circulation within a property. If the residence is expected to be uninhabited for extended periods, care should be taken to control the climate with the use of air conditioning and/or humidity controls.

Solid Timber Pre-Finished Flooring Installation Instructions

Spotted Gum • Red Gum • Tassie Oak • Vic Ash



**A Guide for tradesmen
and DIY builders**

www.ryanandmcnulty.com.au

1. INTRODUCTION

Ryan and McNulty prefinished flooring is manufactured from premium species obtained from sustainably managed forests and has been seasoned, machined, graded and pre-finished to provide a high quality, attractive floor. Ryan and McNulty flooring meets or exceeds the product performance and visual appearance requirements set by Australian Standard AS2796 part 1 and part 2. Ryan and McNulty prefinished flooring is a natural product with variations occurring naturally in colour, grain and feature. Floor boards need to be sorted on the floor according to colour and feature prior to installation. This is at the discretion of the end user and installer.

The final result of installing a Ryan and McNulty prefinished floor is dependent on the use of the following guidelines. These guidelines must be used in conjunction with relevant Australian Standards, Building Code of Australia (BCA) requirements, best practices and relevant safety code of conduct when installing and are not the sole means of direction.

Ryan and McNulty strongly recommend that a qualified, professional timber flooring contractor installs a Ryan and McNulty floor. If there are any problems before or during the installation of Ryan and McNulty prefinished River Red Gum flooring, stop the installation and contact Ryan and McNulty immediately on (03) 5762 1877 or email enquiries@ryanandmcnulty.com.au for further advice.

Suitable subfloors

Ryan and McNulty flooring is designed to be laid over any subfloor that is structurally sound, level, flat, clean and dry such as:

- Bearers and joists (for 19 mm thick flooring)
- Concrete slab
- Sheet flooring such as plywood or particleboard
- Existing strip timber floors

2. PRODUCT DESCRIPTION

Ryan and McNulty solid strip flooring includes 19 mm and 14 mm. Ryan and McNulty 85 x 19 mm solid timber flooring is designed to be installed over bearers and joists as well as direct stick applications. 85 x 14 mm overlay is solid, non-structural tongue and groove strip flooring designed to be installed over a solid subfloor. Tongue and groove joints ensure a continuous and stable surface.

3. PRODUCT HANDLING ON SITE

Packaging around Ryan and McNulty flooring products is designed to protect it during transit only. When delivered on site, the timber flooring should be stored indoors protected from the elements. It must not be stored outside using plastic sheets or tarpaulins as condensation can occur on the material affecting the moisture content of the boards. Ryan and McNulty flooring products are delivered in strapped, cardboard bundles. It is recommended that the bundles are kept in their packages until just prior to laying.

4. PRIOR TO INSTALLATION

Ryan and McNulty prefinished flooring should only be installed in a weatherproof building at or near completion before installation to avoid any other trades traffic. Wet trades should be complete; carpet trades post flooring installation may be acceptable only after suitable protection of the prefinished floor surface is installed.

Inspection of the site, the subfloor surface and preparation

- Conduct a visual inspection for signs of moisture resulting from any pipe leaks, window seal leaks, bathroom/laundry overflow problems, ceilings leaks or rising damp. Any signs of moisture ingress must be remedied prior to installation.
- The subfloor must be dry and free of contaminants including but not limited to oil, paint, grease, dust, metal shavings, saw dust.
- Fully scrape the subfloor with a wide blade scraper to remove all cement render spoil, plasterboard setting residues and mortar excess at the base of walls.
- Make sure the concrete slab is flat with no more than +/-3mm deviation in a 3 metre radius as per Australian Standard AS3600 - 2001: Concrete structures. Deviations to the surface greater than 3mm over 3m are to be filled with a self levelling compound following manufacturers recommendations, or ground down to conform to the aforementioned specification for flatness.

Note: When installing timber flooring over battens, unevenness in the subfloor can be remedied through the use of packers or by planing down the battens.

- The laying of Ryan and McNulty flooring will alter any equilibrium that may exist between moisture entering a slab and moisture leaving it, and a slab that tests dry may subsequently increase in moisture content and, in turn, raise the moisture content of the flooring. Therefore, all concrete slabs in contact with the ground must have installed a water vapour barrier which should be placed over the concrete. The membrane under the slab should be continuous and cover the edges of the slab, soil piled against the edge of the slab should be removed and there should be drainage around the slab to ensure that no build up of water or moisture occurs. If there is hydrostatic head to the slab then flooring must not be laid.
- Suspended concrete floors such as in multi-level buildings are considered a suitable substrate for overlay flooring if their moisture content does not exceed 5.5% (relative humidity of 70% is equivalent). In cases where moisture content measurements are required see AS1844-1985 for the test procedure. At no point should any part of the slab be in contact with ground soils. If in any doubt, a water vapour barrier should be applied.

- Timber substrates such as particleboard, plywood or existing timber floors should be sanded to create a clean flat surface. If plywood is used it must comply with AS/NZS 2269 - Part 0, Plywood Structural Specifications.

- If installing timber flooring over bearers and joists or a platform floor it is particularly important to maintain adequate sub-floor ventilation. If the area underneath the timber flooring is consistently damp (high humidity) this can adversely affect the timber flooring and lead to increased expansion and/or cupping. Subfloor ventilation should at a minimum conform to the Building Code of Australia, although in areas of high humidity or where increased exposure to moisture is apparent it is good practice to increase the surface area of the vents and/or install fans to increase air circulation under the floor. Subfloor vents should always allow for cross ventilation of the subfloor and must not be placed on only one side of a dwelling.

5. PRE-INSTALLATION

Each bundle of pre-finished flooring should be opened and inspected on receipt. Any problems with the timber – species, size, grade, quality or moisture content – should be immediately advised to the supplier so that they can be resolved before laying. Boards need to be mixed on the floor according to colour and feature. This is at the discretion of the installer. If there are any problems before or during the laying of a Ryan and McNulty Timber product, stop and do not continue laying.

Contact Ryan and McNulty immediately on **(03) 5762 1877** or email enquiries@ryanandmcnulty.com.au for further advice.

Acclimatisation

Moisture Content Quality Assurance of our kiln drying is carried out to AS1080 by the Oven Dry method. It is strongly recommended that a moisture test be conducted soon after delivery and/or just before laying and recorded to confirm that the timber has not been affected by moisture after leaving the Ryan and McNulty yard. Measurement of cover width will quickly indicate whether the timber has swelled or shrunk. When deciding to acclimatise the flooring, consideration should be given to the impact of heating and cooling systems, north facing windows or other factors in the finished building. Any acclimatisation must occur in these conditions rather than a building under construction.

Expansion gaps (control joints)

Installers must plan expansion gaps and perimeter fixings before commencing the job. Due to the hygroscopic nature of timber, the flooring will expand and contract with changes in moisture content making expansion gaps essential. The allowance of expansion gaps at the perimeter walls and around obstructions will allow the floor to move as required. Insufficient expansion gaps can result in buckling and deformation of the flooring. Ryan and McNulty recommend a minimum expansion gap at all perimeter walls and obstructions of 12mm. For domestic applications floor widths over 6m will

require an intermediate expansion joint as per Australian Standard AS1684.

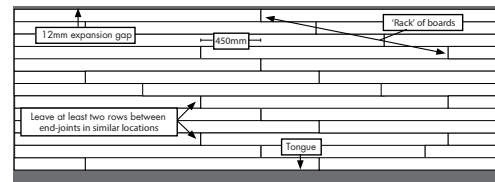


Fig 1 Expansion gaps and board layout

Existing Plywood/Sheet Flooring

Plywood or particleboard is a good subfloor for Ryan and McNulty overlay flooring when free from wax and dirt. The subfloor must be level sanded prior to installation. This will remove any other surface irregularities, such as edge swelling at joints. Plywood sheeting should be a minimum of five ply 12mm thick. The plywood sheeting must comply with AS/NZS 2269 - Part 0, Plywood Structural Specifications.

Existing timber floor

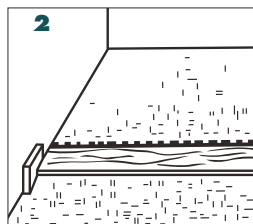
Existing timber flooring must be rough-sanded to remove any unevenness, cupping or rough material and to remove wax or other surface finishes. It is recommended that the Ryan and McNulty overlay boards be laid at a 90 degree angle to the line of the existing subfloor boards to avoid possible subfloor movement that could affect the finished floor. If the above preparation is not practical then 7 mm plywood sheeting should be laid over the existing floor boards to act as a subfloor. To run the new timber floor boards in the same direction as current timber floor boards, plywood is required between the new and existing floor boards. The plywood sheeting must

comply with AS/NZS 2269 - Part 0 Plywood Structural Specifications.

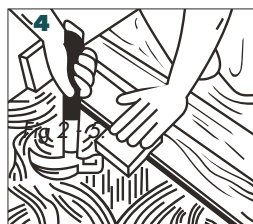
Concrete slab preparation

- Levelling compounds, adhesives and water vapour barriers should be manufactured as part of an installation system by the same manufacturer to ensure compatibility and to simplify problems should they arise. Ryan and McNulty recommend the flooring installation systems manufactured by Bostik Australia Pty Ltd, Selleys Pty Ltd or similar.
- The concrete must be sound and have a steel trowel finish and be free of floating ridges. These may be removed by rubbing the floor with an emery stone or house brick.
- The concrete should be clean, dry and free of contaminants including, 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 3m radius as per Australian Standard AS3600 - 2001: Concrete structures. If deviations are greater than acceptable then the laying surface can be made level by using a self-levelling compound.

- Concrete floors that are not suspended should have a polyethylene waterproof membrane underneath to prevent rising damp. All concrete slabs in contact with the ground must have installed a water and moisture vapour barrier that should be used as per the manufacturer's instructions. Ensure a compatible adhesive is used with the moisture/vapour barrier.



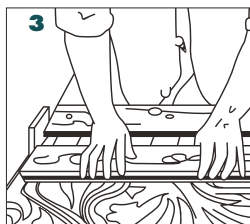
- An alternative method is to fix minimum 7 mm plywood sheeting in a brick bond pattern to the concrete slab after first laying a polyethylene membrane (minimum 200 micron). All edges must be taped and the sides turned up 20 mm. The plywood sheeting must comply with AS/NZS 2269 - Part 0 Plywood Structural Specifications. Plywood should be nailed at 450mm centres using 16 mm masonry nails.



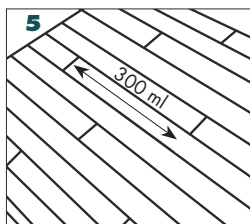
- Ryan and McNulty overlay flooring must not be laid on any section of a concrete floor which has moisture content of more than 5.5%. The best way to test for moisture content is to use an appropriate moisture meter.

- Lay the boards parallel to the longest wall in the room.

- Set up a work area and a main floor area. Flick a chalk line that is 10 board widths plus 12mm from the starting wall to establish a straight line. The area between the chalk line and the starting wall is the work area. See Figure 2.



- Using Ramset spaghetti or similar, drill a 5 mm hole at a 45 degree angle through the tongue of the board, insert a 19mm length of spaghetti and anchor using 19mm concrete nails, a row of boards on this line as a holding block, with the tongue facing the starting wall. The nails may be removed after the glue has set.



- Leave a 12mm expansion gap along end walls. Place 12mm blocks/wedges along one end to maintain the gap while boards are being placed and glued down.

6. INSTALLATION OVER PLYWOOD/TIMBER AND CONCRETE

Once the under layer of the floor has been prepared and levelled, the final part of the installation can commence. In all cases, the subfloor must be structurally sound, level, flat, dry and clean.

- Ryan and McNulty overlay flooring must be fixed with a recommended polyurethane flooring adhesive such

as Ultraset by Bostik and applied using a 5mm v-notched trowel. Spread only enough for 3 or 4 boards at a time as per manufacturer's instructions.

NB. The points of the notched trowel must be sharp at all times. Blunt trowels do not allow sufficient adhesive to be spread and may void the adhesive manufacturer's warranty.

- Once laid the boards should be in constant, firm contact with the adhesive until cured. If in doubt, apply weights. Do not remove weights until completely dry. Start the first row of boards with the tongue facing the starting wall and the left hand end of the board against the block/wedge on the side wall. Slot the tongue firmly into the groove on the fixed temporary board and then press the board down firmly into the adhesive. See Figure 3.

- Working from left to right, lay the next board and continue working towards the right then measure and cut a strip to finish the first row, remembering to allow for a 12mm expansion joint.
- To minimise cutting waste try to make the off-cut from this board long enough to use elsewhere. As the next row is added, tap the boards gently together using a tapping block for a tight fit. See Figure 4.

- Use of straps (dogging) is often industry trade practice but can cause over cramping and affect the contact between adhesive and the boards. Care must be used not to over tighten straps; weights such as containers of water must be used in conjunction until the adhesive is cured.

- The installer must ensure constant contact between the floor and the boards during the curing process of the adhesive as per the manufacturer's instructions.

- Use a pull tool to fit the last board closest to the wall. Start all new rows with a board at least 300mm shorter or longer than the strip used in the previous row. This will prevent end joints from clustering or aligning throughout the floor. See Figure 5.

- Scribe the last board to fit allowing for the 12mm expansion joint along its whole length.

- Once the main floor area has been laid, remove the temporary blocks and lay Ryan and McNulty prefinished flooring in the work area, following the procedure above.

- Clean up excess adhesive as per manufacturer's instructions. Use of strong solvents is to be avoided so that the pre-finished surface is not damaged. Solvents such as "Shellite" must be tested on a sample to ensure the prefinished sample is undamaged.