



PREMIER DECKING™

INSTALLATION AND MAINTENANCE GUIDE

JULY 2024

Pentarch Premier Decking™ supplied by LMA Timber Ltd is a solid hardwood timber product designed to be laid outdoors directly onto structural bearers and joists or used for fencing, screening, gates or seating.

Pentarch Premier Hardwood Decking is graded to 'standard and better', which is a mix of standard (medium feature) grade and select grade, in accordance with AS 2796.2-2006.

It is precision milled with round edges to a variety of widths with a smooth finish on both sides of the board. Pentarch Premier Decking™ is seasoned to the moisture requirements of AS 2796.1-1999 (10% to 18%). Decking installed in places like central Otago need to season the timber to 12% or less to help minimise movement once laid.

This Installation and Maintenance Guide is intended to provide general advice on the installation of residential light domestic timber decks and does not apply to specialty applications or commercial decking.

Individual requirements may vary from those discussed in this Installation Guide and you are advised to seek independent professional advice before commencing work. You are also advised to check with local authorities to ensure building compliance as well as make your own, and/or seek an independent professional assessment of the relevant applicable laws and standards.

Additional installation information including structural elements of other deck components (bearers, joists, footings etc) can be found in Wood Solutions Design Guide 21: Domestic Timber Deck.

Product Handling and Site Assessment

Pentarch Forestry's or LMA Timbers plastic wrapping is for protection during transportation only. Upon delivery timber decking products should be stored undercover and protected from the elements. Ensure boards are checked before installation in case of any damages during transport.

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 (under deck or other), exposure to weather, lack of protective coatings or lack of adequate ventilation under the deck can compromise the timbers integrity.

Pre-Installation Preparation

Preparation is important and adequate ventilation is required above and below the deck. Pentarch Forestry recommends decking be installed a minimum of 400mm above ground to ensure optimum ventilation and performance. If not, a Damp Proof Course (DPC) is required to help minimise moisture coming up from beneath the boards and potentially causing the decking boards to cup.

Determine the dimensions of the deck and note the position of features such as stairs, drains, and pipes as these will need to be marked up before any work begins. Ensure the ground is clear and weed control is undertaken prior to installing the deck.

Ensure adequate drainage to avoid build-up of water underneath the deck. Unobstructed air flow is required below the deck so add vents at various locations for decks with limited ventilation. To allow for offcuts and joining boards over joists a minimum 10% to 15% waste factor is considered standard industry practice. Pentarch Premier Decking™ is graded as per AS 2796.2-2006 to one face of the decking board only.

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Fixings

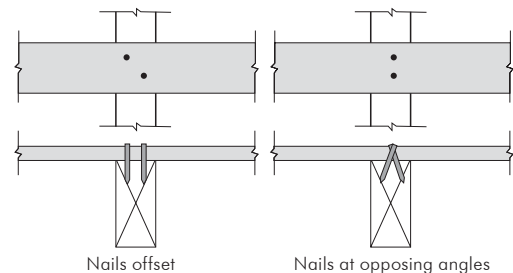
Each board should be fixed to each joist with two nails or screws for domestic decking. Alternatively, proprietary fixings such as concealed fixing systems may be used in accordance with manufacturer's instructions.

Only hot dipped galvanised or stainless steel (not plain steel or zinc plated) nails should be used to fix decking to joists. Stainless steel or silicon bronze fixings are recommended for decks built within 1m of water such as pools, ponds, etc.

Pre-drilling is recommended prior to installation of screws or nails.

At intermediate fixings, nails should either be offset or driven at slightly opposing angles (Diagram 1.0).

Diagram 1.0



Installation Requirements

Pentarch Premier Decking™ is designed for bearers and joists that are structurally sound and compliant as per the building code NZ3604. Decking should be screwed or nailed with suitable fixings directly to bearers and joists. When used for fencing it can be screwed into timber or steel posts.

Deck installation requirements are based on decks at least 400mm above ground. For decks under 400mm or close to water please refer to the section on the next page (close to ground or close to water decks) for additional considerations.

Always adhere to all building code regulations, local council and building authority requirements and determine if the decking product you are using is fit for your intended purpose. Residential joist span recommendations for 130mm Pentarch Premier Decking™ is 450mm centres maximum. Pentarch Premier Decking™ 600series 22mm in Spotted Gum can span 600mm maximum joist centres (Standard & Better grade only).

For decking edging boards such as picture framing, it is preferable that miter joints are not used in low EMC (Equilibrium Moisture Content) areas such as Central Otago as shown in the image opposite. All joins regardless if square or miter **MUST BE SEALED** with oil.

To compensate for expansion decking boards must be properly spaced during installation. For boards up to 70mm wide use a minimum gap of 3mm and for boards over 70mm wide use a minimum gap of 5mm. Close to ground decks (under 400mm) require a 6mm minimum gap between boards regardless of board width. Bushfire zones may have specific gapping requirements.

When fixing joints stagger the joints so they do not sit on adjoining joists to avoid joists splitting. Make sure that all cuts/ joints in the boards sit over a joist (Diagram 2.0) and **THEY MUST BE SEALED** with a penetrating oil to limit cupping movement of this cut.

Diagram 2.0

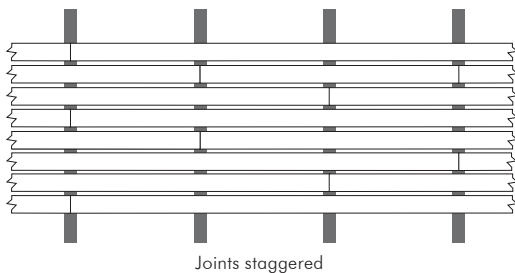
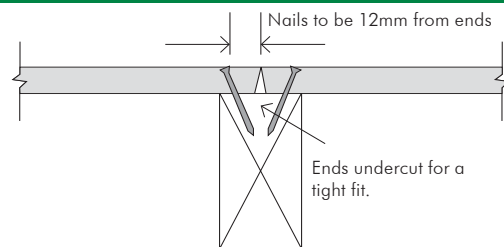
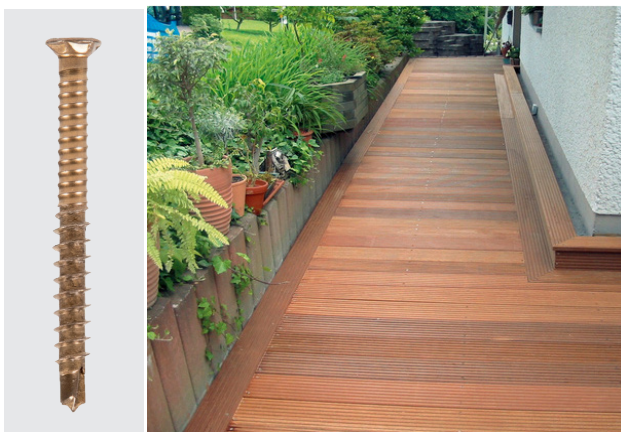


Diagram 3.0



To obtain a tight fit on the joints a slight undercut will assist with the boards sitting flush (Diagram 3.0). Pre-drill nail / screw holes (80% of nail /screw diameter) into the board to avoid splitting. Nails / screws must be kept 12mm from edges and ends of boards (Diagram 3.0). Nails / screws must be driven flush with surface (not punched). Each board should be secured to each joist with two nails / screws.

The Wurth Assy Deck screw - 50mm x 5.5mm or the Spax's Facade 50mm x 4.5mm screw is recommended. These are both a stainless steel screw. Please refer to the manufactures specification documents for both of these screws.



Close To Ground or Close To Water Decking

Although performance of timber decking close to ground or within 1m of water cannot be guaranteed Pentarch Forestry recommends the following installation practices when installing in these environments.

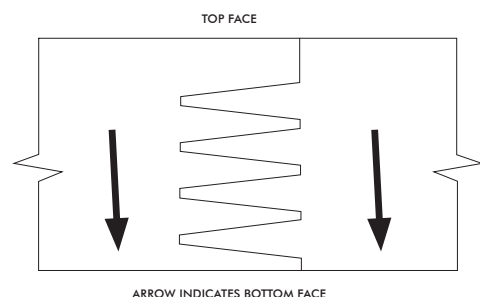
Timber is a natural product and close to ground or close to water installations are highly prone to cause above average expansion, contracting, cupping and warping of the decking boards. The use of narrower boards 60-80mm is recommended in these situations and an 6mm gap between the boards is required to assist with increasing the airflow between and beneath the boards. Coat with penetrating oil all sides of the boards before install (including the underside and ends).

Decks less than 400mm from the ground or within 1 meter of a pool also require additional considerations such as increased ventilation, highly durable timber species selection such as Class 1 Spotted Gum, Grey Iron Bark, Blackbutt etc, subsurface drainage, fastener durability considerations, more frequent re-coating and maintenance. Weather conditions such as but not limited to excessive rain, hot sun and winds can also affect deck performance along with areas that have very low EMC (Equilibrium Moisture Content) such as Central Otago.

Finger Jointed Decking

Pentarch Forestry's Finger Jointed has been tested and accredited for use in internal and external domestic applications. Pentarch Forestry is a member of the EWPA who have issued DTS certification for this product under their special products certification scheme. Refer to the Product Technical Statement for further information.

The finger jointed decking should be installed as per all the requirements of this install guide including but not limited to handling, fixings, spacings and finishes. To maintain its structural integrity, finger jointed decking must be installed with the correct face up as nominated by the sectional view below and the arrows printed on the sides of the board. At present, this type of decking is not sold by LMA Timber LTD New Zealand.



Timber Finishes

If your decking has been supplied pre-oiled from Pentarch Forestry / LMA Timber please follow the guidelines in this document but also be sure to re-coat and joints / cuts to help avoid potential cupping / splitting.

After a new timber deck has been built, or an existing deck repaired, it must be thoroughly swept and cleaned to remove metal filings from drilling, nailing or other construction that may cause black spots. If the deck has turned grey from natural weathering or is discoloured due to metal filings or other construction materials,

there are a large range of maintenance and cleaning products on the market which may help bring it back to its natural beauty.

Timber coatings help protect the surface of the timber from the effects of weathering and slow down the rate at which timber will take up or loose moisture. By slowing down that rate the severity of any checking on the surface of the timber is reduced considerably. When applying protective finishes please ensure manufacturer's instructions are followed.

The protective finish should be applied to all surfaces (including cut ends) of each decking board before fixing to the joists. A protective finish includes products that penetrate the surface of the timber (such as oils and stains) and products that provide a film or coating to the surface of the timber (such as paints and clear coatings).

Pentarch Premier Decking™ is supplied kiln dried as per Australian Standards between 10% and 18%. Increasing the decking's moisture content above 20% (refer Keith Bootle's Wood in Australia, 2nd edition 2005) due to lack of adequate protection can make the timber susceptible to very fine spores of fungi that are abundant in the air. Should your decking show signs of mould on the surface please consult a coatings manufacturer for a suitable mould removal product.

Further information on timber finishes can be found in Wood Solutions Design Guide #13: Finishing Timber Externally.

Deck Care and Maintenance

Pentarch Forestry recommends an inspection of your hardwood deck every 6 to 12 months however this may vary depending on the location of the deck and the type and quality of finishes used. The deck should be cleaned regularly and any loose or damaged boards or fixings should be resecured or replaced. When cleaning the deck, avoid hosing it down or water blaster; use a broom or a blower instead.

As timber is a natural product checks (small cracks) may appear over time on the surface of the boards. These small cracks have no structural effect and are part of the timbers character. They are caused by the periodic wetting and drying of the decking and this natural process can be slowed by the protective properties of finishes.

Without regular maintenance decking boards may dis-colour and the surface can become rough and prone to splinters. A poorly maintained deck is also susceptible to mould which can make the surface slippery or reduce the service life of the decking boards.

Please refer to page 7 of this document for full Deck Care and Maintenance advice.

Tannin Stains

Tannins are water soluble extractives found in most hardwoods which may leach onto surrounding surfaces whenever moisture leaves the timber.

Tannin stains can be difficult to remove especially from unsealed masonry surfaces. Some species have been reported to be less problematic than others however the best way to lessen the likelihood of tannin bleed is to coat all sides of the timber with a suitable finish.

Safe Work Practices

All safety standards set by Work Safe NZ must be followed, including the following practices when working with timber: Work areas must be clean. Sawing, sanding and routing equipment should be fitted with dust extractors. Dust levels should be below standards set by Work Safe NZ for wood dust. When machining timber respiratory protection, gloves, clothing, hearing and eye protection should be worn.

After handling timber, wash skin thoroughly with mild soap and regularly wash clothing. For any treated timber, do not burn offcuts or sawdust. Preservative treated offcuts and sawdust should be disposed of by approved local authority methods.



PENTARCH FORESTRY



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In order to keep a hardwood timber deck looking its best, it must be kept clean and well maintained. It is a good idea to inspect a hardwood timber deck at least annually to ensure that it is in good condition. To keep the decks colour - you **must use an oil with a UV inhibitor** as a clear oil with not protect your deck from silvering off.

The deck must be regularly maintained as it may become dis-coloured or affected by moisture and weather. Inspect the deck to replace loose boards and protruding nails or screws. Any loose or damaged boards should be re-secured or replaced, loose nails hammered back in or screws re-fixed.

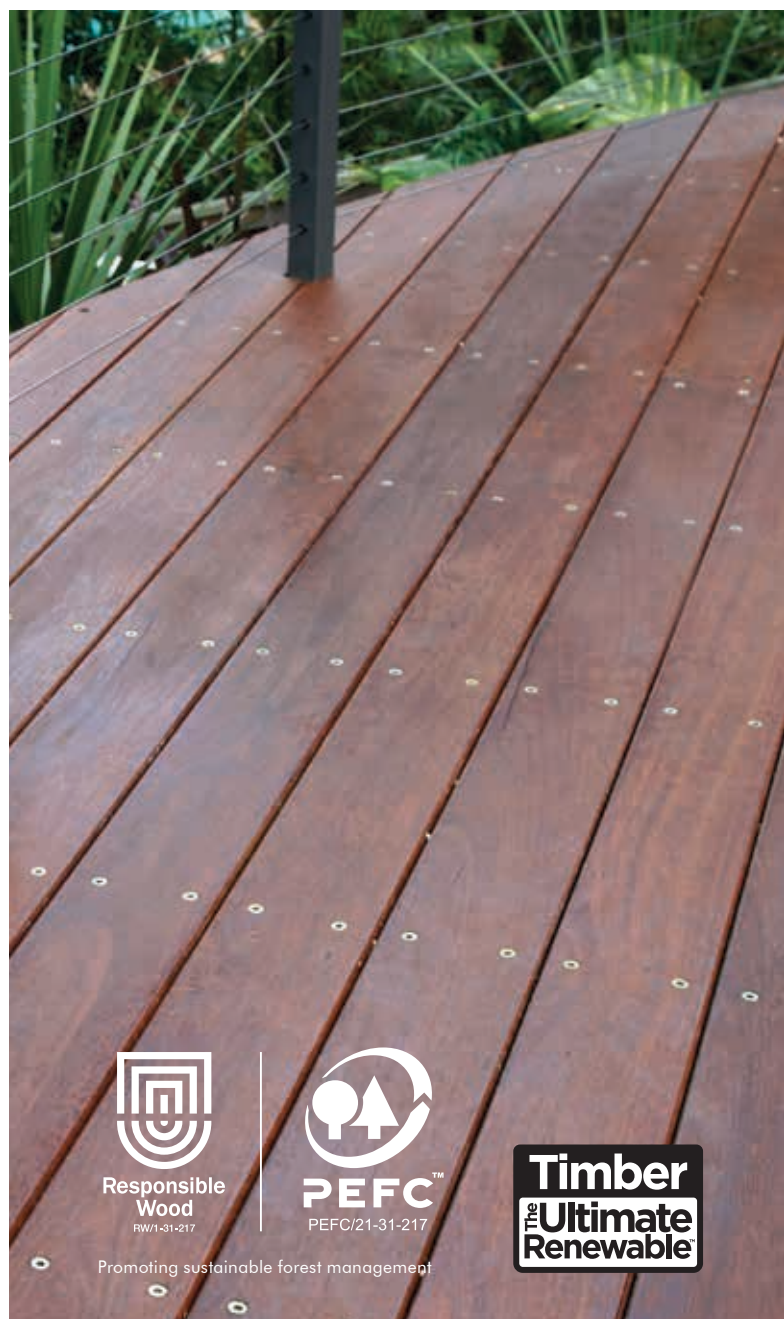
To clean the deck, sweep off any loose dirt or garden residue and then clean the deck with a specialised deck cleaning product. It is important to not only remove dirt, but any algae or moss that may be growing on the deck. If required after the cleaning has been completed, lightly sand the deck in the direction of the timber which help to remove any splinters and damage to the timber.

Once cleaned, reseal the deck with a stain, oil, paint or varnish, depending on aesthetic preference. Before the decking finish is applied, cover areas around the deck that need protection such as plants and furniture. Drying times are dependent on the type of finish so check finish manufacturer's recommendations before walking on a newly finished deck. Apply and re-apply decking finish as per finish manufacturer's recommendations. Finish manufacturers may recommend that the decking finish needs to be re-applied more than once a year.

After a new timber deck has been built, or an existing deck repaired, thoroughly sweep and clean to remove metal filings from drilling, nailing or other construction materials that may cause black spots on the hardwood deck when exposed to the elements.

If the deck has turned grey from natural weathering or is discoloured due to metal filings or other construction materials, there are a large range of maintenance and cleaning products on the market which can bring back the timber's original colour. Use with care and follow the finish manufacturer's instructions carefully.

For any further questions on decking please contact LMA Timber on 021 398 800 or refer to www.lmatimber.co.nz/decking for more details.



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.

www.pentarch.com.au/timberproducts.html
www.lmatimnber.co.nz/decking

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