



COFFS HARBOUR
HARDWOODS

DECKING INSTALLATION GUIDE

Coffs Harbour Hardwoods produces a range of beautiful and natural hardwood decking. Some of the best hardwoods in the world are grown right here on the north coast of NSW. Our decking products are highly durable and machined using best practice. This guide contains a number of helpful hints that will help to ensure your deck is done right.

Beautiful, natural, timeless...

Ph 02 66492006

sales@coffshardwoods.com.au

WWW.COFFSHARDWOODS.COM.AU



Intended Use

This hardwood decking manual is a guide for the correct installation of Coffs Harbour Hardwoods (CHH) decking products.

As you begin the process of building a hardwood deck you should be aware that there are a number of factors that can affect your deck once installed. The following information will help you avoid any possible issues that may arise.

Before you begin you should consult with your local council and state building codes to obtain approval before beginning construction.

Timber is a natural product that can be affected by its surrounding environment. It will absorb and release moisture depending on the conditions of the weather and the proximity to the ground and bodies of water.

CHH recommends that the site where the deck is to be installed be assessed for any possible drainage and ventilation problems. These should be rectified prior to construction.

It is important to keep a deck well ventilated; both above and below the surface of the deck. CHH recommends that decks be at least 400mm off the ground and adequate ventilation is provided, CHH will not guarantee a consistent performance if this is not carried out. If you would like to build a deck below 400mm in height from the ground; we recommend the use of 65-85mm wide decking boards.

Harsh weather environments can also have an effect on the performance of your deck. The best protection is a roof to cover your deck; be aware that exposure to hot sun, rain, strong winds and other environmental factors can have an adverse effect on the lifespan of your deck.

Coatings play a big part in your decks performance. CHH recommends that our decking products are coated and sealed on all sides. It is also important to have a regular maintenance program once installed.

Timber Selection

When selecting your decking it is important to not only pick a species by its appearance, you may have other factors that may play a part in your selection.

These include the following:

- **BAL Fire Rating**
- **Species Durability**
- **Proximity to the Ground** (Timber Size)
- **Proximity to Bodies of Water**

BAL Fire Rating

Building a deck in bushfire prone areas may require adherence to AS3959. The following species are rated to BAL 29 conditions. These species are not always regularly available so you should plan accordingly.

BAL 29 Species

- Blackbutt
- Merbau
- Red Ironbark
- River Red Gum
- Silvertop Ash
- Spotted Gum
- Turpentine

For **BAL 12.5 & BAL 19** requirements, choosing a timber species with a density of 750kg/m³ or greater is suitable.

Sizes

Sizes available include:

65x19mm

85x19mm

135x19mm | Not recommended for decks below 400mm in height.

Handling & Storage

CHH Decking is wrapped in plastic wrapping that is designed to protect your timber during transportation only. Care should be taken with your timber upon delivery. It should be kept in a cool dry place out of the weather.

Stack the timber on a flat, level surface on bearers/gluts that are a maximum of 900mm apart and at least 100mm off the ground. Ensure the timber is well covered using tarps or similar waterproof covering. If it can only be stored outside in the open it is essential that this is carried out.

CHH does not recommend storing decking outside exposed to the weather; this can have an affect on the product prior to installation. Timber is hygroscopic-which means it can absorb and expel moisture easily in response to the local conditions.

Important: If you notice any problems with your timber upon receipt **STOP** and notify CHH immediately so the problem can be rectified. CHH takes no responsibility once the timber has been installed.

Pre-Installation Preparation

CHH recommends the use of pre-coated decking upon bearers and joists of hardwood class 2 species or better, using joist spacings at 450mm centres. Design methods are outlined in Australian Standard 1684: Residential Timber - Framed Construction and AS 1720: Timber Structures - Design Methods and should also be compliant with the National Construction Code (NCC)

Commercial applications may require additional design support and a change to the installation requirements.

CHH recommends that decking be installed a minimum of 400mm off the ground to ensure optimum ventilation and performance.

The site should be prepared by removing weeds and removing any debris. It is necessary to provide adequate drainage and ventilation. It is important that water does not pool below the deck, therefore the ground beneath the deck needs to be sloped and drainage system added.

Place black (polythene) plastic or geo-textile membrane over the the soil and cover with stones or gravel. The use of aggr-drains is also advised where soil is usually damp for long periods. This should help negate the effects of soil moisture evaporation having a potentially adverse effect on the deck.

Decks- "close to the ground" refers to any deck where there is no more than 400mm between the ground and the bottom of the sub-deck framing. Where this is going to take place CHH recommends that Class 1 In-Ground Species are used for framing and decking, and the size of the decking boards are no wider than 90mm. CHH cannot guarantee the consistent performance of your deck in this application.

When measuring your deck area you should allow an extra 10% waste that is in line with industry standards. This to allow for off-cuts and joining boards over joists.

Installation

Before installation begins, CHH recommends that all sides of your decking boards are pre-coated including the underside and the ends. CHH recommends that timber decks be placed 400mm above the ground and will not warrant any **"close to the ground"** decks.

Installation standards for decking are outlined in AS1684 and AS1720.

During the installation process CHH requires:

- Boards should be examined before installation to ensure their integrity has not been compromised during delivery or site storage, warping and fungal growth should be assessed before installation.
- Ventilation: Make sure that the underside of the deck has adequate ventilation. Poor ventilation typically leads to warping and other timber irregularities such as cupping.
- Good surface drainage of the site is required so that water does not pool below the deck.
- Where possible, access is made to available to support the ongoing maintenance of the timber deck.
- Residential joist span recommendation is 450mm centre to centre joist span. 22mm decking can span 600mm for standard & better grade only. For 45 degree board installation, joist spans will need to be at a 300mm maximum. Joist spans for commercial or specialty applications will need to be determined by a professional.
- To compensate for expansion; decking boards must be properly spaced during installation. Board spacing depends on the width of the boards. Boards up to 90mm wide use a minimum 3mm gap. Boards ranging from 130mm to 140mm wide should use a minimum 5mm gap. Boards that are being installed on decks under 400mm should have an 8mm gap regardless of board width.
- Note: If boards become wet prior to installation, when they dry out the gaps between them will increase.
- If the area is well ventilated and boards are expected to shrink you should reduce the gap spacing between boards.
- **BUSHFIRE ZONES MAY HAVE SPECIFIC GAPPING REQUIREMENTS**
- Joints should be staggered across the run of boards.
- End butt joints should be undercut and pressed together to prevent any gaps opening up if contraction occurs.
- Avoid cutting and grinding with metal on your deck as this can lead to black spotting on your deck. This often becomes evident after wetting of the deck occurs.

Fixings

CHH recommends that fixings used are hot dipped galvanised or stainless steel. Electroplated fasteners are not recommended due to the early breakdown of the plating. CHH recommends pre-drilling before installing screws or nails. Pre-drill all fixing holes using a counter sinking drill bit. The pre-drilled holes should be 80% of the fixing size to avoid splitting. Boards should have two fixings at each joist crossing with two screws or nails. Nails or screws should be located at least 12mm from the board edges (*Diagram 1*). When bullet head nails are used they should be driven flush with the surface. Do not punch and fill. Fixings within 1m of a pool should be stainless steel or monel metal.

At intermediate fixings, nails or screws should be either offset or driven at slightly opposing angles (*Diagram 2*). When fixing joints stagger the joints (*Diagram 3*) so they do not sit on adjoining joists to avoid joists splitting. Make sure that all joints in the boards sit over a joist. Both gun and hand nailing may be used to fix decking boards, however due consideration of the species is needed to minimise the degree of splitting; including the need to pre-drill at butt joints or if the decking timber has a tendency to split when being nailed.

Screwing provides significantly more hold strength than nails. As such they can provide a greater restraint to board movement.

Fixings to use: (For decking boards up to 22mm thick use the following)

Hardwood Joists

Nails

-Machine Driven

50x2.5mm flat or domed head

-Hand Driven

50x2.8mm bullet head

Decking Screws

10Gx50mm 304 stainless (Type 17). *Use marine grade 316 stainless in areas close to salt water.

For boards wider than 90mm use 14G batten screws; Galvanised or Stainless Steel.

*CHH prefers the use of twin thread screws such as the SPAX D 5x50mm A2 stainless steel decking screw.

Proprietary fixings such as concealed fixing systems may be used in accordance with manufacturers instructions.

Treated Softwood Joists

(Note: When fixing into treated softwood all bolts, screws, nails plus brackets, framing anchors and other hardware in contact with preservative treated softwood should be hot dipped galvanised, monel, silicone bronze or stainless steel. Electroplated fasteners are not suitable due to early break down of the plating.)

Nails

-Machine Driven

50x2.5mm flat head deformed shank or 65x2.5mm flat head or domed head

-Hand Driven

50x2.8mm bullethead deformed shank or 65x2.8mm bullethead

Decking Screws

10Gx60mm 304 stainless (Type 17). *Use marine grade 316 stainless in areas close to salt water.

For boards wider than 90mm use 14G batten screws; Galvanised or Stainless Steel.

*CHH prefers the use of twin thread screws such as the SPAX D 5x50mm A2 stainless steel decking screw.

Proprietary fixings such as concealed fixing systems may be used in accordance with manufacturers instructions.

Diagram 1

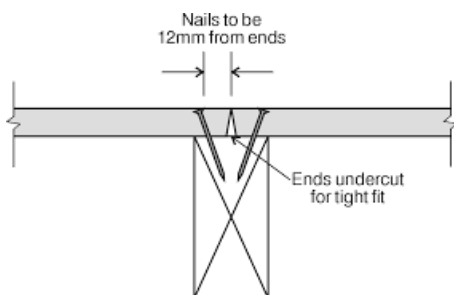


Diagram 2

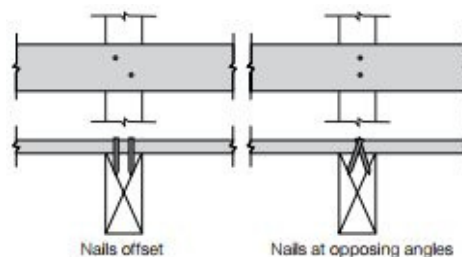
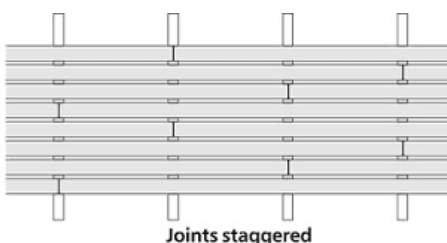


Diagram 3



Timber Coating Recommendations

Your deck has now had the fixing stage completed and it's time to apply a coating. Ensure that you have cleaned the deck thoroughly. Clean by sweeping with a broom or by using a blower to ensure that metal filings from drilling, nailing or other construction that may cause black spots are removed.

Any application of coatings should be done in accordance with the manufacturers instructions. Most deck coatings require a deck preparation cleaner before coating. Some of these products allow coating to be applied without the need to wait a number of weeks. Ensure that your coating has been applied to all surfaces (including cut ends).

CHH recommends that your timber is supplied pre-coated. **What are the benefits of pre-coating timber?**

Protection on 4 sides & added durability

- Minimises moisture absorption much more effectively than single surface coating which improves dimensional stability.
- Coatings applied industrially helps control coverage consistency.
- Improves the service life of the timber.
- Better protection during transport, site storage and installation.

Saves customers time & money

- Less on-site coating reduces labour costs and gets the job finished faster.
- Reduces the impact of weather delays.
- Reduces scaffolding and labour costs associated with hard-to-access areas.

Value adding

- Expands your service offering.
- Provides added value for customers.

By correctly applying coatings you are giving your timber a greater resistance to weather and UV damage. The number of coatings initially applied should be determined by your decks exposure to the elements. A deck that does not have a roof or other shade structure should have an extra coating applied compared to a deck that does. CHH recommends a minimum 2 coats on new decks.

There are many different coating options available including oils, water based film finishes, stains and paints. CHH recommends the use of oil based products that contain mould inhibitors, preferably lighter based pigments. Darker stains and pigments increase the absorption of heat.

Note: The Building Code of Australia (BCA) has introduced Deemed to Satisfy (DtS) provisions for determining the slip-resistance in accordance with Australian Standard AS 4586 – 2013 Slip resistance classification of new pedestrian surface materials. For areas such as exposed walkways, ramps, stairs and on exterior decking around pools; these areas must achieve a P4 slip rating.

Maintenance

To achieve a long life span with your deck you will need to carry out regular maintenance on your deck.

The level of maintenance required for your deck is dependent on many factors including exposure levels and amount of traffic. CHH recommends inspection of your deck every 6 to 12 months, however the frequency depends on the type and quality of the product that is used and weather exposure.

The deck should be cleaned regularly and any loose or damaged boards or fixings should be resecured or replaced. When cleaning the deck, avoid using a hose; use a broom or blower instead.

In determining if your deck requires further coating tip a cup of water on your deck, if the water beads then your coating is still working; if the water soaks in then you should re-apply coating. Follow the coating manufacturers guide in performing ongoing maintenance.

CHH recommends that the storage of pot plants and ornaments direct on a deck is not ideal. We recommend that these items are placed on drip trays and protective mats.

Long Term Appearance and Expectations

Timber is a natural product which is constantly subject to varying and sometimes harsh conditions. Timber has imperfections which is part of its beauty. It will undergo continual change in moisture content which will cause the boards to expand and contract and be exposed to UV from natural sunlight. The weathering process of decking boards over time can result in board checks (small cracks). These small cracks have no structural effect on the timber and form part of the timbers character. An increase in maintenance schedule will help reduce the weathering process but it is unlikely that it won't happen at all.

Tannin Stains

Tannins are water soluble extractives that are found in most hardwoods. These extractives may leach from the timber and leave marks on surrounding areas; they may be difficult to remove from unsealed masonry surfaces. Some species are less of a problem than others, however the best way to reduce tannin bleed is to coat all sides of the timber with a suitable finish.

Note: Some pre-coating products such as Intergrain Ultraprep Tannin and Oil remover will help speed up the tannin removal process over natural weathering.

Site Clean-Up

After completion of the deck installation it is important to clean up the site. This includes offcuts and sawdust; any treated timber should be disposed of carefully and in accordance with local authorities.

Timber Strap and wrapping is recyclable and should be returned to your nearest recycling centre.