

LifePlus® Decking - Decking Installation Notes

Following are recommendations for the installation, finishing and maintenance of *LifePlus® Decking*. It is assumed that the decking project complies in all respects with the Building Code of Australia (BCA) and that additional good design, materials and construction practices are in accordance with the recommendations in the *LifePlus® Decking Guide* including using:

- structural timber with appropriate strength, quality, durability, shrinkage, weathering characteristics and termite resistance to give satisfactory performance over the life of the deck
- wider joists (ie 50mm unseasoned hardwood, 42mm seasoned hardwood or 45mm seasoned softwood) to allow fixings to be placed in a staggered alignment and to make it easier to join board ends over joists,
- hot dipped galvanised or stainless steel fixings, depending on severity of exposure, with stainless steel for corrosive or coastal conditions, and
- a timber sealer, such as Koppers Arch CN Emulsion or an oil based sealer undercoat, applied *during construction* to cut ends, checked joints and timber interfaces in structural and detailed timberwork to reduce water absorption and accelerated deterioration. CN Emulsion is an effective sealer for structural timberwork which is not to be painted but will be noticeable as a darker coloured oily area around the joint which will stop paint adhering. An oil-based primer/undercoat, applied liberally, is suitable for sealing structural timber which is to be painted.

➤ **LifePlus® Decking shall be protected from moisture and excessive heat, and packed up off dry ground to allow free airflow, while stored on site prior to installation.**

➤ **LifePlus® Decking is a dried hardwood product with a maximum moisture content of 15%.** If using *LifePlus® Decking*, in areas of low or high humidity, make suitable allowance for the shrinkage or expansion which will occur. If decking is to be subjected to consistent severe high or low moisture conditions, talk to your supplier to ensure decking supplied is suitable.

➤ **If looking at having timber decking as part of a steel-framed home, it may be necessary to incorporate timber into your steel system.** Decking can be fixed to timber which has been attached either to the top or side of the steel joist. Direct fixing of timber decking to metal joists with self drilling screws may result in a weakening and eventual failure of the screw in the long term. **Please refer to your steel framing supplier for further information.**

➤ **The area which will be under a completed deck shall be graded, drained and ventilated so that the area is dry in normal conditions and dries quickly after wet weather without water pooling.** Retained humidity in the sub-floor increases the risk of decking distortion, termite attack and accelerated decay.

➤ **We recommend the use of penetrating oil or stain finishes to protect decking from weathering.** To achieve maximum life from your decking, apply an appropriate sealing coat to all surfaces, including cut-ends, before laying.

For a decking oil or stain, use one coat of the intended finish as a sealer, *with the finish liberally applied to the absorbent end grain*. An exterior polyurethane will provide a more effective and longer lasting end grain seal – applied carefully so as not to coat the faces of the board.

If using a stain finish, be careful not to overload the surface and to brush out any excess stain.

Clear film building decking finishes may require a period of seasoning or surface preparation before applying the finish. Refer to the manufacturer's recommendations to determine if pre-treatment is suggested before laying.

We do not recommend the use of a paint finish for decking. If committed to using paint, refer to your paint supplier for advice.

➤ **Before fixing the decking, seal the top edge of each joist with either CN emulsion, a primer plus finish coat or, as we strongly recommend, a waterproof membrane (such as Malthoid, a bituminous dampcourse),** for a more effective seal which will also reduce water entry around the fixing and shed water from the joist.

CN Emulsion, applied to the top of joist, may be absorbed upwards, causing an oily mark on the top surface around fixings and at butt joints in the decking.

➤ **Lay the decking boards, using spacer blocks with a 3 to 5 mm gap between adjacent boards to allow for swelling and shrinking.** *Small* differences between the moisture content of the decking and the local Equilibrium Moisture Content (EMC) can be allowed for by applying a gap at the lower end of the range for decking likely to shrink, or at the upper end for decking likely to swell.

Butt ends should be cut with a slight backward undercut to assist in achieving a tight fit. The slight gap will also reduce the potential for premature deterioration of the board ends as less moisture will be trapped and absorbed into the end grain; and assist in allowing absorbed moisture to dry out.

Butt joints shall be staggered so that they do not occur on adjacent boards.

➤ **In weather exposed domestic applications subject to light foot traffic, LifePlus® Decking shall be screwed or hand nailed with two fixings per board at each joist.**

50x10G LifePlus Decking Screws (stainless steel with square drive and self-embedding head) **will provide improved hold down, corrosion resistance and resistance to working.**

Nails shall be domed head (DH), twist shank (TS) type in stainless steel (SS) (preferred) or hot-dipped galvanised (HDG) (depending on severity of exposure conditions).

For hardwood joists, use 50x2.8mm DHTS nails (as above)

For softwood joists, use 65x3.15mm DHTS nails (as above)

- **T-Nails (50x2.2 Finishing Nails or 50x2.5 Flooring Nails), plain steel or zinc plated nails shall not be used to fix decking or in any external application.**

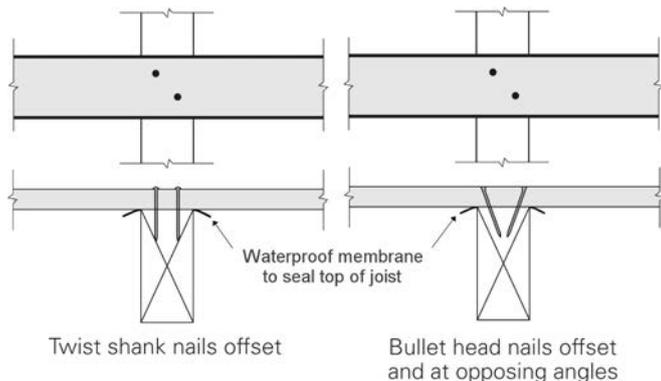
- Although 50x2.5 stainless steel domed head gun nails are readily available and commonly used for fixing decking, we recommend screwing or hand nailing with 50x2.8 twist shank nails for hardwood joists and 65x3.15 twist shank nails for softwood joists as this will provide greater initial hold-down and there is sufficient history of use to be confident of long term performance. Your nail supplier may be able to provide additional information on gun nails for decking and a recommendation as to suitability.

- **Decking should be drilled with a small pilot hole where it is to be fixed to the joist, to avoid splitting.**

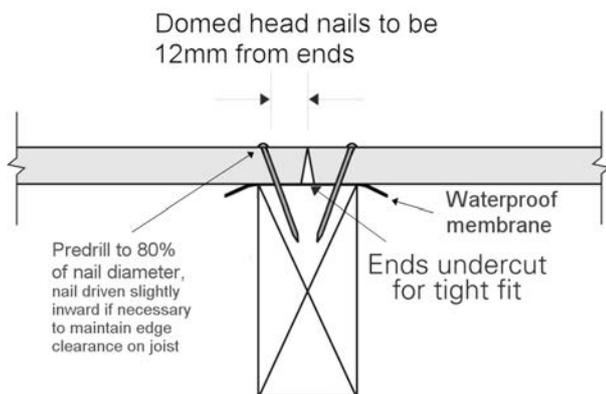
- **If a pilot hole is required in hardwood joists, it should be of minimum width and depth to allow the screw or nail to be driven** without shearing off the screw or bending the nail and without damaging the nail head, while ensuring the maximum hold-down force is maintained to hold any movement of the decking.

Drilling a pilot hole that is wider or deeper than necessary will make screwing and nailing easier but will result in reduced hold-down and potentially movement of the decking boards and working out of the fixing.

- Screw or nail fixings shall be placed in a formal and controlled staggered alignment. Refer to screw installation recommendations for required screw edge clearance and stagger. Nails shall be fixed with a 10 to 12mm stagger, with a minimum of 12mm edge clearance).
- Decking fixings placed in a straight line are likely to split the joist.



- Where decking boards terminate or are joined at a joist, fixings should be 12mm from the end of each board. For nails, the board should be predrilled to approximately 80% of the nail diameter to avoid splitting. Fixings may have to be skewed slightly inwards to achieve the necessary clearance to the end of the decking board and edge of the joist.
- Adjacent fixings should be driven at slightly different angles to reduce the possibility of splitting the joist between the fixings.



- Galvanised Bullet Head Nails *may* be suitable for fixing domestic hardwood decking to hardwood joists where protected from the weather and subject to light foot traffic.
- Nails, whether domed or bullet head, should be driven only so that the head pulls the board down tight onto the joist. Nails shall not be punched into the decking surface.
- **LifePlus® Decking** used in *light-duty commercial applications* subject to medium volumes of foot traffic should be fixed with screws (eg 50x10G LifePlus Decking Screws).
- For commercial applications subject to high volumes of foot traffic use commercial standard decking & fixings.
- **Effective initial finishing and regular ongoing maintenance is essential to protect LifePlus® Decking and the structural timber from the damaging effects of weathering and to maintain an attractive appearance.**
- Vacuum pressure impregnation (VPI) treatment of **LifePlus® Decking** is intended to protect the sapwood from insect attack and decay and does not provide protection against the damaging effects of weathering.
- **Raw linseed oil, or mixtures containing raw linseed oil, can encourage mould growth in timber and should not be used as a natural finish unless contained in a commercial product containing mould inhibitors.**

- Clear film building decking finishes, properly prepared, applied and maintained, as a system, can give good service over a long life although are likely to be more slippery in both dry conditions and exposed conditions when the surface is wet.
- Clear film building finishes should only be used where slipping is not an issue. Applying film building finishes without attention to the whole system may result in unsatisfactory performance and reduced life.

Understand and put into practice the preparation, application and maintenance instructions provided by the manufacturer. Refer any queries to your supplier or manufacturer.

- Decking should not be coated with any finish which leaves a slippery gloss coating on the surface as the deck may become slippery and difficult to traverse, especially in wet weather.
- Once the decking has been laid, apply another *liberal* coat of the chosen oil or stain finish to the exposed surface. Refer to the manufacturers recommendations as to whether a third coat would be beneficial. Refer to the **LifePlus® Decking Guide** for application suggestions.

➢ The main enemy of an exposed timber deck is moisture. Except for the effects of weather over which we have no control, wherever possible keep your deck dry. Decks should not be hosed down or subjected to regular wetting from irrigation systems. Pot plants should be placed in drip trays standing on small cleats clear of the deck. Any leaf material and debris should be broomed off, rather than hosed off, at regular intervals.

➢ For satisfying long-term performance from timber decking, perform regular maintenance including re-application of the decking finish at appropriate intervals and while the timber retains some water repellency. In “average” conditions, you should expect protection for 9 to 12 months from oils and 12 to 18 months from stains. Finishes should be re-applied in the period before the most severe weathering conditions.

Decking Oils generally contain UV inhibitors, which may slow the natural greying of timber. The colour of decking timber can be restored by the application of a coloured decking stain, best applied before a strong grey colour develops.

Some raising of the timber grain may be experienced on the exposed face from weather exposure. Remove any raised grain by moderate hand or machine sand in affected areas.

➢ **Pay careful attention to safety during construction.** Wear suitable safety equipment, pay particular attention to safe practices when using ladders, grinders and power saws (tools which are the cause of many DIY accidents), keep the work area tidy, do not burn any treated off-cuts and use good hygiene practices in handling treated timber. Refer to the LifePlus website at www.lifeplus.net.au for more detailed information.

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