

# Timber Decks

By The Generalist – *I know a little bit about lots of things – but I'm no expert*

There is a lot of advice on building decks, selection of decking materials and decking treatments available nowadays that is usually sound – but can be outdated or slanted by a commercial bias.

Decks have historically conformed to the same rules of construction that governed elevated timber floors – especially in regard to ground clearance and subfloor and footing construction. In recent decades there has been a big shift in deck construction from being an addition to a house, to forming part of the architecture of the landscape – and in the transition, some basic rules of building have been left behind.

Decks are like most elements of building. When problems occur, they don't usually fall apart – but they can partially fail. The extent of partial failure is as expensive to remedy as replacement in most cases.

- 80% of failures are due to deck design
- 15% to incorrect fixing
- 5% to unsuitable materials

Like many people with a point to illustrate, I invented these statistics – but they are true in my experience. Allowing for some inaccuracy, the stats can be a useful working approach to planning a good deck.

## Decks as extension of a house

Decks should be designed to last 25 years – the anticipated minimum life of a residential building. Subfloor bearers should have ground clearance of 450mm. Joists require capping with waterproof plastic or malthoid. If the ground beneath deck is subject to wetting, it should be well ventilated on two or three sides for cross-breezes and sloped for drainage. Fixings should be hot-dipped galvanised steel or stainless steel.

## Decks as part of the landscape

These decks usually bypass the rules on ground clearance laid down under the BCA (Building Code of Australia) – and may be exempt from the code because of extent and character. Some of these decks may only have a service life of 10-20 years depending on design. The rules on ventilation and fixings should apply here wherever possible.

If decking boards are close to ground (less than 300mm) or if there is little cross-ventilation, always use a Durability Class 1 timber – Ironbark, Tallowwood, White Mahogany or sapwood-treated Spotted Gum. Oil both sides before installing and set 19mm boards at a minimum 6mm apart; 32mm board at a minimum 10mm apart. During winter or wet seasons, these boards will grow slightly in width and it is vital they continue to drain rainwater and never touch.

**Drainage of base.** Excavate the footprint of the landscape deck so that it drains naturally – then top with sand or scoria. On flat ground lay drainage pipe in the scoria/sand base to take water away and prevent pooling. Then build the deck subfloor with H3 resistant timbers that allow as much airflow as possible. Make sure ends of timber decking boards and joists are clear of contact with soil.

**Decks battened over concrete slab** - Many decks are installed on slabs where no fall is allowed for in the working surfaces – or where battens are laid across the drainage lines to prevent water run-off. Even with well-gapped decking boards, moisture problems will develop quickly in this type of installation.

**Boxed sides to low decks.** The boxed design has been popular now for almost 20 years and if you tried to think of a better way to reduce sub-frame ventilation – you just couldn't. If you must have decking boards around the deck perimeter – allow as a minimum a 12mm gap between boards and 50mm ground clearance. But at the early design stage – why not find a new deck perimeter aesthetic that allows better frontal and side airflow?

**Pots and deck furniture** – Pot plants and permanent clutter needs to be moved regularly and decks cleaned beneath to prevent mould and compost build-up atop joists between decking boards.

**Cleaning of decks** - High-pressure cleaning on its own will restore most decks to clean. Avoid alkaline deck cleaners unless the condition of the deck is so bad the pressure wash by itself does not work. Try warm water with a bit of detergent and a broom first - and the caustic cleaner only as a last resort. Remember – you are just cleaning the deck so you can re-oil with the objective to protect the timber – not trying to restore colour.

Alkaline cleaners are just a way of super-accelerating the weathering process. You take years off the life of a deck every time you use one. The worst-case scenario is when your metal fixings are not quite the correct ones. If your installer has used a zinc-nickel plated fixing or a cheap import then the alkaline cleaner may destroy the protective case and initiate rusting of the screws and fixings. This will rapidly deteriorate in the months following alkaline cleaning and rusty stains will seep into the timber around fixings.

**Oiling Your Deck.** Pressure wash timber decking annually and reapply top coat of decking oil. The oiling of decks is not high science and you don't need to buy expensive cans of the very latest high-tech decking oil. If it has an organic oil base – such as linseed, lanolin, or Tung oil then it needs to be biologically-inert (boiled linseed base is OK) – not a raw organic oil that is a food source for precursor mould. The oil should super-saturate the outer case of hardwood to minimise take-up of moisture. If water beads on the surface of the deck after application, then the treatment is working. Nothing seems to last longer than 12 months – so clean the deck with a high-pressure washer and re-oil annually.

**Polished Decks** – Glossy magazines and TV reality shows suggest that oiling a deck is much the same thing as a polished floor. Consequently many owner-builders harbour a fervent wish to have a polished jewel of a deck. The wish will only ever be partially fulfilled in covered areas. You will not maintain the polished look outdoors in full sun. All clear finishes that come out of a can break down under UV light. They look nothing like the brochure six months in. Here are three elementary proofs

- Have you ever seen a photo of a deck in a glossy mag that wasn't either brand new or wet from hosing down and shot at dusk to provide artificial gloss?
- Why do they put colour tints in decking lacquers if real colour does not disappear? It's called colour replacement therapy. The therapy benefits the client – not the deck.
- Look at any brand new deck – then take another look 12 months in.

You can spend lots of money on a product that promises you the polished look in full sun – or you can spend far less on an oil that will benefit the timber and then watch over time as it mellows to a natural silver-grey just like a real tree in the bush.