

Ted's News

September 2019

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Whoever Thought Plastic Decking was a Good Idea?



It took the fire in the Grenfell Tower for people to realise that it was not the brightest of ideas to clad high rise buildings with petrochemicals. The fire this month in the Whyalla jetty should (but probably won't) cause people to realise that the fire risk associated with plastic decking can lead to serious injury or even death. A witness to the fire on the 11th September said, "In about five minutes the whole structure was up, it was a bit of a surprise. Once it started picking up we knew it wasn't being

controlled," ([Whyalla News Sept 11,](#)) [Here is a link to the Chanel 9 Adelaide news report.](#)



Really, it is not a surprise if you do your homework. I have been warning about it for years. This poor worker (who, mercifully, happened to be wearing a life vest) was able to jump for his life but imagine if the public was on the deck. Durable, bushfire resistant royal species hardwood of the appropriate grade is by far the better option and you can't go past Deckwood. [Ask me for my study](#) by Uni of Southern Queensland on plastic decking compared to my Deckwood.

[Don't Leave your CPD Points to the Last Minute](#)



Here I am delivering my CPD course on Architectural Timber Battens at the offices of GHDWoodhead.

Last year there was a frantic rush by to complete the required CPD points by both in office talks and by E learning through Eclassroom. Why wait for the last minute to avail yourself of a free CPD course sponsored by Wilson Timbers/Outdoor Structures

Australia (OSA) are meeting the cost of delivering CPD sessions in your office? Simply because they are very good, and the free offer can't continue for ever. Here are two references:

From a recipient at Cornell Engineers: We started with Ted's Timber 101 class. It really was a great talk. Can totally recommend it to all engineers, designers and architects.

From a recipient at BSPN Architecture: Thanks for speaking with us again – your talks are always very informative.

There are only two conditions, and these are that I can travel there and back in a day and that OSA be allowed to give a sales pitch. These are exactly the same presentations I would give if you paid. It sounds like a good deal to me. Here is the [link to the courses I have available](#). *The Seven Deadly Sins of External Timber Design* is excellent.

These are informative seminars with serious learning outcomes and, if required for CPD points, I can provide a test and a certificate. Call Stuart Madill on 0403 385 707 to arrange a free session and for paid add free talks call me on 0414770261 to arrange a convenient time for your "Ted talk".

Interstate readers - travel is no problem

Updated Timber Queensland Decking Guides

TECHNICAL DATA SHEET
ISSUED BY TIMBER QUEENSLAND

RESIDENTIAL TIMBER DECKS

RECOMMENDED PRACTICE // SEPTEMBER 2019

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This data sheet contains TQ's recommendations for residential timber decks, verandahs, patios etc which are exposed to the weather. It covers the most common timber species and deck sizes. Footing sizes and deck bracing shall be designed in accordance with the NCC Building Code of Australia (BCA) regulatory requirements. For alternative sizes, spans and stress grades refer to AS 1684 Residential timber framed construction. For commercial and industrial decks, refer to Technical Data Sheet 7. For decks close to the ground (i.e. framing less than 400 mm above ground), refer to Technical Data Sheet 13. For timber handrails and balustrades, refer Technical Data Sheet 23.

TIMBER SELECTION

Posts in contact with the ground shall be either preservative treated pine or In-ground Durability Class 1 hardwood, with any sapwood preservative treated. Refer to 'Construction Timbers in Queensland' for suitability www.daff.qld.gov.au.

Decking and deck framing above ground shall be either cypress, preservative treated pine or Above Ground Durability Class 1 hardwood. Hardwood decking boards and deck framing containing sapwood must be preservative treated. For H3 LOSP treated deck framing, refer to TQ Technical Data Sheet 24.

Preservative treatment for posts in the ground and framing on the ground, shall be to hazard level H5. Preservative treatment for framing more than 150 mm above ground shall be H3.

Cypress framing may contain limited amounts of sapwood (max. 25% width of face or edge) provided the sapwood does not occur at joints or facing points.

TABLE 1 - SPECIES SELECTION

Species	Posts In Ground	Post and Framing Above Ground	Decking
PRESERVATIVE TREATED PINE ROUND (CARIBBEAN, HOOP, BARKER, SLAB)	✓ H5 Treatment	✓ H3 Treatment	✓ H3 Treatment (See Note 1)
MIXED OPEN FOREST HARDWOODS (EGLI, KILIN, NEW)	✗	✓	✓
BALAU Yellow	✗	✓	✓
BELIAN (See Note 2)	✗	✓	✓
BLACKBUTT	✗	✓	✓
CYPRESS	✗	✓	✓
GUM Forest Red (See Note 2)	✗	✓	✓
GUM Grey (See Note 2)	✗	✓	✓
GUM Spotted	✗	✓	✓
IRONBARK Red or Grey (See Note 2)	✗	✓	✓
KAILA (MERIBAI)	✗	✓	✓
MAHOGANY Red	✗	✓	✓
MAHOGANY White (See Note 2)	✗	✓	✓
MESSMATE Cypress	✗	✓	✓
TALLOWOOD (See Note 2)	✗	✓	✓
TURPENTINE (See Note 2)	✗	✓	✓

Note:
1. CCA treated timber shall not be used for domestic decking boards.
2. This species may be suitable for use in ground in other geographic regions. Refer to 'Construction Timbers in Queensland' for suitability. www.daff.qld.gov.au

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TECHNICAL DATA SHEET
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RESIDENTIAL TIMBER DECKS CLOSE TO OR ON THE GROUND

RECOMMENDED PRACTICE // SEPTEMBER 2019

13

When designing and building timber decks where timber is less than 400 mm from or on the ground, considerations must be given to the following to ensure good long term performance:

- adequate ventilation + surface drainage + correct timber species selection
- access for future maintenance and termite control.

TIMBER SELECTION

Where framing timbers are more than 150 mm above the ground timber should be termite resistant, Above Ground Durability Class 1 or better (with sapwood H3 treated) e.g. blackbutt, spotted gum, ironbark, cypress, forest red gum, Gympie messmate, or H3 or better preservative treated softwoods.

For lower decks or those on the ground, framing timber should be In-ground Durability Class 1 (sapwood treated to H5) or H5 preservative treated softwood.

Decking boards should be Above Ground Durability Class 1 (sapwood treated to H3), or H3 preservative treated softwood. Commonly available timber suitable for this purpose include - turpentine, spotted gum, ironbark, forest red gum, white mahogany, tallwood, blackbutt, cypress, merbau (hwalu), balau and preservative treated pine. These timbers are termite resistant.

Note: CCA treated decking boards shall not be used in residential applications.

TIMBER SIZES

For sizes of beams, joists and allowable joint spacings, refer to Tables 1-3. Other grades and sizes can be used in accordance with AS1684 - Residential Timber Framed Construction.

Note: Joist and Gouge flooring should not be used in weather exposed situations.

Where decks are built close to the ground, a considerable moisture gradient can occur through the thickness of decking boards which can result in cupping. For this reason it is recommended that the maximum width of standard thickness (19 - 22 mm) decking be limited to 100 mm (nominal). For other decking, the width should not exceed 4 times its thickness.

BEFORE CONSTRUCTION

The ground beneath the deck should be graded away from adjacent buildings and the deck so that water does not pond. In some cases agricultural drainage pipes may be needed to ensure water is removed from under the deck.

It would also be good practice to lay down a plastic membrane under the deck (same as used under concrete slabs), covered with gravel or sand to keep it in place. This will help keep soil moisture from affecting the timber as well as preventing any vegetation growth.

TERMITE MANAGEMENT

Only termite resistant timbers should be used for these decks. However, protection of the dwelling to which the deck adjoints must also be considered. This could be achieved by leaving an appropriate gap for inspection (refer Figure 2). It may be necessary to provide a removable panel, to inspect physical management systems (e.g. metal caps) or to retreat where a chemical perimeter treatment to Australian Standard AS 3660.1 has been used on the dwelling.

FINISHING BEFORE FIXING

For maximum serviceability and protection against weathering, timber decking should be properly finished and maintained. Before fixing, and to minimize the potential for development of unremediated dark stains occurring it is recommended that the following should be applied:

(i) For Oil Based Stain Finishes

(a) Give all faces and edges of decking and top edge of deck joints one coat of water repellent preservative such as:

- * 10% copper naphthenate in a light organic solvent,
- * 20% zinc naphthenate in a light organic solvent and,

(b) The first coat of stain should be applied all round to decking and to top edge of deck joints before laying.

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Timber Queensland have just updated two of their technical data sheets dealing with decking. Here are the links from the Wilson Timbers website:

[No 4 - Residential timber decks](#)

[No 13 - Residential Timber Decks Close to or on the Ground](#)

There are only small changes, but still important. I am to blame for some of the changes. If you are going to do a deck in full sun I believe you still need my [LifePlus Decking Guide](#) as there is a lot of extra information there.

[A Reminder About Narrow Floor Boards](#)



What a month it has been here in the Lockyer Valley for Timber Floors. It reached 31C, winds almost got up to 80 km and relative humidity down to 7% - and the dust!! My 83 mm solid brushbox floors gapped as they had to and, when it eventually rains, they will be back to where they were. A couple of days ago I visited friends who I had not spent time with for a long time. They built a

timber house which I supplied, and it was heartening to see how well it has fared and how all my advice proved sound. After my experience with ex 100 mm boards, I had advised them to use ex 75 mm finishing 63 mm. The floor which I produced in our planing mill was in brilliant shape because the boards are narrow. I pity anyone out there with an ex 200 mm board at the moment, it is all primary school maths and the maths will beat you in the end. Brushbox boards will move 0.38% of their width for every change of moisture content and even [King Canute](#) cannot stop it happening. The product on the floor from 20 years ago was, I think, Cabots Clear Floor a water-based polyurethane. It had good resistance to edge bonding if I recall.



This is the other end of the scale, not my friend's floor fortunately. It is of a similar age, re-sanded and sealed and then it edge bonded together like a very wide laminated beam. In this same weather event something had to give and in this case, it mostly tore between the joins every 4 or 5 boards but the glue joint can be so strong it simply tears down the centre of the board as the one illustrated did.

I love the beauty of a solid timber floor and you will too if it is done well. The take away from this is:

- Only use a narrow board

- Only trust your mother and probably not even her when it comes to timber finishes. I would be talking to the Australasian Timber Flooring Association and getting a site-specific recommendation and that may involve a site visit.

[View the original expanded article from March 2018 here](#)

Now to change the subject, those posts in the first image – They are CCA treated ironbark set in no fines concrete with extra CN emulsion at the ground line. They are in brilliant condition still.

Coastal Deck Course

Thanks for the day course on coastal desks and boardwalks. All of us who attended gained useful knowledge about working with timber, and I think the cost of the course will easily be recouped through that translating to better outcomes on the ground. All the additional information on fixings and metals with the focus on local conditions was invaluable. It was especially helpful to have plenty of time for questions and answers with a mix of designers, project delivery and maintenance officers able to ask questions and discuss ideas and solutions.



Clare Staines | Senior Landscape Planning Officer
Parks Asset & Capital Planning
Sunshine Coast Regional Council

The main part of the day takes you through the design checklist in my Deck and Boardwalk Design Essentials, line by line and explains and illustrates why that line is there and why that aspect of the design must be attended to. There are three supplementary sections:

- A look at the alternatives to traditional hardwoods and discuss their weakness and strengths (if they have any)
- A look at two very different boardwalks in Cairns and discuss the strengths and weaknesses of each design
- A look at boardwalks I built at Point Cartwright in 2000 and Jacobs Well in 2003

Unlike the free CPD sessions, there is a charge for this course but it is "very small bickies" compared to what you could spend if you get the basics wrong and end up with a very unsatisfactory result. From the course you will see just how logical everything is. Contact me on 0414 770 261 or [email me](#)

Need a Timber Consultant or Expert Witness?

I have over 40 years' experience in the industry and can assist you with many of your timber needs.

Inspection – I can assess timber products on their performance, fitness for purpose or cause of failure. I also examine whether best practice was used in design and construction. I have recently completed inspections on boardwalks, bollards, support beams and external timber furniture.

Grading - Quite literally, I have written the book on the subject. Recent experience has shown that up to 30% of timber supplied may not be to grade.

Design - I can provide detailed technical drawings and advice. I can also review already prepared drawings.

Reports - I have authored many books on timber and can prepare a report providing recommendations and practical instructions on to how to rectify issues.

Please note as I am now employed a Senior Timber Consultant with the firm BCRC all large and complex consultancies and requirements for an expert witness will be handled in conjunction with them. Existing consulting arrangements remain unchanged and I am also available to assist on small projects. For more information see www.bcrc.com.au

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