

Ted's News

June 2018

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[Another Great Timber Structure at Toohey Forest Park](#)

Part 1 of 2

Last month I featured a boardwalk in Toohey Forest Park that we supplied the design and material for prior to 1997. It is still in excellent condition. [Here is the link.](#) My good friends at Naturform, Brisbane are building a new deck at the park as part of its refurbishment. Both Lindsay Toppenberg and his brother Anthony have been keen readers of my newsletters and the way they (and others of course) take note and incorporate the contents into their designs encourages me to continue writing. Because this deck draws on my design principals it will provide equally good performance as the boardwalk in the link. They have planned to succeed. I can help you in the same way I have helped Lindsay and Anthony.

Here are three important issues to be mindful of for your next decking project:-

Why Deckwood was chosen



Image taken recently at Cairns Esplanade refurbishment where Deckwood was used because of its superior profile and specification

The decking is 120x35 Deckwood from [Wilson Timbers/Outdoor Structures Australia](#) who make the product under license. This size is chosen because:

- Its width to thickness ratio (3.4 to 1) means that it will not cup. (145x35 probably will)
- It gives better recovery from the logs
- It will carry 5 kPA, 4.5 kN loads at 600 mm centres
- The shrinkage in this unseasoned timber is not excessive and is laid without a gap normally
- The tapered sides make the deck self-cleaning
- The ripples and anti-warp groove provide maximum air flow at the joist
- The rough sawn face has been tested to R12 slip resistance

When this deck is down there will be virtually no natural feature visible and, by design, would be expected to last substantially longer than an F17 deck of the same species.

Grading the decking



An important part of any weather exposed timber structure's success is independent confirmation that the timber is supplied to specification. (Mind you, it must be the right specification.) Decking timber particularly has requirements that go far beyond roof trusses and so needs a much tighter specification. You get this with the Deckwood specification. My book [Grading Hardwood](#) explains in detail why vague specifications can easily end in heartache as AS2082 ignores the most important properties required for decking. I have rejected up to 50% of decking supplied by others to our specification (but not Deckwood profile). Just like you check your concrete for compliance, check your timber. There is no longer anyone checking the millers grading. I can do this for you as can others.

Posts



I have long advised against relying on non incised sawn treated pine if you are expecting a long trouble free life. [This old newsletter should settle the matter in your mind](#). However, true diameter rounds in pine are a very different beast altogether. Because there is a broad band of sapwood completely enveloping the low durability heart you can truly "preserve" this timber.

I usually supplied 150 mm diameter posts when I was trading but now recommend 200 mm regardless. I had control over what I purchased and made sure that I only used H5 but the same size was also available in the lower priced and easier to purchase H4. There was no way of telling the two apart. By contrast 200 mm is only available in H5

The Timber Life design prediction software gives this product a life expectancy of about 100 years in this location but CCA treated round pine posts have a fatal weakness, fire. Because of the arsenic content in the preservative they will continue burning after a quick grass fire as passed through. This possibility was recognised in this design and the posts had an intumescent paint applied.

Next month, if Lindsay and Anthony have completed the deck, we will look at

- Joist width and fasteners.
- Joist layout to suit set length decking

While this is not a paid (or even unpaid) advertisement for Naturform, I have to admit we have done some impressive work together. To view some eye catching timber stairs, battens and decking [check out this link](#) to the first project I did with Naturform at the Queensland University of Technology (several years ago now). Another good project was the Grantham flood recovery project (found in my first book of newsletters).

Your Design Sins Will Find You Out



I saw this failed 200x200 timber bollard in the main street of a country town that cannot be named less I get a "No Parking" sign put in the middle of my driveway. There are important lessons to be learnt and none of it was "secret men's business" at the time the project was undertaken.

Prior to 2001, the Council involved was updating the streetscaping and the proposal, all along, was that timber bollards would be used. Three people from the Council and one from a design company came to my office to find out what had to be done for these to be successful. I explained that it was very simple. All that had to be done was:

- Use Durability 1 in ground timber such as ironbark
- Not set them in concrete but use natural earth, fine crushed rock or no fines concrete
- Cut expansion grooves along the length to control the splitting, and
- Put a cap on the top.

The plans eventually came out and I was asked to quote on the supply and the detail was:

- Spotted gum timber (Durability 2 in ground)
- Set in concrete
- No expansion grooves
- No cap

I told the Council that I would not put my name to this product as they would not give satisfactory service but I would sell the timber to them and they could do with it what they will. Another company operating here at the time saw no problems and supplied the finished article and the bollards were installed contrary to known good practice at the time.



Soon after installation, the timber started splitting badly and the mayor approached me to supply the caps in around 2001. But, of course, the horse had already bolted.

Discussion will arise in the Council about the wisdom of using timber again because these posts are going to be very, very expensive to replace but this is not a timber issue, it is a failure to listen, check the documentation that was given at the time and adopt best practice. By contrast, the [ironbark cross at the Anglican Church](#) (also 200 mm thick) and supplied in 1967 is only now needing attention. Seeing the poor performance of this product led me to develop what we called the [Pioneer Post](#), which is still available from Wilson Timbers/Outdoor Structures Australia.

Timber remains a much better option than plastic and often steel for bollards but it must be used correctly. As a consultant, I can assist you develop protocols to prevent this sort of thing happening in the future. Alternatively you could spend \$22 and purchase my [Commercial Barrier Guide](#).

Fire Retardant Coatings Code of Practice Released



WoodSolutions have recently released their 45th technical publication on timber use. This new WoodSolutions Design Guide has been written to provide a Code of Practice to enable the use of fire retardant coatings applied to wood products, via the Performance Solution pathway, as a means of achieving the fire hazard properties required by the NCC. This Code of Practice is intended to supplement the NCC by addressing issues relating to the supply, testing, installation and maintenance of fire retardant coatings.

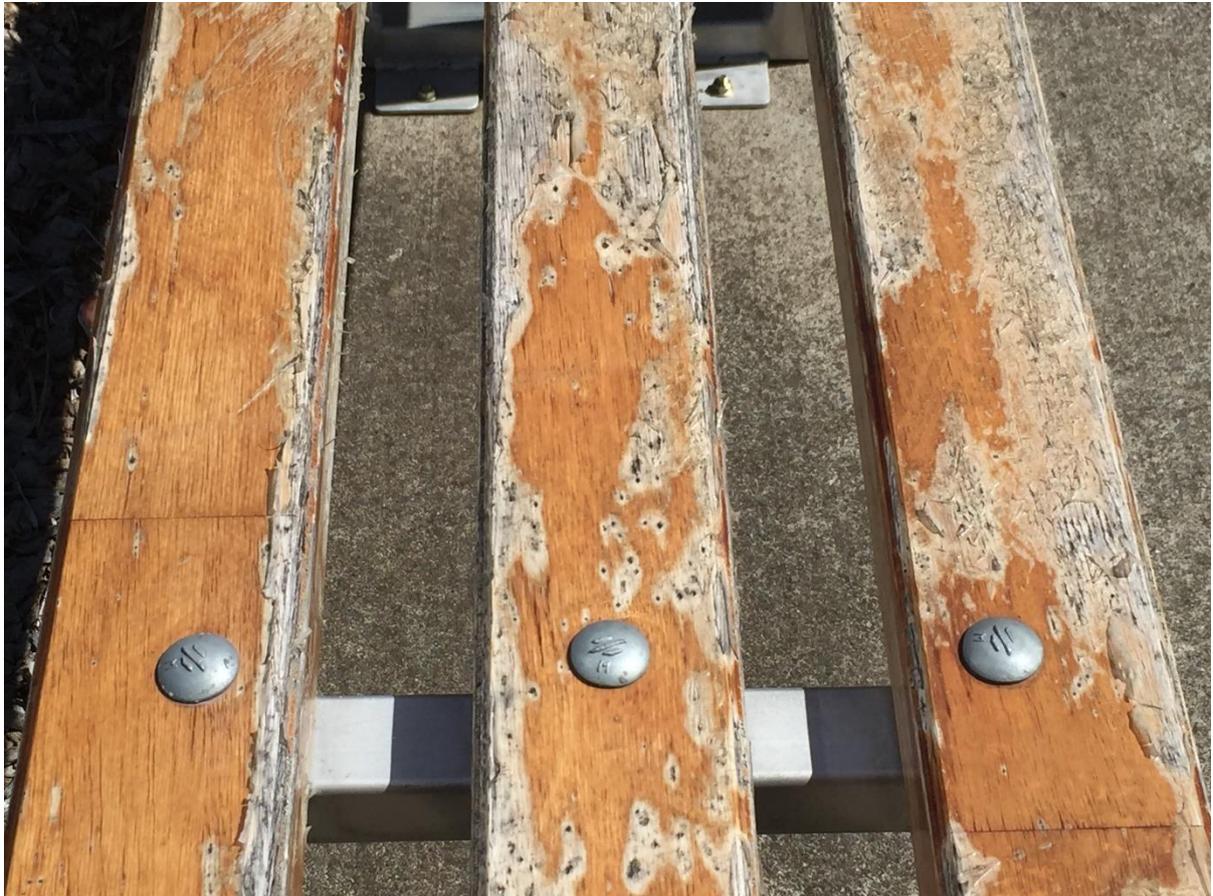
Code of Practice

Fire Retardant Coatings
Applied to Wood Products

Technical Design Guide issued by Timber and Wood Products Australia

To find this guide, go to <https://www.woodsolutions.com.au/> and sign in. Look under resources and then publications.

External Timber Furniture



In my new book, External Timber Furniture, I give a chapter each to timber finishes and maintenance. The above figure clearly demonstrates why this is needed. I am having copyright issues with some of the images and until that is resolved I cannot make it available. Can you help with images of :-

- Decayed sapwood in furniture
- Failed glue joints
- Problems with edges of round tables
- Corner details



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