

Outdoor Structures Australia

April 2015 Newsletter

Written by Ted Stubbersfield

[Free in House Seminar](#)
[Nail or Screw Domestic Decking?](#)
[Welcome to NSW LALC readers](#)
[Improvements to Website](#)
[Log Footbridge](#)
[General Manager Appointed](#)

Dear Reader

[Talking Timber with Ted](#)



Timber construction and durability in external application has always been my passion and in particular to see timber used in a fit for purpose application and last a lifetime in all its glory. I have written several books on external timber design and application over the years and presented as guest speaker at many Seminars including Timber Queensland's on the topic.

Nigel Shaw, the CEO of Outdoor Structures Australia has agreed to fully fund the costs of me giving one of my CPD seminars in your office (providing if it is roughly within a two hour drive of Gatton). The seminars being offered are either the Seven Deadly Sins of Timber Design or Timber Decks - Designing for Durability (or both if you can make the time on the same day). Also being subsidised by OSA is a free copy of my Boardwalk Design Guide and Deckwood Selection guide as well as the book, The Seven Deadly Sin of Timber Design. These are serious seminars with [serious learning outcomes](#) if required for CPD points it comes with a test and a certificate. Call me on 0414770261 or Keith Smith on 0403 601 030 to arrange a suitable time for your personalised "Ted talk".

The full range of subjects I have available are:

Timber Preservation.

Hardwood Grading.

***Timber Decks – Designing for Durability,
Utilising Small Diameter Hardwood.***

The Seven Deadly Sins of Timber Design.

Joints and a new one under preparation

Architectural Battens

Nail or Screw Your Domestic Deck?



When I built my home in 1992 I used over 1000 metres of ironbark pencil round decking. Nobody thought of screwing decking then so I followed the Timber Queensland directions and used 50x2.8 galvanised bullet head nails. Now this deck is under a roof and I have to admit, they have worked acceptably. There are only two places where I have replaced the nails with screws. Where the nails are not working well is on the two outer boards where many have worked out (illustrated) and the landings, which are not covered. These have had to be re-secured with screws. Had this been an exposed deck it would have been a disaster.

Still we are seeing builders who are gun nailing their weather exposed decks and refusing categorically to screw them. The matter was settled a long time ago when the Forests and Wood Products Research and Development Corporation did withdrawal testing on a range of fasteners on different joists. The image below summarises the results. It is frightening how badly some of the gun nails perform. Two galvanised bullet head nail have an average withdrawal of 2.6 kN in hardwood joists but the gun nails can be down to 1.2 kN. Notice how the bullet head held better than frequently recommended 50x2.8 galvanised twisted dome heads in pine joists (1.9 kN). Two eight gauge screws gave 10.8 kN withdrawal. [Click here to download the full report](#)

	Hand Nail						Machine Nail										Screw	
	Plain Bullet	Screw Dome	Ring Flat	Plain Bullet	Plain Bullet	Plain Bullet	Plain Flat	Screw Dome	Screw Dome	Screw Dome	Screw Dome	Screw Dome	Ring Dome	Ring Dome	Ring Dome	Screw Dome	Screw Dome	Counter sunk
Shank	HD-Gal	HD-Gal	HD-Gal	SS	HD-Gal	SS	HD-Gal	HD-Gal Ad	HD-Gal Ad	SS	SS	SS-Ad	HD-Gal Ad	SS-Ad	SS	HD-Gal	SS	SS
Head type	50 x 2.8	50 x 2.8	50 x 2.8	50 x 2.8	65 x 2.8	65 x 2.8	50 x 2.5	50 x 2.5	50 x 2.5	50 x 2.5	50 x 2.5	50 x 2.5	50 x 2.5	52 x 2.5	50 x 2.5	65 x 2.5	65 x 2.5	8g x 50
Nail material	Hw	Sw	Sw	Hw	Sw	Sw	Hw	Hw	Sw	Hw	Sw	Hw	Sw	Sw	Sw	Sw	Sw	Hw
Size	1	2	3	21	4	22	5	7	20	8	11	9	10	13	14	15	16	19
Timber Joist																		
Test	2.8	2.9	3.0	2.8	2.9	2.8	2.5	2.5	2.5	2.5	2.5	2.4	2.5	2.5	2.5	2.5	2.5	2.5
Shank dia (mm)	-	3.1	3.1	-	-	-	-	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.7	2.8	2.6	4.1
Thread dia (mm)	48	48	49	48	63	63	43	50	50	49	49	51	50	50	48	63	64	47
Length to head (mm)	2.6	1.9	1.6	1.8	1.1	1.0	2.0	3.0	1.2	3.3	1.6	2.0	1.6	1.8	1.7	1.6	0.9	10.8
Ave. withdrawal (kN)																		

Now one of these gun nails performed better than the bullet head nail rating 3.3 kn. I had to do a job where we nailed over our head so I found out the brand of nail and purchased a few boxes. I had some left over so three years ago I gave them to someone to fix a deck under cover. How did they perform? Let's just say, the owner did not thank me. The boards creak underfoot, unlike the 23 year old deck fastened with bullet heads on my house.

What about concealed fixings? That is another newsletter sometime.

[Welcome to New Readers from NSW LALC](#)

This is the first newsletter that the NSW Local Aboriginal Land Council Readers will have received. We hope you find it relevant and stay reading for years. Below are links to two sacred sites where we have supplied infrastructure.

[Nudgee Waterholes - Brisbane](#)

[Murong Gailinga Aboriginal RockArt Boardwalk](#)

[Improvements to Website](#)



We have been working on our website to make navigation easy and greatly improve the sections that relate to shelters and bollards and brochures. Now I know that most of my readers are

creatures of habit, as I am also, and when choosing a shelter tend to look no further than my competitors catalogue. We should do something new every day. Why not look at the new pages and explore them and the design tools we have available. Here are the links:

[Shelters](#)

[Bollards](#)

[Brochures](#)

[Log Footbridge](#)



We recently supplied a log footbridge to a council, the first one for some time. It was for a flood reconstruction job where they had to replace like for like but ended up with very much better for like. The cost of girders has risen so much, and their availability is getting so poor that it is almost better to go straight to steel. This is unfortunate as they were very durable bridges with minimal issues, especially when you do the abutments correctly.

I am getting very pessimistic about the footbridge market. I fear there will only be a change when when a bridge collapses with someone on it. If you are considering a nailplated bridge we need to have a serious talk. [Here is some reading and a specification that will help you avoid the pitfalls of kit bridges.](#) When you see a bridge where the bottom has dropped straight out into the creek below you would have the same concerns as me. But then, that is out of someone else's budget.

General Manager Appointed



Keith Smith has been promoted to General Manager for Outdoor Structures Australia. Keith's appointment will play a critical role in supporting OSA's continual growth strategy and driving its already strong position in the hard landscaping products and solutions market throughout Australia. Having joined OSA last September, having held management positions and his own business within the construction industry for more than 20 years, Keith brings a wealth of experience and industry expertise to his

new role as General Manager.

In his new capacity, Keith will oversee the sales, marketing and operations for Outdoor Structures Australia. "A passionate and highly experienced sales professional", says Nigel Shaw, Chief Executive Officer, Outdoor Structures Australia. "As we focus on optimising efficiency, enhancing our product range, we are well-assured that Keith will be able to harness his extensive market knowledge and operational expertise to holistically strengthen the performance of our sales and operations".

Blog being written for Timber+DESIGN Magazine

My twelfth and final blog for Timber+DESIGN web magazine is un-classifiable but is worth a read. [Here is the link.](#) Timber+DESIGN has been a very useful magazine for those interested in timber that has been used imaginatively. .Sadly, this will probably be the last issue. The Industry has yet again lost another valuable resource.

[Click here for a link to the website of Timber+DESIGN magazine.](#)

[Blog on surface finish of decking](#)

[Blog on whether decking should be a product in its own right](#)

[Blog on whether plastic decking all its cracked up to be](#)

[Blog on H4 and H5 treatment](#)

[Blog on whether to use stainless or galvanised fasteners.](#)

[Blog on using the correct decking fastener.](#)

[Blog on timber finishes on external timber](#)

[Blog on whether to use 50 or 75 mm joist](#)

[Blog on whether to use lineal or set length decking](#)

[Blog on collapsing decks](#)

[Blog on alternate joist materials](#)

Bridge Quote Requests

If there is any doubt that OSA make the best kit bridges in the country look at the [Berrinba Wetlands Project](#) . Not all bridges are equal. After encountering three bridges in one month that did not meet the Bridge Code I wrote the [May 2012 newsletter](#). Refer to it when assessing the suitability of quotes.

[Steel bridge Quotation Request Form](#)

[Timber Bridge Quotation Request Form](#)

More information:

If you have longer span timber road/rail/heritage bridge issues, we suggest you talk to Mr. Dan Tingley Cell: 04 5957 6314 or 04 28983328 E. dant.tingley@gmail.com



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