

April 2015 Newsletter

[Talking timber with Ted](#)

[Nail or Screw Domestic Decking?](#)

[Welcome to NSW LALC readers](#)

[Log Footbridge](#)

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. 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

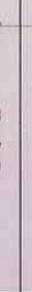
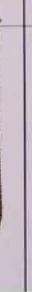
Architectural Battens

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 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 (1.9 kN). Two eight gauge screws gave 10.8 kN withdrawal.

	Hand Nail						Machine Nail										Screw		
	Plain	Screw	Ring	Plain	Plain	Plain	Plain	Screw	Screw	Screw	Screw	Screw	Screw	Ring	Ring	Ring	Screw	Screw	Counter
Shank	Bullet	Dome	Flat	Bullet	Bullet	Bullet	Flat	Dome	Dome	Dome	Dome	sunk							
Head type	Bullet	Dome	Flat	Bullet	Bullet	Bullet	Flat	Dome	Dome	Dome	Dome	sunk							
Nail material	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	
Size	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	52 x 2.5	50 x 2.5	65 x 2.5	65 x 2.5	8g x 50							
Timber Joist	Hw	Sw	Sw	Hw	Sw	Sw	Hw	Hw	Sw	Hw	Sw	Hw	Sw	Sw	Sw	Sw	Sw	Hw	
Test	1	2	3	21	4	22	5	7	20	8	11	9	10	13	14	15	16	19	
																			
Shank dia (mm)	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	-	
Thread 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	
Length to head (mm)	48	48	49	48	63	63	43	50	50	49	49	51	50	50	48	63	64	47	
Ave. withdrawal (kN)	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	

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? Lets 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 site projects on our website where we have supplied infrastructure.

Nudgee Waterholes - Brisbane

Murong Gailinga Aboriginal RockArt Boardwalk

Log Footbridge



The cost of timber 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 a well built log bridge is 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 a bridge collapses with someone on it. If you are considering a nailplated bridge we need to have a serious talk. 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.