

# Ted's News

## February 2019

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Why is there a picture of woodchips on an external timber newsletter? - read on  
Image by Stephen Codrington, CC BY 2.5,  
<https://commons.wikimedia.org/w/index.php?curid=221264>

My Seven Deadly Sins of External Timber Design are not just theory but shocking reality. I always wondered why the Victorian market seemed to have an unreasonable aversion to the use of external timber when it is so easy to do well. Recently a friend sent me a link to a decking product produced down there and it all dropped into place. It is a prime example of number seven of my *Seven Deadly Sins of External Timber Design* and drives home the need for designers and

purchasers to do due diligence, not just accept what a salesman says. Let me walk you through this. The specification said:

(A Certain Brand's) boards are typically sawn from naturally durable regrowth hardwoods such as Silvertop Ash, Southern Mahogany or Yellow Stringybark (ie. Class 2 durability). Other species (including Class 1 durability) may also be available on request. Both Class 1 & 2 timbers are deemed suitable for use as decking in Australian Standard AS 080-1693. Silvertop Ash has a greater tendency for expansion and contraction when exposed to the weather and elements. Because of this, it is very important to allow recommended spacing between boards to avoid issues when timber swells due to increased moisture content. Some surface checking may occur if timber is exposed to the weather and these non structural cracks that are typical in most Australian hardwoods are more prominent in Silvertop Ash.

I was speechless.

**Firstly**, there is no such thing as Durability Class 2 any longer. This was a reference to an in ground durability rating but in 2003, *AS 5604 Timber - Natural durability ratings* was released. This put an end to the terminology Durability Class 2. It is now either Durability Class 2 In Ground or Durability Class 2 Above Ground (or whichever category applies on a scale of 1 to 4. One is the highest durability, 4 is the lowest.)

**Secondly**, the three species Silvertop Ash, Southern Mahogany or Yellow Stringybark are all Durability Class 3 in ground and Durability Class 2 Above ground, not Durability Class 2.

**Thirdly**, the referenced standard AS 080-1693 (presumably 1963 not 1693) according to Standards Australia does not exist. Let's assume a typo, I am not immune to it myself. The claims for suitability of the species are based on two totally different scales. Durability 3 in ground timber was never considered suitable for external use in above ground weather exposed applications unless you are either in the desert or Antarctica.

**Fourthly**, very slight surface checking is normal but the extent that appears to be suggested here is unsuitable. A check that does not affect structural integrity is anything less than 3 mm wide and a third of the length (for structural grade 2). High shrinkage, lower density and lower durability timbers can surface check badly and allow moisture to enter the face of the decking and reduce the life.

Read more on [Deadly Sin 7](#) - Purchase the book [The seven Deadly Sins of External Timber Design](#) or even book the CPD on the subject.

So, to my Victorian readers, and all my readers in fact, Don't give up on timber, it is just a matter of doing due diligence, involving experienced and knowledgeable consultants and verify, verify, verify. Of course I think I am the person to help you.

Now why that picture of woodchips? You should not be doing any timber design without [Bootle's Wood in Australia](#). A \$50-\$75 purchase can save you a lot of grief. What does it say about silvertop ash? It is good for general construction (i.e. under cover) and "is one of the major species being converted into woodchips at Eden (NSW) for export for writing paper production". Not a word about weather exposed applications.

### [Oils ain't Oils and Wood Ain't Wood](#)



If you loved the Castrol Oils ain't oils adds, you, like me, are probably showing your age. [For you youngsters, Here is a link to a great one](#). This brings me to the subject, wood ain't wood. Below is a summary of the results of 36 year in ground durability trials for some In Ground 1 and 2 timbers at five different locations around Australia. There is a big difference in performance between species and locations. It illustrates what I have been saying for years - get your species right.

Median Results of inground Durability of 50x50 hardwood at Five Trial Sites					
	Location and total duration of trial				
	Brisbane 36 years	Innisfail 36 years	Sydney 35.3 years	Walpeup 35.7 years	Melbourne 33.4 years
E. pilularis (blackbutt)	5.2	3.2	13.6	23.9	23.9
C. maculate & C. citrodora (spotted gum)	8.5	8.5	15.0	18.1	>33.4
E. cloeziana (Gympie messmate)	23.9	13.8	25	>37.5	>33.4
E. microcorys (Tallowwood)	27.6	23.9	32.6	>37.5	>33.4
E. paniculate (gray ironbark)	26.3	26.3	>35.3	26.9	>33.4
E. sideroxylon (red ironbark)	22.8	26.3	25.5	27.6	>33.4

Source: The In-ground Natural Durability of Australian Timbers. (Melbourne: Forest and Wood Products Research and Development Corporation. 2004) 4&5.

When I can find similar data on above ground durability I will bring it to you.

### New Coastal Deck Course

Handrail – as good as it gets



A very well designed handrail

I have just about completed my new course, Coastal Decks. The main part of the seminar is a powerpoint that takes the participants through my deck design checklist, line by line. With the aid of hundreds of images I explain why each item on the checklist has to be attended to. If you are planning costal infrastructure you need this course. Oh, and not a piece of silvertop ash in sight.

## Footbridge Fundamentals



Here I am delivering the topic *How to avoid problems with footbridges and bikeways* at my first footbridge fundamentals course at City of Gold Coast. The course covers the fundamentals of what to look for in the design, why a thorough specification at the tender process is important, what to look for when inspecting the structures and lessons learned from several case studies. Phone me on 0414 770 261 to arrange a session [or email](#). It is presented either a full day or two half days.

### **Content of bridge fundamentals course**

Grading hardwood

How to avoid problems with footbridges and bikeways

Doing the inspection

### **Case histories**

Lessons from London Millennium bridge

Berrinba Wetlands

3 bridges closer to my home

Sundry horror images

To have a single CPD session, *How to avoid problems with footbridges and bikeways* free in your office contact [Stewart Madill](#) of OSA on 0403 385 707. Same conditions as above.

### 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.

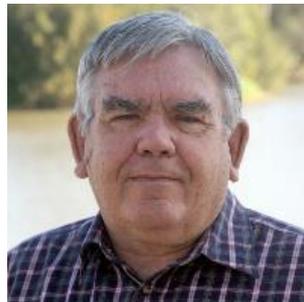
**Inspection** – I can assess timber products on their performance, fitness for purpose or cause of failure. I also examine whether best practice was used in design and construction.

**Grading** - Quite literally, I have written the book on the subject

**Design** - I can provide detailed technical drawings and advice.

**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](http://www.bcrc.com.au)



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