

Ted's News

July 2022

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[Specification for Timber Steps](#)



The image is of my front steps which are rough sawn spotted gum, sized underneath. The treads are split down the middle so seasoning caused no problems with the riser. I happened to have some kiln dried available but this would normally have been unseasoned.

While AS2082-2007 is a very useful specification for roof trusses and internal framing etc, it can become counterproductive for external timber as there are many more things to consider than just strength on the day of milling. You really should not be ordering your step timber as F14 or even F17 as the requirements for safety and durability require a much tighter specification. The standards really do not fit this product so you must only pay lip service to them and ask for what is needed.

Safety

Step treads should be supplied rough sawn and installed with the best face uppermost. The underside (lowest grade) is either sized or gauged to fit the housing in the riser. A sealant such as CN emulsion in the rebate is advisable though it will stain.

Grade

The top needs to be the same grade as my Deckwood which has a virtually clear face. Using the terminology of AS2082-2007 you would specify Structural Grade 1 to the top face and a minimum of Structural Grade 2 for the underside. That will allow a knot 1/7th of the width of the face. Deckwood would allow 1/8th of the face. There is normally no limit to the amount of tight gum vein but this should be restricted on an exposed horizontal surface. For your calculations, this will produce a minimum of F17 depending on the species.

Treatment

The sapwood must be treated. H3 is sufficient. Indeed, any external timber must be treated along with any timber that is lyctus susceptible.

Species

Any of the Royal Species will perform well which includes ironbark, tallowwood, grey gum, spotted gum, and Gympie messmate. This list does not impose any supply difficulties. My father's preference was for forest red gum which was very successful but when I sourced this species from outside the Locker Valley where I live it sometimes caused me problems, so I would be hesitant to use it. Blackbutt should not be used for steps.

A specification to copy

Timber step treads and stringers shall be from the following species, ironbark, tallowwood, grey gum, spotted gum, and Gympie messmate. Blackbutt is excluded. The grade shall be Structural Grade 1 to AS2082-2007 for the top face with a knot no larger than 1/7th of the surface and with only slight tight gum vein if present. The underside may comply with Structural Grade 2. Any Sapwood shall be treated to H3 with either ACQ or Copper Azole. The top face will be rough sawn and the underside of the tread may be thickened or gauged for the housing in the riser.

Note: Timber meeting this specification can be purchased from Wilson Timbers. Contact Stuart Madill 0403 385 707

Specification for Commercial Timber Handrail



The images above show the unsuitability of using structural framing for handrails! Handrail has much the same durability issues as step treads except that they are normally supplied dressed which invariably significantly shortens the life. This can be compensated for by designing to shed any moisture. Actually, it is critical you do this. The dressing process causes problems as timber may be to grade when sawn but after going through the planer where the size is reduced. This can expose natural feature that was not previously visible. The grading rules allow 5% to be out of grade but you do not want this in the handrail especially as the timber is closer to the eye level and most of your aesthetics are in the handrail system you have chosen. Further, if you have spent two hours doing a set-up for a complex shape, and you need 100 pieces and you order 100 pieces, it is unavoidable that material will be supplied that is unsuitable.

A Specification to copy

Timber handrail shall be from the following species, ironbark, tallowwood, grey gum, spotted gum and, Gympie messmate. Blackbutt is excluded. The grade shall be

Structural Grade 1 to AS2082-2007 for the top face with a knot no larger than 1/7th of the surface and with only slight tight gum vein if present. The underside or back may comply with Structural Grade 2. Sapwood shall be treated to H3 with either ACQ or Copper Azole. The order to the timber supplier is to state that the timber is required for select handrail and to be over-ordered by 10%.

Note on reversible profiles. All profiles that are reversible shall be pre-graded at the mill and clearly marked as to the way the product must be oriented.

Want to know more about handrails? Contact Stuart Madill (0403 385 707) to arrange for my latest CPD on the subject. Here is a link to my [Commercial Barrier Guide](#) which is a song at \$22. Here are some old newsletters dealing with handrail:

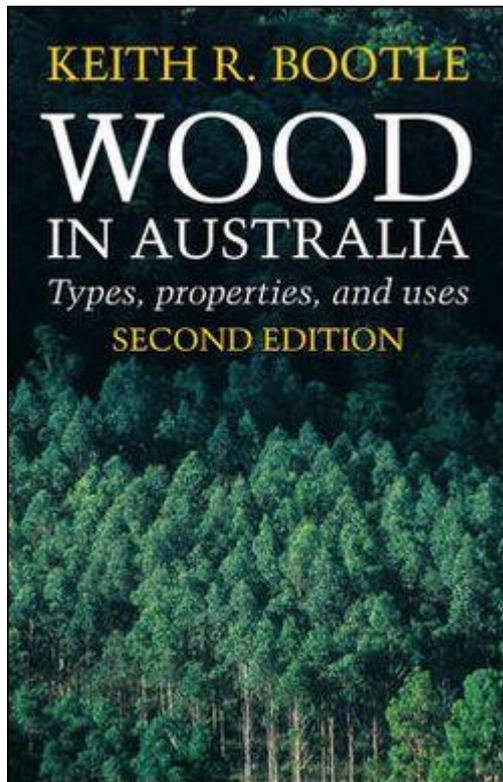
[Detailing a commercial handrail](#)

[An interesting handrail from the UK and a bad one from Australia](#)

[How not to lose confidence in timber handrail](#)

[Using LOSP treated handrail](#)

[Why you Need the Industry "Bible"](#)



Keith Bootle's *Wood in Australia, Second Edition* is so highly regarded that it is known in the industry as "The Bible." It has a well-deserved reputation and it, along with my guides, should be the first port of call for any professional designer. This book will cost \$53 from Angus and Robertson. Why do you need this book? I had to write an expert witness report where a poor architect was being sued for the second time by the owner of a very prestigious restaurant. He designed very attractive custom outdoor furniture from tallowwood, a durable and attractive timber but he glued it together and it started falling apart after two weeks. This job prompted me to write my guide to [External Timber Furniture](#). It is only \$55.

If he had invested \$53 and looked up Tallowwood he would have read "Gluing can present some problems because of the wood's greasy nature ..."

If it is a problem with general gluing, you would steer well clear of any external glued application. The litigation that followed made the cost of the book very cheap bickies indeed. As with my guide.

Topic 3	Timber Decks - Designing for Durability	
Topic 4	Utilising Small Diameter Hardwood	
Topic 5	The Seven Deadly Sins of Timber Design	eClassroom link
Topic 6	Timber Joints	
Topic 7	Architectural Timber Battens	eClassroom link
Topic 8	Timber 101	eClassroom link
Topic 9	Boardwalk Design (recommend delivered with Timber 101)	
Topic 10	Timber Handrail Design	

[Click here to learn more about these courses](#)

Are you aware that [Wilson Timbers/Outdoor Structures](#), who I am affiliated with and are suppliers of quality timber, will have me come to your office (in person or remotely) and deliver one or two of my CPD sessions for free? The only condition for in person presentations is that, with travel, we can do it in a day from Brisbane in Queensland. [Contact Stuart Madill by email to arrange a time](#) or call his mobile 0403 385 707.

[Need a Timber Consultant or Expert Witness?](#)

I have over 45 years of 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.

Trainer and Presenter – I can provide tailored training to meet your CPD needs and also have experience at lecturing to universities and presenting at conferences.

Please note as I am now employed as 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 or [download their capability brochure here](#).

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