



# INFORMATION SHEET

Issue: December 2017

## THE IMPORTANCE OF DURABILITY & HARDWOOD TIMBER

**Durability** is the term used to describe a timber species' ability to perform over a measured period of time when exposed to factors such as decay and insect attack.

When a timber species' durability is classified, it is done so when installed under two conditions. Firstly its expected life when used in ground and outside above ground (see Table 1) and subsequent exposure to weather, termites, borers and fungal attack.

Durability Class	Durability Rating	Expected Service Life (years)	
		In Ground	Outside Above Ground
1	High	> 25	> 40
2	Reasonably High	15 to 25	15 to 40
3	Moderate	5 to 15	7 to 15
4	Low	0 to 5	0 to 7

Table 1: Natural Durability - Probable Life Expectancy (Timber Queensland Limited Technical Data Sheet 15 – Specifying Timber)

Once the durability has been determined, as per Australian Standards (AS 5604), a durability class rating from 1 to 4 is applied, with 1 indicating the highest rating in terms of its expected service life. The durability classification applies to the timbers heartwood only as the sapwood is not durable.

It is important to note the durability of sapwood can be improved through the use of preservative treatments but this will not change the natural durability class. Preservative treatments will only permeate the sapwood and will not have any effect on the timber species heartwood.

Many species are naturally resistant to termite attack (see Table 2), making them a desirable choice. Those species susceptible to the lyctid borer can be treated to improve their resistance.

Species	Naturally Resistant		Durability Class	
	Termite	Lyctid Borer	In Ground	Outside Above Ground
Blackbutt	Resistant	Not Susceptible	2	1
Spotted Gum	Resistant	Susceptible	2	1
Grey Ironbark	Resistant	Not Susceptible	1	1
Red Mahogany	Resistant	Susceptible	2	1
Tallowwood	Resistant	Susceptible	1	1
Turpentine	Resistant	Not Susceptible	2	1

Table 2: Durability Class 1 (Outside Above, Ground) Species Resistance to Insect Attack

Durability plays an important part in the timber selection process, particularly when choosing a species for decking. The 2010 CTIQ Report recommends most constructions zones in Queensland require special consideration with regards to timber selection and durability.

The Queensland Building and Construction Commission (QBCC) references a Queensland variation made to the National Construction Code (NCC)<sup>1</sup> with regards to decking construction. The recommendation is that all hardwood timber decking materials (bearers, joist, decking boards & handrails, etc.) be constructed from timber with a natural durability class of 1.

When selecting a timber species consider the following:

- Refer to the building codes and/or industry reference material when determining what is considered fit for purpose.
- Use durability class 1 species for best performance in decking & other outdoor products
- High durability species increase service life

<sup>1</sup> The NCC provides the minimum necessary requirements for safety, health, amenity & sustainability in the design & construction of new/existing buildings