

# Australian Hardwood Species Guide

Version June 2018 ver2
















International Timber Solutions  
ABN 97 124 632 444

Botanical name	<i>Eucalyptus obliqua</i>	<i>Eucalyptus regnans</i>	<i>Eucalyptus delegatensis</i>	<i>Eucalyptus dalrympleana</i>	<i>Eucalyptus grandis</i>	<i>Eucalyptus acmenoides</i>	<i>Eucalyptus maculata</i>	<i>Eucalyptus pilularis</i>	<i>Eucalyptus paniculate/drepanophylla/decepta/sideroxylon mugga</i>	<i>Corymbia trachyphloia/ Terminalis/ gummifera</i>	<i>Eucalyptus saligna</i>	<i>Eucalyptus dunnii</i>	<i>Intsia bijuga</i>	
Trading names	Messmate Stringybark  Tasmanian Oak	Mountain Ash, Victorian Ash  Tasmanian Oak	Alpine Ash Victorian Ash  Tasmanian Oak	Mountain Gum, White Top	Rose Gum Flooded Gum	White Mahogany Yellow Stringybark	Spotted Gum	Blackbutt	Ironbark (grey/red/broad leaved/narrow leaved)	Bloodwood (brown/pale/red )	Sydney Blue Gum	White Gum	Kwila Merbau	
Origin	TAS, VIC, NSW, QLD	TAS, VIC, NSW	TAS, VIC, NSW cold climate	TAS, VIC, NSW	NSW, QLD	NSW, QLD	NSW, QLD	NSW, QLD	NSW, QLD	NSW, QLD	NSW, QLD	NSW, QLD	SE Asia	
KD Density [Kg/m3] <sup>1)</sup>	780	700	620	700	620	1000	950	900 to 930	1090 to 1140	900 to 1150	850	800	830	
Dry Hardness Rating [Janka] <sup>1)</sup>	7.1	5.7	4.9	5.7	7.5	10	11	9.1 to 9.5	13 to 14	8.8 to 13	9.0	7.2	8.6	
MOE [GPa] <sup>1)</sup>	15	13	15	13	17	17	23	14 to 19	16 to 24	13 to 15	18	22	18	
MOR [MPa] <sup>1)</sup>	118	117	110	117	122	130	150	140 to 144	118 to 181	89 to 115	140	135	147	
Shrinkage % Rad - Tan <sup>1)</sup>	5% - 11%	6.5% - 13%	4.5% - 8%	5% - 9%	4% - 7%	3.5% - 6%	4.5% - 6%	4% - 7%	3.5% - 7.5%	2.5% - 4.5%	5% - 9%	5% - 10%	1.5% - 2.5%	
Lyctid Susceptibility of Sapwood <sup>2)</sup>	Susceptible	Not susceptible	TAS/NSW- Susceptible  VIC - Not susceptible	Susceptible	Not susceptible	Not susceptible	Susceptible	Not susceptible	Not susceptible	Susceptible	Susceptible	Susceptible	Susceptible	
Termite Resistance of Heartwood (inside above ground) <sup>2)</sup>	Not resistant	Not resistant	Not resistant	Not resistant	Not resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Not resistant	-	Resistant
Marine Borer Resistance of Heartwood <sup>2)</sup>	Class 4	Class 4	Class 4	Class 4	Class 4	Class 2	Class 4	Class 3	Class 3	Class 3	Class 3	Class 3	Class 4	Class 3
Natural Durability Rating of Heartwood Above Ground <sup>2)</sup>	Class 3	Class 3	Class 3	Class 3	Class 2	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1	Class 2	-	Class 1
Natural Durability Rating of Heartwood In- Ground Contact <sup>2)</sup>	Class 3	Class 4	Class 4	Class 4	Class 3	Class 1	Class 2	Class 2	Class 1	Class 1	Class 3	Class 4	Class 3	
Durability class <sup>2)</sup> life expectancy (years)	Above-ground	In-ground	Marine Borer											
1	> 40	> 25	> 60											
2	15 to 40	15 to 25	41 to 60											
3	7 to 15	5 to 15	21 to 40											
4	0 to 7	0 to 5	0 to 20, mostly less than 5											

<sup>1)</sup> Bottle, K. R.: Wood in Australia, 2005 McGraw-Hill Australia

<sup>2)</sup> AS 5604-2005 Timber—natural durability ratings (Standards Australia 2005)

<sup>3)</sup> <https://www.woodsolutions.com.au> and <http://www.wood-database.com/>

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<b>Sample image – note colors may vary significantly</b> <sup>3)</sup>													
<b>Heartwood</b> <sup>1)</sup>	pale brown	pale pink or pale straw	pale pink or pale yellowish brown	pale pink or pale pinkish brown	pale pink or pale pinkish brown	Yellow brown	Pale to dark brown or chocolate	pale brown sometimes with a pinkish tinge.	Color varies significantly from pale brown to dark chocolate brown/dark red	Pale yellowish brown to dark pink and dark red	Dark pink to red brown,	pale brown	Pale to dark reddish brown
<b>Sapwood</b> <sup>1)</sup>	pale yellow.	not always clearly distinguishable.	not clearly distinguishable.	not clearly distinguishable.	not clearly distinguishable	paler sapwood usually distinguishable	paler sapwood usually distinguishable	paler sapwood usually distinguishable	Mostly yellow	paler sapwood usually distinguishable	Usually sufficiently paler to be distinguished	not clearly distinguishable.	paler sapwood usually distinguishable
<b>Texture</b> <sup>1)</sup>	moderately coarse but even.	coarse	moderately coarse	Fine in latewood, but moderately coarse in early wood.	moderately coarse but even.	Medium and even	moderately coarse	Medium and even	Moderately coarse and even	coarse	Moderately coarse and even	medium and even	moderately coarse and even
<b>Grain</b> <sup>1)</sup>	sometimes interlocked.	Straight	usually straight but sometimes wavy, producing a fiddleback figure	usually straight	usually straight	Usually interlocked	Variable, often fiddleback	Usually straight	Usually interlocked	often interlocked.	Usually straight and slightly interlocked	usually straight.	Sometimes interlocked
<b>Common uses</b> <sup>1)</sup>	General construction, furniture, veneer, panelling, flooring	General construction, furniture, plywood, veneer, joinery, panelling, flooring, oars, skis, agricultural implements, handles, cooperage.	General construction, furniture, plywood, veneer, joinery, panelling, flooring, oars, skis, agricultural implements, handles, cooperage.	General construction, furniture, veneer, panelling, flooring	General construction, furniture, veneer, panelling, flooring	Heavy engineering, construction, poles, sleepers, decking, flooring, shipbuilding, high density plywood	Heavy engineering, construction, poles, sleepers, decking, flooring, shipbuilding, high density plywood veneer	General construction, furniture, veneer, panelling, flooring	Heavy engineering, construction, poles, sleepers, decking, flooring, shipbuilding, high density plywood veneer	attractive features for decorative veneers and panelling, any application where high density and durability is required - decking, outdoor furniture, flooring, poles, posts, stumps	General construction, furniture, veneer, panelling, flooring	General construction, furniture, veneer, panelling, flooring	General construction, furniture, veneer, panelling, flooring
<b>General comment</b> <sup>1)</sup>	Difficult to dry Relatively easy to work. Glues well. Satisfactory for steam bending.	Considerable cell collapse can occur, so reconditioning is mandatory  Glues satisfactory Easy to work	Needs much care in drying because of proneness to collapse and internal checking, as well as surface checking on the tangential surface. Reconditioning is standard practice.	Some cell collapse may occur during drying – but generally easier than regnans	Easy to dry, but watch for surface checks  Easy to work with  Glues well	Slow to dry but little degrade or collapse	Care needed when drying to prevent surface check on tangential surface	Care needed when drying to prevent surface check on tangential surface  When dressing in planer angle may need reducing to 15 deg  Old growth difficult to glue, regrowth glues well	Hard to work with because of density and interlocked grain	Does not move much when drying  Very attractive appearance lends itself to decorative applications	Easier to dry but tangential surfaces are susceptible to surface checking, collapse is very slight,  Easy to work	Slow drying in the early stages to avoid checks, but otherwise ok  Easy to work  Glues well	Dries slowly with little dergrading  May need pre-drilling for nails  When dressing in planer angle may need reducing to 15 deg  Glues satisfactory  Typical smell and initial stain