

Introduction to Species Guides and Species Characteristics

The species guides in this section describe the most common commercially available species in NSW.

The guides include details of:

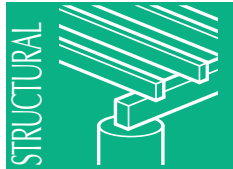
- Appearance of the tree
- Where it is generally sourced
- Samples of timber showing some typical variations in colour
- Applications
- Properties
- Images of the material in service

You will see that throughout these guides we have utilised icons to graphically show the various application areas for each species. The icons also indicate additional links to the various 'Application Guides' which can be found in Section 4 of the binder. These icons and a summary of their meaning is given on this page.

This material is suitable for marine applications. Sapwood will require treatment.



This material is available in a variety of sizes and grades suitable for structural applications such as house frames, floor joists and bearers etc.



This material is suitable/available in milled tongue and groove floor boards.



This material is suitable for use in exposed applications. It is of Class 1 or 2 Durability.



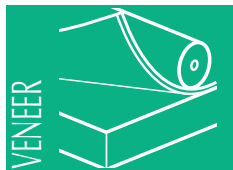
This material is available/suitable for milled products such as skirting, architraves, door jambs etc.



This material is suitable for joinery applications such as furniture, cabinetry etc.



This material is available in a face veneer.



This material is available in weather board profiles.



This material is available in solid lining boards suitable for interior applications.



This material is available/suitable for fence construction. Profiled components such as pickets may also be available.



This material is suitable for landscape applications.



This material is available in round log form suited for pole frames, electrical poles, piles (where appropriately specified and/or treated).



STRUCTURAL
FLOORING
EXTERIOR
FIT-OUT
JOINERY
VENEER
CLADDING
LININGS
FENCING
LANDSCAPE
POLES

The species guides all have a table showing the various properties of the timber. The following information explains these properties.

Some information was not available (N/A) at the time of printing. As updated information becomes available, it will be posted at www.australianhardwood.net

DENSITY

Measured in kg/m³ and given for both Green Density (GD) and Average Dry Density (ADD)

HARDNESS

Measured in kN – a standard test is carried out (Janka Test) which measures the penetration into the timber of a common load and projectile. The results relate back to a hardness capacity of the material. This information is useful where the timber may be subject to potential damage from impacts – i.e. a dance floor.

DURABILITY CLASS

All timber is assigned a durability classification (Classes 1- 4) following in-ground testing. This ensures adequate life expectancy when exposed to both fungal and insect attack. The lower the number the higher the performance in terms of durability. This information is also useful for specifying material for external or exposed applications.

STRENGTH GROUP

Timber of various species is assigned into a strength group based on the mechanical properties of the material (in a clear state free of strength reducing characteristics). There are seven strength groups for unseasoned timber (S1 to S7) and eight strength groups for seasoned timber – i.e. with a moisture content of 12% (SD1 to SD8). The lower the group number, e.g. SD1, the higher the mechanical properties.

JOINT GROUP

Timber of various species are also assigned into a Joint Group, for unseasoned timber J1 to J6 and for seasoned timber JD1 to JD6. These groups have a relationship to the timber species density – the higher the density the higher the capacity and the lower the Joint Group number.

STRUCTURAL GRADES

Timber grading is done to set appropriate structural limitations on individual pieces of timber. Each species has structural properties assigned to it following tests conducted on clear small sections of timber. Timber may then be graded visually for any faults or characteristics which may reduce the 'clear' sample's capacity, e.g. a knot hole. Alternately, timber may be machine graded or proof graded where the individual timber element has a known load applied and its reaction to this load measured, thus reflecting its capacity in bending. The higher the grade number assigned, e.g. F17 etc, the higher the structural capacity.

TOUGHNESS

This is a measure of a timbers ability to resist impact forces such as shocks and blows. Generally we have specified either Light, Medium or High in regards to these properties. Typically, each species has a Nm capacity in regards to toughness:

- Light: up to 15Nm
- Medium: 15 – 25Nm
- High: greater than 25Nm

EARLY FIRE HAZARD INDICES

These indices relate to the Ignitability, Spread of Flame and Smoke Development for various species of timber. Not all species have been tested – where this is the case it should be noted that there is some strong relationship to density to give a comparison result, although this is not completely reliable. The requirements vary with regard to the application and the Class of Building and this information is covered within the Specifying Guide and the Building Code of Australia.

TERMITE RESISTANCE

Some species of timber offer higher resistance to incidence of termite attack than others. These species have been nominated in AS3660.1 as being naturally termite resistant.

COLOUR

Refer to page 4 for a general colour guide.

S P E C I E S G U I D E

Summary of Species Properties

Species Guide N°	Common Name	Botanical Name	Strength Group		Density (kg/m ³)		Joint Group		Hardness kN (Janka)		Durability Class	Shrinkage (%)		Toughness (Nm) L = Light M = Medium H = High		Termite Resistant (to AS3660)	Sapwood Lyctid Susceptible
			Unseasoned	Seasoned	Unseasoned	Seasoned	Unseasoned	Seasoned	Green	Dry		Radial	Tangential	Green	Dry		
SG1	Ash, Alpine	<i>E. delegatensis</i>	S4	SD4	1050	650	J3	JD3	4	5	4	4.5	8.5	M	M	No	Yes
SG1	Ash, Mountain	<i>E. regnans</i>	S4	SD3	1050	650	J3	JD3	3.4	4.9	4	6.5	13.3	M	M	No	No
SG2	Ash, Silvertop	<i>E. sieberi</i>	S3	SD3	1100	850	J2	JD2	7.2	9.8	3	6	10.6	M	M	N/A	No
SG3	Blackbutt, Coastal	<i>E. pilularis</i>	S2	SD2	1150	900	J2	JD2	6.4	8.9	2	4	7	M	M	Yes	No
SG4	Blackbutt, New England	<i>E. campanulata</i> , <i>E. andrewsii</i>	S3	SD3	1150	850	J2	JD2	6.6	9.2	2/3	5	8.5	M	M	Yes	Yes
SG17	Bloodwood, Red	<i>Corymbia gummifera</i>	S3	SD3	1150	900	N/A	N/A	8.5	8.8	1	3	4	N/A	N/A	N/A	Yes
SG5	Box, Brush	<i>Lophostemon confertus</i>	S3	SD3	1100	900	J2	JD2	7.9	9.1	3	5	10	M	M	Yes	No
SG17	Box, Grey	<i>E. microcarpa</i> , <i>E. moluccana</i>	S2	SD2	1180	1100	J1	JD1	10	13	1	3.5	7.5	H	H	N/A	Yes
SG18	Brown Barrel	<i>E. fastigata</i>	S4	SD4	1100	750	J3	JD3	N/A	5.5	3	6	9.5	M	M	N/A	Yes
SG6	Gum, Flooded (Rose)	<i>E. grandis</i>	S3	SD3	1100	750	J2	JD2	5.3	7.3	3	4	7	M	M	No	No
*	Gum, Forest Red	<i>E. tereticornis</i>	S3	SD3	1200	1050	N/A	N/A	12	12	2	5	8	M	M	Yes	Yes
SG17	Gum, Grey	<i>E. punctata</i> , <i>E. propinqua</i>	S1	SD2	1240	1080	J1	JD1	10	14	1	4.5	7	M	M	N/A	No
SG18	Gum, Manna (Ribbon)	<i>E. viminalis</i>	S4	SD4	1100	750	J3	JD2	5.4	6	3	6	12	M	M	N/A	Yes
SG7	Gum, River Red	<i>E. camaldulensis</i>	S5	SD5	1150	900	J2	JD2	7.7	9.7	2	4	8.9	M	L	Yes	Yes
SG8	Gum, Spotted	<i>Corymbia maculata</i>	S2	SD2	1200	1100	J1	JD1	8	10.1	2	4.5	6	H	H	Yes	Yes
SG9	Gum, Sydney Blue	<i>E. saligna</i>	S3	SD3	1070	850	J2	JD2	6.4	9	3	5	9	M	M	No	Yes
SG10	Ironbarks, Grey	<i>E. paniculata</i> , <i>E. siderophloia</i>	S1	SD1	1250	1100	J1	JD1	11	16.3	1	4.5	7.5	H	H	Yes	No
SG11	Ironbarks, Red	<i>E. sideroxylon</i> , <i>E. creba</i> , <i>E. fibrosa</i>	S2	SD3	1200	1100	J1	JD1	N/A	11.9	1	3.5	7	H	M/H	Yes	Yes
SG12	Jarrah	<i>E. marginata</i>	S4	SD4	1100	800	J2	JD2	5.7	8.5	2	5	7.4	L	L	Yes	Yes
SG13	Karri	<i>E. diversicolor</i>	S3	SD2	1150	900	J2	JD2	6	9	3	4.5	9.9	M	M	No	No
SG14	Mahogany, White	<i>E. acmenoides</i>	S2	SD3	1200	1000	J2	JD2	8.5	10	1	3.5	6	M	M	Yes	No
SG17	Mahogany, Red	<i>E. resinifera</i>	S2	SD3	1200	950	J1	JD1	9	12	2	4	6	M	M	N/A	Yes
SG18	Messmate	<i>E. obliqua</i>	S3	SD3	1100	750	J3	JD3	5.3	7.1	3	5	11	M	M	N/A	Yes
SG18	Stringybark, Silvertop	<i>E. laevopinea</i>	S2	SD2	1050	850	J2	JD2	N/A	8.8	3	5	8	M	M	N/A	No
SG17	Stringybark, Yellow	<i>E. muellerana</i>	S3	SD3	1150	900	J2	JD2	N/A	8.6	2	4.5	7.5	M	M	N/A	No
SG15	Tallowwood	<i>E. microcorys</i>	S2	SD2	1200	1000	J1	JD2	7.6	8.6	1	4	6	M	M	Yes	Yes
SG16	Turpentine	<i>Syncarpia glomulifera</i>	S3	SD3	1050	950	J2	JD2	6.5	11.6	1	6	13	M	M	Yes	No
SG19	White Cypress (Pine)	<i>Callitris glaucophylla</i>	S5	SD6	850	700	J3	JD3	5.6	6.1	1	4	7	L	L	Yes	No

* Please refer to www.australianhardwood.net for additional information.

N/A = Information Not Available at the time of printing (Please refer to www.australianhardwood.net for up to date information).

A guide to species colours

Colour	Species
Blond	Ash (Silvertop, Mountain and Alpine), Blackbutt, Messmate, White Mahogany
Brown	Brown Barrel, Brushbox, Grey Box, Manna Gum, New England Blackbutt, Spotted Gum, Stringybark (Yellow, Red, Silvertop), Grey Ironbark
Yellow	Cypress, Tallowwood
Red	Forest Red Gum, Flooded Gum, Grey Gum, Red Ironbark, River Red Gum, Sydney Blue Gum, Turpentine, Red Mahogany, Bloodwood



For additional assistance please contact the
Timber Advisory Service

1800 044 529

or visit the following websites:

www.timber.net.au

www.australianhardwood.net



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