



TIMBER SPECIES

As seen in Timber Floors magazine



Spotted Gum



The Spotted Gum is a tall tree growing up to 50 metres in height.

A large hardwood, the tree sheds elliptical strips of bark as it weathers, deriving its common name from the resulting mottled or spotted appearance. Spotted Gum is a beautiful species, perfect for flooring, that is sought after for both its colour and density.

The heartwood is durable (class 2) and ranges in colour from very

pale brown through to dark brown with slightly orange or green tints and some lighter variations. The sapwood is distinctly paler than the truewood. Often interlocked, the grain appears wavy, featuring a distinctive 'fiddleback' figure and gum veins.

Spotted Gum is very dense with excellent mechanical properties. The raw timber has a slightly greasy feel, a property which is well regarded and utilised in tool handles.

It is quite a common species, growing in an area extending from the New South Wales/Victorian border to the Maryborough district in Queensland.

Spotted Gum is as much at home in rustic interior designs as it is in minimalistic schemes. Its level of hardness (with a janka rating of 11) makes it popular for commercial applications such as gymnasiums and basketball courts. **f**

Jarrah



Jarrah is grown in the south western corner of Western Australia, and is one of the most common Eucalyptus species in that state, as well as one of its few commercial species. Its botanical name is Eucalyptus marginata, which refers to the light coloured vein on the edge of the leaf.

A large hardwood, Jarrah grows up to 40 metres in height, with a trunk up to three metres in diameter. It has a rough, brown to black bark, which splits into fibrous strips, and fine, narrow leaves. Jarrah is an extremely deep-rooted species, and therefore drought resistant, as it is able to draw extensively for water during dry periods.

The heartwood is durable (class 2) and dark red in colour, often with a rich dark mahogany hue. The sapwood is a paler yellow colour. The grain, with an even and moderately coarse texture, is usually straight, but can be interlocked and wavy, occasionally producing an attractive fiddleback figure.

Jarrah's colouring and exceptional hardness (janka 8.5) are a perfect combination for commercial and residential flooring. It is also popular in general construction, sleepers, poles, piles, panelling, joinery and heavy furniture. f



Jarrah is renowned world wide for its density, resistance to insect attack and beautiful rich red colour, which deepens over time into a soft burgundy.



Messmate

Messmate (eucalyptus obliqua) was used for many years as a subfloor beneath carpeting and in general construction rather than as a decorative product. It has since had a revival as lighter species are sought after and is now in high demand for flooring.

The Messmate tree is a large hardwood found in southern Queensland, the tablelands of New South Wales and throughout Victoria and Tasmania. It grows up to 90 metres tall, with a trunk up to three metres in diameter, thick, rough, stringy bark and glossy green leaves.

Its texture is moderately coarse and even, with clearly defined annual growth rings and gum veins. The grain is sometimes interlocked.

Messmate timber flooring has a warm natural palette of light nut brown tones with pink undertones, ideal for producing beautiful timber floors. The sapwood is pale brown while the heartwood is light brown.

It has a hardness or janka rating of 7.5. \boldsymbol{f}





Tasmanian Oak

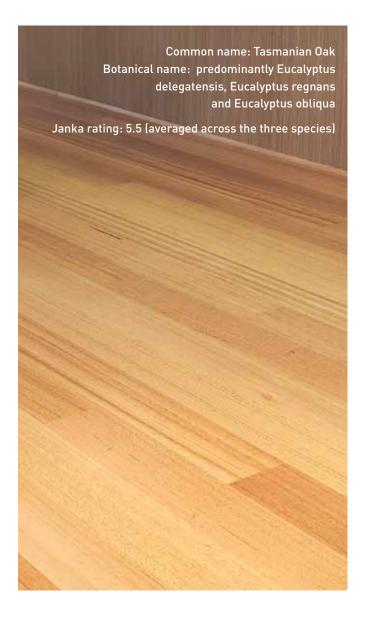
First prize goes to the reader who can find a Tasmanian Oak tree and send us a cutting! There is, in fact, no such thing as a Tasmanian Oak tree. The name Tasmanian Oak is used to describe a combination of three species of eucalypt commonly found in Tasmania – Alpine Ash, Mountain Ash and Messmate. The reference to Oak originates from early European timber workers who believed it was similar in strength and appearance to English Oak.

Alpine Ash (Eucalyptus delegatensis) grows at higher altitudes, while Mountain Ash (Eucalyptus regnans) is found in wetter sites. Messmate (Eucalyptus obliqua) occurs in both wet forests and drier areas. Both Alpine and Mountain Ash are found in Victoria and Tasmania and rank amongst Australia's tallest eucalypts. Mountain Ash is one of the tallest trees in the world.

Together they produce a blend of beautiful colouring from pale cream to pink and reddish-brown.

The logs are quartersawn to produce an extremely straight and even grain. This also gives excellent dimensional stability, making Tasmanian Oak a good choice for extreme climates or over radiant heat (see our article later in this issue on laying timber floors over radiant heat).

Tasmanian Oak is a very versatile timber. It is popular for all forms of construction including panelling and flooring and has excellent staining qualities. It is a sought-after furniture timber, and is also used for reconstituted board and the production of high quality paper. f



Bamboo

Bamboo is a group of woody
perennial evergreen plants in the
grass family Poaceae, subfamily
Bambusoideae, tribe Bambuseae. It is
found in nearly every continent in the
world, but grown primarily in Asia and
South America. In fact, Bamboo can
be grown in any moderate climate.

The fastest growing woody plant in the world, Bamboo grows up to four feet a day, thanks to its unique rhizome system. It reaches full size in the first or second year of its life; after which the plant only grows underground, producing offshoots and roots.

Bamboo is planted to prevent soil erosion and to help with the restoration of degraded soil. Because it is a species of grass, Bamboo regenerates without replanting so the soil is not destabilised by the harvesting process.

There are nearly a thousand species of bamboo. The species commonly used for flooring is "Moso" which is found in south east Asia.

Bamboo represents a highly credible, environmentally responsible option for flooring in both commercial and domestic applications as it is rapidly renewable. A 20 metre stand of



bamboo can be harvested and regrown within three months!

It is termite, moisture and rot resistant, all ideal attributes for building in Australian conditions.

Like other species of flooring, it shows subtle variations in colour across the floor and is usually manufactured as an engineered flooring product.

Other uses for Bamboo include fencing, blinds and furniture. It can even be refined into textiles used for clothing, towels and sheets. Part of the off-shoot is found in many Asian dishes and it is a well known panda food. *f*

Rose Gum

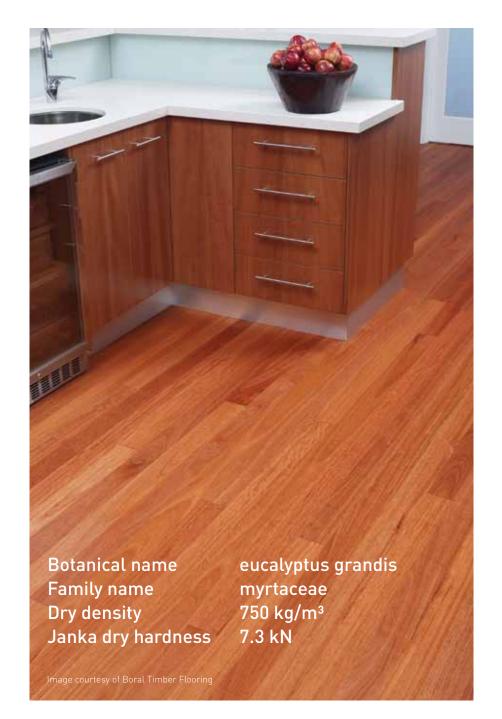
Rose Gum (eucalyptus grandis), also known as Flooded Gum and Scrub Gum, is a very tall forest tree, growing from 45 to 55 metres in height, and one to two metres in diameter.

An extremely fast growing hardwood, Rose Gum can be found in the region extending from Newcastle in NSW to Bundaberg in Queensland. It is also native to Brazil and South Africa.

The timber is an attractive pale pink to red brown colour, with a straight grain and moderately coarse and even texture. The heartwood ranges in colour from pale pink to red brown and is classified as moderately durable. The sapwood, which is resistant to lycid borer attack, is usually paler in colour, but not always clearly differentiated.

Rose Gum is easy to dry, and machines well to a smooth surface. The timber readily accepts paint, stain and polish and also glues well, making it suitable for use as a veneer. It is quite resistant to decay when fully exposed to the weather, and is therefore popular for decking.

Other uses include solid and engineered flooring, mouldings, fascias, furniture, carving, turnery, structural plywood and boat building, as well as oars and broom handles. **f**



Red Mahogany

Red Mahogany (Eucalyptus resinifera) is a medium sized tree growing up to forty five metres in height, and from one to one and a half metres in diameter. It grows along Australia's east coast, from Sydney in NSW to Atherton in Queensland.

It is an extremely dense hardwood, with stunning deep, dark red colouring. Its density and rare colouring have made it a prestigious timber species, which is available only in limited quantities.

The heartwood is durable and ranges from red to dark red, while the sapwood is much paler and easily distinguishable. Red Mahogany is generally medium textured with an uneven grain, which at times can be interlocked. The bark is rough and persistent to the small branches, fibrous, shallow to coarse fissured.

The timber takes some time to dry thoroughly, but with very few imperfections caused in the process.

Red Mahogany is easy to work with but needs care in gluing. It is one of the best eucalypts for painting since the wood has good resistance to surface checking. It may be ebonised to a rich black colour by treatment



with ferric chloride solution.

The timber is resistant to termite attack, making it suitable for flooring, cladding, panelling, general construction, sleepers and poles, as well as furniture and turnery.

Physical Properties

Family name: Myrtacaea Trade name: Red Mahogany Dry Density: 950 kg/m³

Cypress

Cypress is a small to medium sized softwood, widely grown in inland areas of New South Wales and Queensland, where there is moderate rainfall. It is extremely hardy and can survive in poor soil conditions. The tree grows from four to twelve metres in height, with a trunk up to fifty centimetres in diameter. Where the soil and climate conditions are good, Cypress can grow to a height of twenty metres.

The properties of Cypress are more similar to a hardwood than a conifer. The heartwood ranges in colour from dark chocolate through to pale browns while the sapwood is pale yellow. Dark knot holes contrast with the heartwood and sapwood. Its texture is very fine and even, the grain is straight and knots are very common. Cypress has a distinctive and strongly persistent odour. It dries quickly but is prone to fine surface checking so reduction of the initial drying rate is necessary for dressed products in warm weather.

The heartwood is durable and has particularly good resistance to termites, making it versatile and widely used in applications such as flooring, panelling, building framework, posts and small poles, feature finishes and cabinetry.

Cypress flooring is a cost effective flooring option and lends itself well to staining and painting as illustrated below.



The Koko Collection illustrated here is available as prefinished cypress flooring in these colours from Austwood Australia.

In the past, Cypress has been used in general construction as a strip flooring subfloor for underneath carpet and laminates but is enjoying a renaissance as a decorative timber floor in its own right.

Physical Properties of Cypress

Botanical name: callitris glauca Family name: cupressaceae Dry Density: 680 kg/m³ Janka Dry Hardness: 6.5





Victorian Ash

Victorian Ash is the collective name for Mountain Ash (eucalyptus regnans) and Alpine Ash (eucalyptus delegatensis). Grown in south eastern Victoria, predominantly along the Great Dividing Range, these virtually identical hardwoods are renowned for their exceptional height and straightness.

Victorian Ash is sought after for appearance grade applications such as furniture, flooring, staircases, mouldings, window frames and doors. It is also valuable in structural use for frames, trusses and laminated beams.

It ranges in colour from a highly attractive pale blonde through to nutty brown tones. Natural features, such as gum vein, add decorative appeal to this species, telling the tale of the tree's previous life in the natural elements.

With a grain that is straight, open and even with a uniform texture, Victorian Ash is easy to work, with a good propensity for steam bending and laminating.

The timber responds extremely well to careful air drying, reconditioning and quarter sawing techniques.

Victorian Ash can also be treated up to H2 and is receptive to paints, stains or finishes, maximising flexibility for final presentation.

A range of different finishes can be used to bring out the unique appeal of a Victorian Ash floor, including water or plant based finishes and traditional polyurethane, acrylics or tung oil.

A highly appealing hardwood species for flooring, Victorian Ash can also be used to manufacture the flooring joists and substrate. f

Physical properties of Victorian Ash

Botanical name: eucalyptus regnans, delegatensis

Also known as: Mountain Ash, Alpine Ash

Dry density: 650 - 720 KG/m³

Janka dry hardness:

4.9 (eucalyptus regnans)

5.7 (eucalyptus delegatensis)



Blackbutt

Blackbutt is a tall hardwood, growing in large numbers in coastal forests between Bega in New South Wales and Maryborough in Queensland. A moderate to large tree with a long, straight cylindrical trunk, Blackbutt reaches heights of 40 to 60 metres, with a diameter of up to three metres.

Blackbutt literally means "half bark." It has rough fibrous bark on the lower trunk and a smoother whitish to yellow upper trunk and branches where bark has shed in strips.

The heartwood of Blackbutt is pale brown with a faint tinge of pink when freshly cut, while the sapwood is usually slightly paler in colour. The grain tends to be straight with some gum veins present but little evidence of growth rings.

Care needs to be taken in drying this species to prevent surface checking on the tangential surface and reconditioning is unadvisable. The mature wood may encounter problems when gluing, particularly with phenolic adhesives, but young regrowth wood appears to be less affected.

Blackbutt is a species that is well regarded by foresters for the high quality of timber and its quick growth. It reaches 64% of its mature timber density within four years and is 80-88% of its mature timber density within 11-17 years.

Blackbutt is classed as Class 1 with a life expectancy over 40 years when used above ground and is Class 2 with a life expectancy 15 to 25 years when used in-ground.

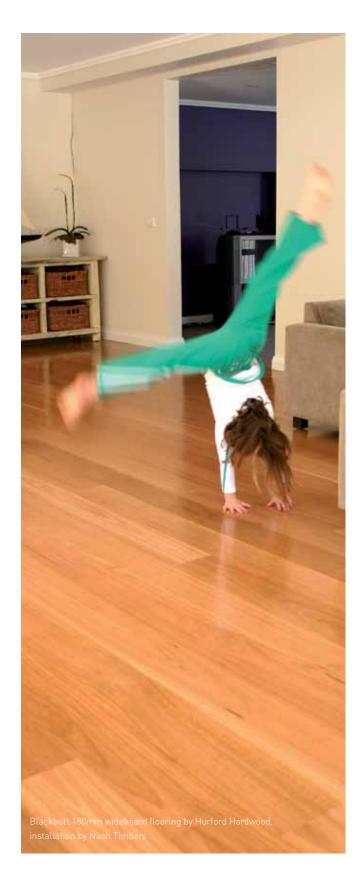
The sapwood is not susceptible to lyctid borer attack and Blackbutt is considered naturally resistent to termites.

Blackbutt is ideal for flooring but is also used in a variety of aesthetic and structural building applications including weatherboards, railway sleepers and bridge planks. It may also be used for posts and poles if it is treated with a suitable preservative. Other uses include boat building, coach and carriage building, structural plywood and hardboard. f

Physical properties of Blackbutt

Botanical name: eucalyptus pilularis

Family: Myrtaceae Dry density: 900 kg/m³ Janka dry hardness: 9.1 kN



Jarrah

Jarrah is one of the most common species of eucalyptus tree grown in the south western corner of Western Australia and one of the state's few commercial species. Its botanical name is eucalyptus marginata, which refers to the light coloured vein on the edge of the leaf.

A large hardwood, Jarrah reaches a height of 30 to 40 metres, with a stem diameter of up to two metres. It has a rough, brown to black bark, which splits into fibrous strips, and fine, narrow leaves. The grain, with an even and moderately coarse texture, is usually straight, but can be interlocked and wavy, occasionally producing an attractive fiddleback pattern.

Jarrah is a deep-rooted species and therefore drought resistant, as it is able to draw deeply for water during dry periods. The heartwood is durable (class 2) and dark red in colour, often with a rich dark mahogany hue. The sapwood is a paler yellow colour. The sapwood readily accepts preservative impregnation but penetration of the heartwood is negligible using currently available commercial processes.

Jarrah can be dried using conventional air and seasoning methods and machines and turns well. It glues well and will readily accept paint, stain and polish. Jarrah's colouring and exceptional hardness (janka 8.5) are a perfect combination for commercial and residential flooring. It is also popular in general construction and is commonly used to make outdoor furniture, musical instruments and hot tubs. **f**

Physical properties of Jarrah

Botanical name: eucalyptus marginata

Family: myrtaceae Dry density: 820kg/m³ Janka dry hardness: 8.5Kn



Myrtle

Myrtle is a medium sized hardwood growing primarily in the heavier rainfall areas of Tasmania and in eastern Victoria.

The heartwood is pink to reddish brown while the sapwood is almost white. It has a fine, even texture and a grain that is sometimes wavy, with visible but not prominent growth rings. Myrtle is good for steam bending, carving and turnery, its only drawback being a tendency to bruise on the end grain.

According to Geoff Eberhardt from Gunns Timber Products, "there has been a perception in the Australian market that Myrtle is an expensive or elite timber and its hardness and suitability as a flooring product is unknown. However, it presents a unique blend of colours ranging from warm red pinks to pale reddish browns with pale yellow to grey streaks, all with a characteristic fine, lustrous texture. These colours can be further highlighted with the use of lighter borders such as Tasmanian Oak in floors and the introduction of Huon or Celery Pine inlays in furniture."

Other uses include furniture, veneer, joinery, turnery, carving, flooring, panelling, doors, handles and piano bridges. \boldsymbol{f}

Physical properties of Myrtle

Botanical name: nothofagus cunninghamii

Family: fagaceae Dry density: 700kg/m³

Janka (harness) rating: 5.6

ATFA MEMBER MYRTLE MANUFACTURERS

Company	Thickness	Widths	Contact
Gunns Timber Products	19mm	60mm, 85mm and 108mm	1800 088 135 gunnstimber.com.au
Oakdale Industries	19mm	85mm	03 6244 2277 oakdaleindustries.com.au
	13mm	85mm	



Grey Ironbark

Grey Ironbark is a hardwood commonly found along the coast of New South Wales and Queensland. It is a medium sized tree, growing to a height of 30 to 50m, with a stem diameter of about 1.5m.

It gets its name from the colour and toughness of the bark on the tree. It is hard, deeply furrowed and ridged.

The most common commercial species of Grey Ironbark is eucalyptus paniculata, which is found along the far south coast of NSW to north of Coffs Harbour, and is most commonly used for flooring. Another species, eucalyptyus siderophloia is distributed from southern coastal NSW to Maryborough in Queensland.

The heartwood colour varies from pale brown to dark chocolate brown as well as dark red. Its texture is moderately coarse and even and the grain is usually interlocked.

Ironbark has the highest Janka rating (14) of any Australian native hardwood timber species. This makes Ironbark sought after for flooring applications in both commercial and domestic projects with heavy floor traffic.

The wood is extremely hard and heavy, and has potential for use in the manufacture of heavy furniture because of its beautiful appearance and density. However, its density makes Ironbark difficult to work and it blunts tools quickly.

The heartwood is durable and very resistant to impregnation with preservatives. It also has good resistance to marine borers. The sapwood is susceptible to lycid borer attack.

Common uses of Grey Ironbark include flooring, outdoor decking and furntiture, heavy engineering structures, marine structures, poles, boat building and framework. f

Physical properties of Grey Ironbark

Botanical name: eucalyptus paniculate, eucalyptus drepanophylla, eucalyptus siderophloia Family: Myrtaceae Dry density: 1140kg/m³ Janka (harness) rating: 14



Brushbox

Brushbox is a medium sized tree growing on the edge of the rainforests along the east coast of Australia, from Newcastle in New South Wales to Maryborough in Queensland. Some isolated stands also occur further north.

Brushbox has a beautiful rich colour, which in some of the redder timbers can be similar to that of Turpentine.

The heartwood ranges from pink-brown to red-brown but is often very variable between trees. The sapwood is usually a slightly paler, greyish brown colour. The grain is close and even textured, often with a curly interlocking habit.

The heartwood has good resistance to termite attack but is of only moderate durability (class 3) in relation to resistance to decay. It is very resistant to impregnation with preservatives.

The sapwood readily accepts preservative impregnation and is only occasionally attacked by lyctid borers. It is unsuitable for steam bending.

As long is the grain is relatively straight Brushbox has good resistance to surface checking. Shrinkage is about 5% radial, 10% tangential; after reconditioning about 3.5% radial, 7% tangential.

The timber is resistant to wear with good resistance to splintering. Its natural waxiness occasionally causes adhesion problems with some highly solvent floor finishes but it is a very good base for paints and stains. As with most high-density species, machining and surface preparation should be done immediately before gluing. It is low in tannins and much less inclined to stain than the eucalypts when

Physical properties of Brushbox

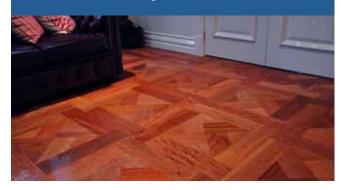
Botanical name: Lophostemon confertus,

Tristania conferta

Family: Myrtaceae

Dry density: 900kg/m³

Janka (harness) rating: 9.5



leached by rain.

Brushbox is relatively hard in relation to indentation and ease of working with hand tools. It can be abrasive to machine cutters and tools due to the presence of silica in the wood. No difficulty has been experienced with the use of standard fittings and fastenings.

As well as flooring and decking, common uses for Brushbox include general house framing, lining, cladding, laminated beams and joinery, as well as plywood, turnery, laminated bench tops and parquetry. It has also been used for mallet heads, croquet mallets, bobbins and shuttles for the textile industry, butcher's blocks and in boat building. f

Spotted Gum

The Spotted Gum is a tall tree growing up to 50 metres in height and 1.3 metres in diameter, which grows along the east coast of Australia from the New South Wales-Victorian border, extending to the Maryborough district in south east Queensland. Spotted Gum is a large hardwood and the tree sheds elliptical strips of bark as it weathers, deriving its common name from the mottled or spotted appearance. It has small white flowers which appear from winter to spring.

Spotted Gum is currently the highest volume native hardwood harvested in Queensland with future supplies well secured.

The heartwood is durable and ranges in colour from very pale brown through to dark brown with slightly orange or green tints and some lighter variations. The sapwood is distinctly paler than the heartwood. Often interlocked, the grain appears wavy, featuring a distinctive 'fiddleback' figure and gum veins.

Spotted Gum is a very durable native timber and is classified for inground use as class two with a life expectancy of 15 to 25 years. Above-ground applications are class one which classifies the species as having a life expectancy of over 40 years.

The timber has a natural resistance to termites and will readily accept paint, stain and polish. It is naturally fire resistant and meets the required parameters under Australian Standard AS395 as a timber that does not have to be subjected to fire retardant treatment. This makes Spotted Gum a popular choice as an outdoor decking timber.

Spotted Gum is sought after by consumers and specifiers alike for its striking colour and for its density. It is used widely in aesthetic and structural applications.

Spotted Gum is very dense with excellent mechanical properties. Its level of hardness (with a janka rating of 11) makes Spotted Gum popular for commercial applications such as gymnasiums and basketball courts. It is also used as unseasoned timber in general house framing and as seasoned dressed timber in cladding, linings and joinery as well as fencing, landscaping, retaining walls and in structural plywood and hardboard.

Spotted Gum is the main Australian species used for tool handles which are subjected to high impact forces, such as axe handles. It is very popular for flooring and decking as well as in other structural and aesthetic applications such as boat building (keel and framing components, planking, decking), coach, vehicle and carriage building, agricultural machinery, sporting goods (baseball bats, croquet mallets, spring and diving boards, parallel bars) and bent work. It has been used for many years to make butcher's blocks, meat skewers, mallet heads, ladders, wheel spokes, wine casks and broom handles. *f*



Sydney Blue Gum

Sydney Blue Gum is a large fast growing hardwood which occurs naturally in moist forests on fertile, well drained soils along the east coast of Australia from Batemans Bay in New South Wales to southern Queensland. There are occasional occurrences further north. Sydney Blue Gum is usually found within 160km of the coast, from sea level up to 300m above sea level in the south and 1200m elevation in the north, in mostly warm, humid climates. The species' common name comes from its pervasiveness around the Sydney region together with the bark's bluish tinge. Sydney Blue Gum is not closely related to the blue gums of Victoria or Tasmania but is closely related to Southern Mahogany and Rose Gum.

Sydney Blue Gum can grow to a height of 60 to 70 metres and two metres in diameter. It generally has a straight trunk with no branches for half to two-thirds of its height. The upper bark is smooth and bluey-grey in colour with a stocking of persistent brown or grey rough bark for one to two metres from ground level.

Sydney Blue Gum is also planted in Western Australia and Victoria as a species with saw log potential and has been grown extensively in plantations in South Africa and South America. It grows extremely rapidly in those conditions, with the timber being of a much lower density than the mature Australian material. Sydney Blue Gum can also be found in New Zealand where, interestingly, it has experienced declining growth rates and a reduction in popularity lately.

The heartwood is dark pink to reddish brown while the sapwood is paler.

The sapwood of Sydney Blue Gum is susceptible to lyctid borer attack and therefore has to be treated with approved preservatives before it is sold. The texture tends to be moderately coarse and even and the grain is usually straight but may be interlocked. Gum veins are common. The timber dries easily but tangential surfaces tend to be susceptible to surface checking.

Sydney Blue Gum is easy to work with both hand and power tools, is easy to sand and accepts finishes well. It is highly sought after because of its rich, dark colours and is popular in a variety of applications, including flooring, joinery, furniture, panelling and boat building. It is also effective and durable in outdoor landscaping applications and makes excellent firewood! **f**

Physical properties of Sydney Blue Gum

Botanical name Eucalyptus salign

Family Myrtaceae
Dry density 1070kg/m²

Janka (hardness)





Manna (Ribbon) Gum

Manna Gum, also known as Ribbon Gum or Viminalis is a 50 metre tall Australian eucalypt growing in the cooler areas of Australia. It is found from the Mount Lofty Ranges in South Australia through Tasmania and Victoria to all the tableland districts of New South Wales

The Manna Gum tree is named after the sweet red gum which oozes from the leaves and damaged bark. In early times the gum was eaten by Aboriginal Australians. The other common name for this species, Ribbon Gum, comes from the long ribbon-like deciduous strips of bark that hang from the trunk.

There are three subspecies of the Manna Gum, including the viminalis, cygnetensis and pryoriana. Each subspecies can be found in different parts of Australia: Victoria, Tasmania, and regions in South Australia.

The heartwood is pale pink or pale pinkish brown while the sapwood is not visually distinct. Manna Gum timber flooring is generally pale pink to pinkish brown in colour, often with distinctive light grey streaks. It has a medium and even texture and variable grain, with prominent growth rings.

This species is relatively easy to work and it glues well. It accepts most coatings and oils well. When nailed near the ends of boards it may need pre-drilling to avoid splitting.

As well as timber flooring, Manna Gum is commonly used for internal joinery, furniture, panelling and handles. It also has potential for plywood manufacture. f



Physical properties of Manna Gum

Botanical name Eucalyptus viminalis

Family Myrtaceae

Dry density 750 kg/m²
Janka (hardness) 6

