

Imported Timber Species



Australia relies upon many species of imported timber in both structural and architectural applications. These timbers offer a range of properties and aesthetic qualities which lend themselves to a variety of applications such as heavy construction and domestic decking all the way through to fine joinery and craft.

This brochure covers a small range of timbers some more readily available than others in the Australian market place. Each is described along with normal applications and the most commonly needed Timber Properties including durability and hardness, which is normally assessed when considering a timber for use as a product such as flooring.

Durian

Coelostegia spp., Durio spp. & Neesia spp.

Durian is the name given to the timber of a wide group of trees which are mostly cultivated for their fruit and fibres. These large hardwoods are native to mainland Malaysia with some occurrence in Burma and Indonesia and are found in lowland swamp and mixed forest areas. After fruiting in the early stages of their growth they reach a height of about 50 metres.

Timber Properties

- Density (average): 640kg/m³ dry
- Durability: Class 3
- Strength Group: S4 green; SD4 dry
- Hardness Rating (average) (Provisional): 3.0kN green; 3.3kN dry

The timber is generally easy to work although due to the variety of species some pieces may be difficult to finish. It dries quickly although again because of the many species some have a tendency to cup which can be overcome by weighting during the drying process, the timber takes nails and glues well and is a good veneer.

Heartwood is pinkish-brown, red-brown to deep red-brown with some of the species

having an orange tinge. The sapwood is paler, generally a lighter brown but difficult to distinguish and is susceptible to lyctid borer. The texture is medium to coarse and uneven in some of the species, with the grain straight to slightly interlocked.

Durian is not a very widely used timber specie however in it's areas of occurrence it is used for light joinery, packing cases, tea chests, furniture, toy making and craft. In Australia it has been accepted as a reasonably priced alternative to Australian Red Cedar because of the colour and so is used for interior joinery, mouldings and light furniture.

East Indian Kauri

Agathis Dammara

Other common names: Almaciga and Damar Minyak

East Indian Kauri is a medium to large softwood native to South-East Asia extending from the Malaysian mainland through the islands to Papua New Guinea. It occurs in most areas from sea level to very high mountainous regions. The trees can be quite tall growing to a height of about 60 metres, although at high altitude they are very stunted.

Timber Properties

- Density (average): 800kg/m³ green; 550kg/m³ dry
- Durability: Class 4
- Strength Group: S7 green; SD7 dry
- Hardness Rating (average): 2.6kN green; 2.7kN dry

The timber is very easy to work, dries well and has a very low shrinkage rate between 1.5–3%. It takes nails and fixings satisfactorily, glues well and is excellent as veneer.

Heartwood is straw or pale yellow brown sometimes with a pink tinge and the sapwood is very hard to distinguish. The texture is fine and even with a very straight grain and sometimes a slight caramel like odour is present when freshly cut.

In Asia, Kauri is used for fine joinery, pattern making, laboratory and commercial bench tops, pencil making, woodturning, carving and food serving and eating utensils with the trees also taped for resin to make paints, varnishes and linoleum.

In Australia it has been widely used for flooring although it is probably too soft for high traffic areas. More common applications would be pattern making, musical instruments, eating and cooking utensils, furniture and joinery.

This species is reasonably available in Australia and is sometimes used in place of New Zealand or Queensland Kauri which were common in the early part of the last century.

Another similar species is Fijian Kauri, *Agathis vitiensis* which is rarely seen in Australia, the heartwood is slightly darker than that of the East Indian Kauri but would be a good substitute.

Nyatoh

Palaquium spp. & Payena spp.

A wide grouping of timbers sometimes including Nyatoh Batu.

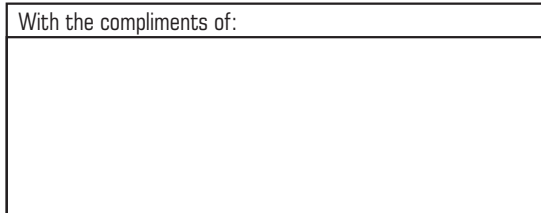
Nyatoh is a medium to large hardwood generally occurring throughout South East Asia and the Philippines although some sub species come from as far apart as India and the western Pacific Islands. The most recognised material is from the Palaquium spp. which are the lower density varieties that grow to a height of about 30 metres and usually occur in podsol soils or peat swamps with some also in mixed forest areas.

Timber Properties

- Density (average): 660kg m³ dry
- Durability: Class 3
- Strength Group: S4 green; SD4 dry
- Hardness Rating (average) (Provisional): 3.1kN green; 3.8kN dry

The timber of the Palaquium spp. is normally easy to work although silica in the

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heavier species may cause some difficulty and because of this range of species care needs to be taken when drying to avoid end splitting. It nails well and takes glue but sometimes exhibits burn marks when being turned or sanded and so care is recommended.

Heartwood is purple-pink to red-brown with the sapwood much lighter usually quite wide and very easy to distinguish and although susceptible to lyctid borer it is rarely attacked.

The texture is medium to coarse and even with the grain straight or wavy and sometimes slightly interlocked. When freshly cut the timber normally has an unpleasant smell often referred to as sour; the dust is regarded as being highly irritant, causing rashes and throat and nasal problems. Safety clothing and face masks should be worn at all times when being worked.

Nyatoh has been widely used in Australia for many years, predominately as interior joinery, furniture, plywood and some craft applications

Ramin

Gonystylus spp. (predominately G. bancanus & G. macrophyllus)

Other common names Mavota and Melawis
Ramin is a medium sized hardwood, native to South East Asia extending through all the islands as far to the east as Fiji. Over 20 species make up this grouping with the timber very common in all areas. It normally occurs in low level coastal swampy forests in peaty or sandy soil however it can also grow up to high altitude in some mountainous areas. The trees usually only grow to height of about 30 metres.

Timber Properties

- Density (average): 650kg m³ dry
- Durability: Class 4
- Strength Group: S4 green; SD4 dry
- Hardness Rating (average): 2.9kN green; 5.8kN dry

The timber is easy to work to a smooth finish, dries quickly with a medium

shrinkage rate between 2.5 to 5.5 %, but has a tendency to both end splitting and surface checking. Care is needed to avoid bluestain. It takes nails and fixings satisfactorily, although pre-drilling particularly near ends is recommended, glues well and is good as veneer.

Heartwood is straw coloured and sometimes has a pale pinkish tinge, the sapwood is very hard to distinguish and is susceptible to lyctid borer attack. The texture is fine to medium and very even with the grain usually straight or slightly interlocked.

Ramin is very common in Australia and widely used for picture framing, high grade fine detail moulding, doweling, carving, craft and wood turning and for specialised flooring where a very light colour is required such as squash courts.

Teak

Tectona grandis

Teak is a large hardwood occurring across a wide area of southern Asia from India through Burma and Thailand to Vietnam and is now being propagated in plantations in all these countries as well as throughout tropical areas of Africa, South America, New Guinea and some Pacific Islands. It occurs within a wide range of climatic and soil conditions preferring the deep well drained loamy soils in the upper reaches of river valleys. Because of this range the trees vary in size growing to a height of 45 metres under the best conditions but are usually shorter and smaller in diameter when found in hot dry areas.

Timber Properties – natural occurrence

- Density (average): 670kg m³ dry
- Durability: Class 1/2
- Strength Group: S4 green; SD5 dry
- Hardness Rating (average): 4.1kN green; 4.6kN dry

Timber Properties – plantation

- Density (average): 550kg m³ dry
- Durability: Class 2
- Strength Group: S5 green; SD5 dry
- Hardness Rating (average):

4.1kN green; 4.5kN dry

The timber is normally easy to work but because of its growth range this can vary. It is naturally very oily which can cause some problems with gluing but nails well and takes other fixings satisfactorily. It dries slowly, with a low shrinkage rate between 1.5 to 2.5 % and suffers little degrade in the process.

Heartwood is dark yellowy-golden brown which darkens with age and is often figured with darker markings. The sapwood is narrow, a pale yellow-brown and is easy to distinguish and susceptible to lyctid borer attack. The texture is medium to coarse with the grain in the highly favoured Burmese teak usually straight or slightly interlocked however from other areas it can be quite varied.

Teak has been widely used around the world because of its durability reputation and the very low shrinkage rates, in all facets of ship and boat building and is highly prized for furniture, high grade joinery, panelling and veneer. In the areas of occurrence it is used for all construction applications such as bridges and wharfs, decking and flooring as well as craft and decorative items.

In Australia it has been regularly used for furniture, boat and high value joinery, plywood and other veneered boards, parquetry and in recent years plantation teak has become very popular as outdoor furniture. Natural growth timber is becoming hard to source although plantation timber is readily available.

Further Reading

This is one Guide in a series of Imported Timber Species Guides numbered 3.1 to 3.9, the complete series is available from your local Timber Advisory Service or by downloading from the Technical Bulletin section of www.timber.net.au

- Wood in Australia – Keith R Bootle published by McGraw-Hill Book Company.
- Selecting Timber – a publication of BRANZ.

For further information on this brochure, contact the Timber Advisory Service on free call 1800 044 529 or email showroom@tdansw.asn.au Level 6, 525 Elizabeth Street, Surry Hills NSW 2010. General Information on the use of timber can also be found at the web page www.timber.net.au



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