

Kwila



Kwila • *Intsia bijuga*

Recommended Uses (Major/specific)



Building Construction (F34).



Flooring & staircase materials.



Exterior joinery (out-of-ground); including structural, screening, decking.



Furniture; custom made and cabinet work.



Boat building & ship building.



Engineering; including bridge and wharf superstructure (out of ground/salt water contact).



Speciality uses; including billiard tables, tool handles, turnery, sliced veneer, carving, artefacts.

Kwila is a medium to large tree, widespread throughout the South Pacific. It can be found throughout the Solomon Islands mainly in coastal forests although it is not of major occurrence. Small sawn parcels are available in a full range of sizes

- **Kwila** is a high quality, strong, durable hardwood. It has been a popular timber in Europe for many years where it finds a specialised use in velodrome / cycling tracks. It has also become popular in Australia and New Zealand where it is in demand for high quality applications including exterior joinery. It is a good substitute for **teak** (*Tectona grandis*) and is closely related to the well known **doussié** (*Afzelia* spp.) of West Africa.
- The timber is either a yellowish-brown or dark brown in colour, darkening on exposure to light. In exterior situations it weathers slowly to a silvery-grey colour. Contrary to popular belief, **kwila** is not very durable in the ground, as the extractives, which contribute toward its durability, are prone to leaching. This leaching process leads to the timber 'bleeding' and imparting a dark brown stain which mars the contact surface. A sealant should be applied to the timber if it is to be in "contact" situations e.g window sills, when exposed to the weather.
- The timber seasons very well with little degrade. Preliminary air-drying to 25% moisture content is preferable before kiln drying. Board ends need to be heavily sealed with wax emulsion to avoid end splitting and surface checking during drying. After seasoning, it is a very stable timber with low hygroscopic movement.
- **Kwila** is suitable for superior joinery including staircase materials, handrails, ballustrading and posts. It produces high quality, hard wearing flooring and is also used for furniture (indoor and outdoor) and decking. It is a popular timber for boat and ship-building.

Other names:

Trade Name: **merbau** (Malaysia)

Local Name: **u'ula**

Kwila · *Intsia bijuga***PROPERTIES**

Density	850 kg/m ³ @ 12% m.c
Colour	Yellow-brown or dark brown.
Texture	Medium but even; lustrous.
Grain	Straight or slightly interlocked, sometimes wavy.
Figure	Ribbon figure evident on quarter-sawn faces when interlocked grain present. Cathedral-like figure on back-sawn faces due to soft tissue.
Durability	Durable out of the ground in exterior situations.
Permeability	Heartwood, non-permeable to pressure impregnation.
Lyctid susceptibility	Sapwood is susceptible.

WORKABILITY

General	Very good working and finishing properties.
Sawing	Saws well but saw blades may 'gum-up' after prolonged sawing.
Planing	Excellent planing characteristics, cutter edges may 'gum-up' after prolonged planing.
Blunting	Low.
Boring	Additional power required; some burning may occur; clean exit hole.
Turning	Good turning properties; smooth with sharp arrises.
Nailing	Pre-drilling recommended to alleviate splitting on board ends.
Gluing	Care required to get satisfactory bonding due to the timber's natural oiliness.
Finishing	Takes a high polish; lustrous surface.

MECHANICAL PROPERTIES

Strength	SD2
Structural Grade	F34 (select grade).
Toughness (Izod)	14J (seasoned), 18J (unseasoned).
Hardness (Janka)	8.6kN (seasoned), 7.6kN (unseasoned).
Max. Crushing Strength	81MPa (seasoned), 55MPa (unseasoned).
Modulus of Elasticity	18GPa (seasoned), 15GPa (unseasoned).
Modulus of Rupture	147MPa (seasoned), 103MPa (unseasoned).

SEASONING

General	Seasons well with little degrade.
Movement	Very low.
Shrinkage	Very low.

KILN DRYING SCHEDULE

'T' (mm)	'S.P'	M.C CHANGE POINTS	DBT (°C)	WBD (°C)	K.D TIME TO 12%	
					FROM GREEN (days)	FROM 25% (days)
25	M	Green	55	8		
		30	60	10		
		20 - final	70	20	10 - 12	5 - 7