

<b>Family:</b>	FABACEAE-CAESALPINIOIDEAE (angiosperm)
<b>Scientific name(s):</b>	<i>Intsia bijuga</i> <i>Azelia bijuga (synonymous)</i> <i>Intsia palembanica</i>
<b>Commercial restriction:</b>	no commercial restriction

## WOOD DESCRIPTION

<b>Color:</b>	brown
<b>Sapwood:</b>	clearly demarcated
<b>Texture:</b>	coarse
<b>Grain:</b>	straight or interlocked
<b>Interlocked Grain:</b>	slight

**Note:** Heartwood is orangey brown becoming dark red brown or dark brown. Presence of yellow Sulphur deposits.

## LOG DESCRIPTION

<b>Diameter:</b>	23 – 47 inches
<b>Thickness of Sapwood:</b>	1.9– 3.14 inches
<b>Floats:</b>	no
<b>Log Durability:</b>	no information available

## PHYSICAL PROPERTIES

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

	<u>Mean</u>	<u>Std. Dev.</u>
<b>Specific Gravity*:</b>	0.83	0.05
<b>Janka Hardness (lbs):</b>	1,840	
<b>Volumetric Shrinkage:</b>	0.39%	0.06%
<b>Total Tangential Shrinkage (TS):</b>	4.4%	0.9%
<b>Total Radial Shrinkage (RS):</b>	2.7%	0.7%
<b>TS/RS Ratio:</b>	1.6	
<b>Fiber Saturation Point:</b>	24%	
<b>Stability:</b>	stable	

## MECHANICAL/ACOUSTIC

	<u>Mean</u>
<b>Crushing Strength*:</b>	10,732 lbf
<b>Static Bending Strength*:</b>	16,679 lbf
<b>Modulus of Elasticity*:</b>	2,239,382 lbf

**Musical Quality Factor:** 133.9 measured at 2397 Hz

*\*At 12% moisture content.*

## NATURAL DURABILITY AND TREATABILITY

Fungi and termite resistance refers to end-uses under temperate climate. Except for special comments on sapwood, natural durability is based on mature heartwood. Sapwood must always be considered as non-durable against wood degrading agents. E.N. = Euro Norm

<b>Funghi (According to E.N. standards):</b>	class 1-2 - very durable to durable
<b>Dry Wood Borers:</b>	durable - sapwood demarcated (risk limited to sapwood)
<b>Termites (According to E.N. standards):</b>	class M – moderately durable
<b>Treatability (according to E.N. standards):</b>	class 4 - not permeable
<b>Use class ensured by natural durability:</b>	class 4 - in ground or fresh water contact
<b>Species covering the use class 5:</b>	no

**Note:** This species is listed in the European standard NF EN 350-2. It covers the use class 4, but presents a variable durability towards marine borers; its use under sea water is not recommended. According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition.

## REQUIREMENT OF A PRESERVATIVE TREATMENT

<b>Against dry wood borer attacks:</b>	does not require any preservative treatment
<b>In case of risk of temporary humidification:</b>	does not require any preservative treatment
<b>In case of risk of permanent humidification:</b>	does not require any preservative treatment

## DRYING

**Drying Rate:** slow  
**Risk of Distortion:** slight risk  
**Risk of Casehardening:** no  
**Risk of Checking:** slight risk  
**Risk of Collapse:** no  
**Note:** Requires care in order to avoid surface cracks for thick boards.

**Possible Drying Schedule:** 5

M.C. (%)	Temperature (°F)		
	Dry-Bulb	Wet-Bulb	Air Humidity (%)
30	107.6	105.8	94
25	107.6	102.2	82
20	118.4	109.4	74
15	118.4	109.4	74

This schedule is given for information only and is applicable to thickness lower or equal to 1.5 in. It must be used in compliance with the code of practice. For thickness from 1.5 to 3 in, the air relative humidity should be increased by 5% at each step. For thickness over 3 in, a 10% increase should be considered.

## SAWING AND MACHINING

**Blunting Effect:** fairly high  
**Sawteeth Recommended:** stellite-tipped  
**Cutting Tools:** tungsten carbide  
**Peeling:** no information available  
**Slicing:** good  
**Note:** Sawblades tend to clog. Tendency to tearing on quartersaws. Variable silica content.

## ASSEMBLING

**Nailing / screwing:** good but pre-boring necessary  
**Gluing:** correct  
**Note:** Tends to split when nailing.

## END-USES

Furniture or Furniture Components  
Interior Paneling  
Interior/Exterior joinery  
Heavy carpentry  
Cabinetwork  
Turned goods  
Tool handles (resilient woods)  
Bridges (parts in contact with ground or water)  
Stairs (interior)  
Sleepers  
Sculpture  
Ship building (planking and deck)  
Flooring  
Industrial or heavy flooring  
Sliced veneer  
Poles

## MAIN LOCAL NAMES

<u>Country</u>	<u>Local Name</u>
<b>Australia</b>	Kwilau
<b>Fiji</b>	Vesi
<b>Madagascar</b>	Hintsy
<b>Malaysia</b>	Merbau
<b>Philippines</b>	Ipil Laut, Ipil
<b>Vietnam</b>	Gonuoc
<b>China</b>	Kalabau
<b>Indonesia</b>	Merbau
<b>Thailand</b>	Lum-Paw

### Works Cited:

CIRAD'S *Biomass, Wood, Energy, Bioproducts Research Unit (BioWooEB)*  
Meier, E. (2015), Wood, United States of America