

Family: FABACEAE-CAESALPINIOIDEAE (angiosperm)

Scientific name(s): *Intsia bijuga*
Afzelia bijuga (synonymous)
Intsia palembanica

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: brown
 Sapwood: clearly demarcated
 Texture: coarse
 Grain: straight or interlocked
 Interlocked grain: slight

Note: Heartwood orangey brown becoming dark red brown or dark brown with light. Presence of yellow sulphur deposits.

LOG DESCRIPTION

Diameter: from 60 to 120 cm
 Thickness of sapwood: from 5 to 8 cm
 Floats: no
 Log durability: 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>
Specific gravity *:	0.83	0.05
Monnin hardness *:	8.8	2.3
Coeff. of volumetric shrinkage:	0.39 %	0.06 %
Total tangential shrinkage (TS):	4.4 %	0.9 %
Total radial shrinkage (RS):	2.7 %	0.7 %
TS/RS ratio:	1.6	
Fiber saturation point:	24 %	
Stability:	stable	

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	74 MPa	6 MPa
Static bending strength *:	115 MPa	13 MPa
Modulus of elasticity *:	15440 MPa	2269 MPa

(*: at 12% moisture content, with 1 MPa = 1 N/mm²)

Musical quality factor: 133.9 measured at 2397 Hz

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

Funghi (according to E.N. standards): class 1-2 - very durable to durable

Dry wood borers: class D - durable (sapwood demarcated, risk limited to sapwood)

Termites (according to E.N. standards): class M - moderately durable

Treatability (according to E.N. standards): class 4 - not permeable

Use class ensured by natural durability: class 4 - in ground or fresh water contact

Species covering the use class 5: 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. Resistance to termites varies from "moderately durable" to "durable".

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

Against dry wood borer attacks: does not require any preservative treatment

In case of risk of temporary humidification: does not require any preservative treatment

In case of risk of permanent humidification: 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

Possible drying schedule: 5

	M.C. (%)	Temperature (°C)		Air humidity (%)
		dry-bulb	wet-bulb	
	30	42	41	94
	25	42	39	82
	20	48	43	74
	15	48	43	74

Note: Requires care in order to avoid surface cracks for thick boards.

This schedule is given for information only and is applicable to thickness lower or equal to 38 mm. It must be used in compliance with the code of practice. For thickness from 38 to 75 mm, the air relative humidity should be increased by 5 % at each step. For thickness over 75 mm, 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.

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to MGR grading rules (2009)
 Possible grading: Prime, Select, Standard, Serviceable, Utility

FIRE SAFETY

Conventional French grading: Thickness > 14 mm : M3 (moderately inflammable)
 Thickness < 14 mm : M4 (easily inflammable)

Euroclasses grading: D s2 d0

Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

END-USES

Current furniture or furniture components
 Interior panelling
 Interior joinery
 Heavy carpentry
 Cabinetwork (high class furniture)
 Turned goods
 Tool handles (resilient woods)
 Bridges (parts in contact with water or ground)
 Stairs (inside)
 Sleepers
 Sculpture
 Ship building (planking and deck)

Flooring
 Exterior joinery
 Industrial or heavy flooring
 Sliced veneer
 Poles
 Wood-ware
 Hydraulic works (fresh water)
 Bridges (parts not in contact with water or ground)
 Musical instruments
 Vehicle or container flooring
 Cooperage
 Boxes and crates

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Australia	KWILAU	China	KALABAU
Fiji	VESI	Indonesia	MERBAU
Magagascar	HINTSY	Peninsular Malaysia	MIRABOW
Malaysia (islands)	MERBAU	New Caledonia	KOHU
Papua New Guinea	KWILA	Philippines	IPIL
Philippines	IPIL LAUT	Thailand	LUM-PAW
Vietnam	GONUOC		



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