

Family: FABACEAE (angiosperm)

Scientific name(s): Millettia laurentii  
Millettia stuhlmannii

Commercial restriction: no commercial restriction

## WOOD DESCRIPTION

Color: dark brown  
Sapwood: clearly demarcated  
Texture: coarse  
Grain: straight  
Interlocked grain: absent

Note: Sometimes, brittleheart and grub hole.

Wood yellow when fresh, becoming dark brown to black brown with light. Presence of alternate light and dark stripes.

## LOG DESCRIPTION

Diameter: from 60 to 100 cm  
Thickness of sapwood: from 2 to 3 cm  
Floats: no  
Log durability: good

## 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 *:	0,87	0,08
Monnin hardness *:	9,1	1,8
Coeff. of volumetric shrinkage:	0,69 %	0,04 %
Total tangential shrinkage (TS):	9,1 %	
Total radial shrinkage (RS):	5,9 %	
TS/RS ratio:	1,5	
Fiber saturation point:	22 %	

Stability: moderately stable

Note: Hardness varies from hard to very hard.

## MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	85 MPa	15 MPa
Static bending strength *:	144 MPa	43 MPa
Modulus of elasticity *:	21050 MPa	695 MPa

(\*: at 12% moisture content, with 1 MPa = 1 N/mm<sup>2</sup>)

Musical quality factor: 135,1 measured at 2619 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 2 - durable

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

Termites (according to E.N. standards): class D - 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.

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: high risk  
 Risk of collapse: no

Possible drying schedule: 4

Note: Usually, few risks of distortion except with thick material.

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
Green	42	39	82
50	48	43	74
40	48	43	74
30	48	43	74
15	54	46	63

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: not recommended or without interest  
 Slicing: nood  
 Note: Requires power. Difficult to polish. Apply preferably a finishing wax.

## ASSEMBLING

Nailing / screwing: good but pre-boring necessary  
 Gluing: poor  
 Note: Risks of splits when nailing. Gluing is difficult and the wood can be stained.

## COMMERCIAL GRADING

Appearance grading for sawn timbers: According to SATA grading rules (1996)  
 For the "General Purpose Market":  
 Possible grading for square edged timbers: choix I, choix II, choix III, choix IV  
 Possible grading for short length lumbers: choix I, choix II  
 Possible grading for short length rafters: choix I, choix II, choix III  
 For the "Special Market":  
 Possible grading for strips and small boards (ou battens): choix I, choix II, choix III  
 Possible grading for rafters: choix I, choix II, choix III

## FIRE SAFETY

Conventional French grading: Thickness > 14 mm : M.3 (moderately inflammable)  
 Thickness < 14 mm : M.4 (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

Flooring	Cabinetwork (high class furniture)
Sliced veneer	Current furniture or furniture components
Interior joinery	Exterior joinery
Interior panelling	Exterior panelling
Sculpture	Turned goods
Resistant to one or several acids	

## MAIN LOCAL NAMES

---

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Cameroon	AWOUNG	Congo	WENGE
Gabon	AWONG	Mozambique	JAMBIRE
Democratic Republic of the Congo	WENGE	Tanzania	MPANDE
Germany	PANGA-PANGA	Germany	WENGE
France	PANGA-PANGA	France	WENGE
United Kingdom	PANGA-PANGA	United Kingdom	WENGE

