

Family: MALVACEAE (angiosperm)

Scientific name(s): *Mansonia altissima*

Commercial restriction: no commercial restriction

Note: Also called MANSONIA.

WOOD DESCRIPTION

Color: brown
 Sapwood: clearly demarcated
 Texture: fine
 Grain: straight
 Interlocked grain: absent
 Note: Logs are almost floatable.
 Wood yellowish brown to dark grey brown with purplish glints. Veins more or less visible.

LOG DESCRIPTION

Diameter: from 40 to 70 cm
 Thickness of sapwood: from 2 to 5 cm
 Floats: no
 Log durability: moderate (treatment recommended)

PHYSICAL PROPERTIES

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

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>		<u>Mean</u>	<u>Std dev.</u>
Specific gravity *:	0,66	0,03	Crushing strength *:	60 MPa	6 MPa
Monnin hardness *:	3,8	0,9	Static bending strength *:	110 MPa	10 MPa
Coeff. of volumetric shrinkage:	0,44 %	0,06 %	Modulus of elasticity *:	13620 MPa	1224 MPa
Total tangential shrinkage (TS):	7,4 %	0,6 %			
Total radial shrinkage (RS):	4,6 %	0,4 %	(*: at 12% moisture content, with 1 MPa = 1 N/mm ²)		
TS/RS ratio:	1,6				
Fiber saturation point:	28 %		Musical quality factor:	137,7	measured at 2772 Hz
Stability: poorly stable					

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

Fungi (according to E.N. standards): class 1 - very 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 3 - not in ground contact, outside

Species covering the use class 5: No

Note: Although BETE is mentioned in the natural durability class 1 towards fungi (very durable) in the standard NF EN 350-2, it is important to know that it is sensible to white rot "*Coriolus versicolor*" attacks, hence, its classification in class 2 (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: use not recommended

DRYING

Drying rate: normal

Possible drying schedule: 2

Risk of distortion: no risk or very slight risk

Risk of casehardening: no

Risk of checking: high risk

Risk of collapse: no

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
Green	50	47	84
40	50	45	75
30	55	47	67
20	70	55	47
15	75	58	44

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: normal

Sawteeth recommended: ordinary or alloy steel

Cutting tools: ordinary

Peeling: good

Slicing: good

Note: Sawdust may cause dermatitis or mucosa irritation.

ASSEMBLING

Nailing / screwing: good

Gluing: correct

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

Cabinetwork (high class furniture)
 Veneer for back or face of plywood
 Interior panelling
 Flooring
 Exterior joinery
 Shingles
 Light carpentry
 Resistant to one or several acids

Sliced veneer
 Interior joinery
 Moulding
 Turned goods
 Rolling shutters
 Ship building (planking and deck)
 Glued laminated

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Cameroon	KOUL	Congo	GUISSEPA
Ivory Coast	BETE	Ghana	APRONO
Ghana	MANSONIA	Nigeria	OFUN
Central African Republic	KOUL	France	BETE
United Kingdom	MANSONIA		

