

Family: MELIACEAE (angiosperm)

Scientific name(s): Entandrophragma cylindricum

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown
 Sapwood: clearly demarcated
 Texture: fine
 Grain: interlocked
 Interlocked grain: slight

Note: Some logs are not floatable.

Wood pinkish brown to copper red brown. Possible presence of ring shakes and blister grains (longitudinal fissure in the shape of barley grain on the curved surface of round timber, generally concealed by the bark and linked to a disfunction in tree growth). Cedar like scent.

LOG DESCRIPTION

Diameter: from 70 to 120 cm
 Thickness of sapwood: from 4 to 8 cm
 Floats: yes
 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.

	<u>Mean</u>	<u>Std dev.</u>
Specific gravity *:	0,69	0,04
Monnin hardness *:	4,2	1,0
Coeff. of volumetric shrinkage:	0,47 %	0,06 %
Total tangential shrinkage (TS):	7,2 %	0,9 %
Total radial shrinkage (RS):	5,0 %	0,6 %
TS/RS ratio:	1,4	
Fiber saturation point:	29 %	
Stability:	moderately stable	

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	62 MPa	7 MPa
Static bending strength *:	102 MPa	11 MPa
Modulus of elasticity *:	13960 MPa	2403 MPa

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

Musical quality factor: 109,4 measured at 2656 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 3 - moderately durable

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

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

Treatability (according to E.N. standards): class 3 - poorly permeable

Use class ensured by natural durability: class 2 - inside or under cover (dampness possible)

Species covering the use class 5: No

Note: This species is listed in the European standard NF EN 350-2.

REQUIREMENT OF A PRESERVATIVE TREATMENT

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

In case of risk of temporary humidification: requires appropriate preservative treatment

In case of risk of permanent humidification: use not recommended

DRYING

Drying rate: normal
 Risk of distortion: high risk
 Risk of casehardening: no
 Risk of checking: slight risk
 Risk of collapse: no

Possible drying schedule: 1

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
Green	40	37	82
40	44	38	68
30	44	36	59
20	46	36	52
15	49	37	46

Note: Quartersawn drying is slower.

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: Log turning sawing recommended (internal stresses). Tendency to tearing in planing (interlocked grain). Sanding requires care.

ASSEMBLING

Nailing / screwing: good

Gluing: correct

Note: Gluing must be done with care: it may stain wood.

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

Sliced veneer

Current furniture or furniture components

Interior joinery

Veneer for interior of plywood

Flooring

Ship building (planking and deck)

Cabinetwork (high class furniture)

Exterior joinery

Interior panelling

Veneer for back or face of plywood

Stairs (inside)

Light carpentry

Note: Light and regular interlocked grain: appreciated for slicing. Highly interlocked grain: troublesome for some end-uses.

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Angola	UNDIANUNO	Cameroon	ASSIE
Cameroon	SAPELLI	Congo	UNDIANUNO
Ivory Coast	ABOUDIKRO	Gabon	UNDIANUNO
Ghana	PENKWA	Ghana	SAPELEWOOD
Nigeria	SAPELE	Uganda	MUYOVU
Central African Republic	M' BOYO	Democratic Republic of the Congo	LIFAKI
Germany	SAPELLI-MAHOGANY	United Kingdom	SAPELE

