

Family: FABACEAE-CAESALPINIOIDEAE (angiosperm)

Scientific name(s): Guibourtia ehie

Commercial restriction: no commercial restriction

## WOOD DESCRIPTION

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

Note: Wood yellow brown to dark brown, with grey to blackish veins and copper glints. Moiré aspect on quartersawn. White deposits.

## LOG DESCRIPTION

Diameter: from 60 to 75 cm  
 Thickness of sapwood: from 4 to 7 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 *:	0.82	0.05
Monnin hardness *:	7.5	2.3
Coeff. of volumetric shrinkage:	0.57 %	0.12 %
Total tangential shrinkage (TS):	8.0 %	1.2 %
Total radial shrinkage (RS):	3.9 %	0.7 %
TS/RS ratio:	2.1	
Fiber saturation point:	24 %	
Stability:	moderately stable	

## MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	69 MPa	9 MPa
Static bending strength *:	127 MPa	16 MPa
Modulus of elasticity *:	21470 MPa	2781 MPa
(*: at 12% moisture content, with 1 MPa = 1 N/mm <sup>2</sup> )		
Musical quality factor:	109.8 measured at 2875 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

Fungi (according to E.N. standards): class 2 - durable

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

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

Treatability (according to E.N. standards): class 3 - poorly 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: use not recommended

## DRYING

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

Possible drying schedule: 6

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
Green	42	41	94
50	48	43	74
30	54	46	63
20	60	51	62
15	60	51	62

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: good  
 Note: Requires power. Some difficulties due to interlocked grain. Sometimes white efflorescence on sawnwoods; a wash with warm water can remove it.

## ASSEMBLING

Nailing / screwing: good but pre-boring necessary  
 Gluing: correct  
 Note: Pre-boring recommended due to hardness.

## 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 : 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

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

## MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Cameroon	MBAGNA	Ivory Coast	AMAZAKOUE
Ghana	ANOKYE	Ghana	HYEDUA
Ghana	HYEDUANINI	Gabon	OVANGKOL
Equatorial Guinea	PALISSANDRO	Nigeria	GUIBOURTIA
Nigeria	KALUK AFUON	United States of America	MOZAMBIQUE



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