

Family: MELIACEAE (angiosperm)

Scientific name(s): Khaya anthotheca
 Khaya ivorensis
 Khaya grandifoliola

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown
 Sapwood: clearly demarcated
 Texture: medium
 Grain: interlocked
 Interlocked grain: slight
 Note: Sometimes, presence of tension wood and brittleheart.
 Wood pink brown to deep red with copper reflection.

LOG DESCRIPTION

Diameter: from 80 to 120 cm
 Thickness of sapwood: from 3 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.

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Specific gravity *:	0.57	0.08
Monnin hardness *:	2.5	0.4
Coeff. of volumetric shrinkage:	0.39 %	0.03 %
Total tangential shrinkage (TS):	5.5 %	0.5 %
Total radial shrinkage (RS):	3.7 %	0.8 %
TS/RS ratio:	1.5	
Fiber saturation point:	28 %	

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	46 MPa	7 MPa
Static bending strength *:	77 MPa	13 MPa
Modulus of elasticity *:	11820 MPa	1261 MPa

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

Stability: moderately stable

Musical quality factor: 110.9 measured at 2646 Hz

Note: K. grandifoliola is fairly hard. Physical and mechanical properties of K. ivorensis are lower than other species.

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

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

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

The AFRICAN MAHOGANY cannot be used without appropriate preservative treatment for end-uses under use class 3, except for some parts of a work such as windows, less exposed than others (entrance doors, shutters ...).

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: rapid	Possible drying schedule: 2			
Risk of distortion: slight risk		Temperature (°C)		
Risk of casehardening: no	M.C. (%)	dry-bulb	wet-bulb	Air humidity (%)
Risk of checking: slight risk	Green	50	47	84
Risk of collapse: no	40	50	45	75
	30	55	47	67
Note: Risks of distortion may increase in presence of tension wood or interlocked grain occasionally high.	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: Tendency to woolliness (tension wood) in sawing. Risks of tearing (interlocked grain) in planing. Ribbon like aspect on quartersawn.

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 : 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 panelling
Ship building (planking and deck)	Open boats
Veneer for back or face of plywood	Exterior joinery
Interior joinery	Exterior panelling
Light carpentry	

Note: Pores sometimes filled with black deposits. Sawdust may cause irritation. Filling is recommended to obtain a better finish.

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Angola	N'DOLA	Angola	UNDIA NUNU
Benin	KAJU	Cameroon	MANGONA
Cameroon	N'GOLLON	Congo	N'DOLA
Ivory Coast	ACAJOU BASSAM	Ivory Coast	ACAJOU BLANC
Ivory Coast	KRALA	Gabon	ZAMINGUILA
Ghana	AFRICAN MAHOGANY	Ghana	AHAFO
Ghana	TAKORADI MAHOGANY	Equatorial Guinea	CAOBA DEL GALON
Equatorial Guinea	ZAMANGUILA	Nigeria	AKUK
Nigeria	OGWANGO	Uganda	ERI KIRE
Uganda	MUNYAMA	Central African Republic	DEKE
Germany	KHAYA MAHOGANI	France	ACAJOU BASSAM
France	ACAJOU BLANC	United Kingdom	HEAVY AFRICAN MAHOGANY
United Kingdom	AFRICAN MAHOGANY		



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