

Family: MELIACEAE (angiosperm)

Scientific name(s): Entandrophragma angolense

Entandrophragma congoense

Entandrophragma excelsum

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown
 Sapwood: clearly demarcated
 Texture: medium
 Grain: interlocked
 Interlocked grain: marked
 Note: Wood red to dark brown, with golden shades.

LOG DESCRIPTION

Diameter: from 80 to 120 cm
 Thickness of sapwood: from 6 to 10 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 *:	0.55	0.05
Monnin hardness *:	2.2	0.5
Coeff. of volumetric shrinkage:	0.41 %	0.07 %
Total tangential shrinkage (TS):	8.0 %	1.0 %
Total radial shrinkage (RS):	4.6 %	1.0 %
TS/RS ratio:	1.7	
Fiber saturation point:	32 %	
Stability:	moderately stable to stable	

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	47 MPa	6 MPa
Static bending strength *:	80 MPa	12 MPa
Modulus of elasticity *:	10980 MPa	1148 MPa
(*: at 12% moisture content, with 1 MPa = 1 N/mm ²)		
Musical quality factor:	93.7 measured at 2865 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: 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.

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: high 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: Drying requires care in presence of highly interlocked grain in order to avoid distortions.

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: In planing, if the grain is highly interlocked, a 15° cutting angle is necessary to avoid tearing. Tends to burn in mortising.

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

Sliced veneer
 Veneer for back or face of plywood
 Interior joinery
 Exterior panelling
 Stairs (inside)
 Ship building (planking and deck)

Cabinetwork (high class furniture)
 Exterior joinery
 Interior panelling
 Flooring
 Current furniture or furniture components
 Light carpentry

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Angola	ACUMINATA	Angola	LIVUITE
Cameroon	ABEBA	Congo	KILULA
Ivory Coast	TIAMA	Gabon	ABEUBEGNE
Ghana	EDINAM	Equatorial Guinea	DONGOMANGUILA
Nigeria	GEDU NOHOR	Uganda	MUKUSU
Central African Republic	KANGA	Democratic Republic of the Congo	LIFAKI
Democratic Republic of the Congo	VOVO	Germany	ACUMINATA
Germany	TIAMA MAHOGANI	United Kingdom	GEDU NOHOR



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