

EDINAM (TIAMA)



Family: MELIACEAE (angiosperm)
Scientific name(s): *Entandrophagma angolense*
Entandrophagma congoense
Entandrophagma excelsum
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

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

LOG DESCRIPTION

Diameter: 31.5 – 47.2 inches
Thickness of Sapwood: 2.3 – 3.9 inches
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
Janka Hardness (lbs):	940	
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 poorly stable	

MECHANICAL/ACOUSTIC

	<u>Mean</u>
Crushing Strength*:	6,816 lbf
Static Bending Strength*:	11,603 lbf
Modulus of Elasticity*:	1,592,514 lbf
Musical Quality Factor:	93.7 measured at 2865 Hz

**At 12% moisture content.*

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

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DRYING

Drying Rate: normal
Risk of Distortion: high risk
Risk of Casehardening: no
Risk of Checking: high risk
Risk of Collapse: no
Note: Drying requires care in presence of highly interlocked grain in order to avoid distortions.

M.C. (%)	Temperature (°F)		
	Dry-Bulb	Wet-Bulb	Air Humidity (%)
Green	104	98.6	82
40	111.2	100.4	68
30	111.2	96.8	59
20	114.8	96.8	52
15	120.2	98.6	46

This schedule is given for information only and is applicable to thickness lower or equal to 1.5 in. It must be used in compliance with the code of practice. For thickness from 1.5 to 3 in, the air relative humidity should be increased by 5% at each step. For thickness over 3 in, 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: When planing, if the grain is highly interlocked, a 15 degree cutting angle is necessary to avoid tearing. Tends to burn in mortising.

ASSEMBLING

Nailing / screwing: good
Gluing: correct

END-USES

Sliced veneer
Veneer for back or face of plywood
Interior joinery
Exterior paneling
Stairs (inside)
Ship building (planking and deck)
Cabinetwork (high class furniture)
Exterior joinery
Interior paneling
Flooring
Current furniture or furniture components
Light carpentry

MAIN LOCAL NAMES

Country	Local Name
Cameroon	Abeba
Ivory Coast	Tiama
Ghana	Edinam
Dem. Rep. of the Congo	Vovo Lifaki
Congo	Kilula
Central African Republic	Kanga
Germany	Tiama Mahogani, Acuminata
Uganda	Mukusu
Gabon	Abeubegne
Nigeria	Gedu Nohor
Angola	Livuite, Acuminata

Note: Excellent substitute for African Mahogany and Sapele

Works Cited:

CIRAD'S Biomass, Wood, Energy, Bioproducts Research Unit (BioWooEB)
Meier, E. (2015), Wood, United States of America