

## Utile

Family. Meliaceae

Botanical Name(s).

*Entandrophragma utile*

Continent. Africa

CITES. This species is not listed in the CITES Appendices (Washington Convention 2023).

### Description of logs

Diameter. From 60 to 120 cm

Thickness of sapwood. From 2 to 6 cm

Floats. Yes

Log durability. Moderate (treatment recommended)

### Description of wood

Colour reference. Red brown

Sapwood. Clearly demarcated

Texture. Medium

Grain. Interlocked

Interlocked grain. Slight

Notes. Some logs are not floatable. Wood pinkish brown to red brown slightly purplish, with moiré shades. Ribbon like aspect on quartersawn. Irregular grain.

### Physics and mechanics

The properties indicated are for mature wood. These properties may vary significantly depending on the origin and growing conditions of the wood.

Property	Average value
Specific gravity <sup>1</sup>	0.62
Monnin hardness <sup>1</sup>	3.0
Coefficient of volumetric shrinkage	0.42 % per %
Total tangential shrinkage (St)	6.4 %
Total radial shrinkage (Sr)	4.6 %
Ratio St/Sr	1.4
Fibre saturation point	30 %
Thermal conductivity ( $\lambda$ )	0.21 W/(m.K)
Lower heating value	18,290 kJ/kg
Crushing strength <sup>1</sup>	56 MPa
Static bending strength <sup>1</sup>	91 MPa
Modulus of elasticity <sup>1</sup>	13,240 MPa

<sup>1</sup> At 12 % moisture content, with 1 MPa = 1 N/mm

Notes. Hardness varies from soft to fairly hard.



Quarter sawn



Flat sawn

## Natural durability and preservation

Resistance to fungi. Class 2 to 3 - durable to moderately durable

Resistance to dry wood borers. Class D - durable (sapwood demarcated, risk limited to sapwood)

Resistance to termites. Class M - moderately durable

Treatability. Class 4 - not permeable

Use class ensured by natural durability.

Class 3 - not in ground contact, outside

Notes. This species is listed in the European standard NF EN 350 (2016). The French standard NF P 23-305 (December 2014) indicates that this species covers the use class 3.2 for untreated heartwood.

## Requirement of a preservative treatment

Against dry wood borer. Does not require any preservative treatment

In case of temporary humidification. Requires appropriate preservative treatment

In case of permanent humidification. Use not recommended

## Drying

Drying rate. Normal

Risk of distorsion. Slight risk

Risk of casehardening. No known specific risk

Risk of checking. Slight risk

Risk of collapse. No known specific risk

Notes. The risks of distortion increase in presence of highly interlocked grain especially during kiln drying. Original shakes tend to extend.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
<b>Prewarm 1</b>		> 50	50	86	16.5
<b>Prewarm 2</b>	3	> 50	52	85	16.0
<b>Drying</b>		> 50	55	82	14.7
		50 - 40	55	80.0	13.8
		40 - 35	55	75.0	12.6
		35 - 30	56	73.0	12.0
		30 - 27	58	67.0	10.5
		27 - 24	60	58.0	8.9
		24 - 21	62	50.0	7.5
		21 - 18	64	45.0	6.8
		18 - 15	65	37.0	5.7
		15 - 12	65	34.0	5.3
		12 - 9	65	28.0	4.5
		9 - 6	65	24.0	4.0
<b>Conditioning</b>	6		58	(3)	(2)
<b>Cooling</b>	(1)		Stop	(3)	(2)

(1) ) Cooling: until the temperature inside the kiln no longer exceeds external temperature by more than 30 °C.

(2) UGL = final H% x 0,8 to 0,9.

(3) Subtract RH from the UGL determined in (2) and temperature, using the Hailwood-Horrobin equation.

## Sawing and machining

Blunting effect. Normal

Sawteeth recommended. Ordinary or alloy steel

Cutting tools. Ordinary

Peeling. Good

Slicing. Good

Notes. Tendency to tearing due to interlocked grain.

## Assembling

Nailing and screwing. Good

Notes. Wood fairly acid: risks of stain when gluing.

## Commercial grading

Appearance grading for sawn timbers.

According to the ATIBT grading rules (2017), the main choices are: FAS (First And Second), n°1 Common and select, n°2 Common (see details of these rules on the ATIBT website).

Visual grading for structural applications

No visual grading for structural applications

## 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+A1 (August 2019). It concerns structural graded timber in vertical uses and ceiling with mean density upper 0.35 and thickness upper 22 mm.

## End-uses

- Cabinetwork (high class furniture)
- Current furniture or furniture components
- Exterior joinery
- Flooring
- Glued laminated
- Indoor staircases
- Interior joinery
- Interior panelling
- Light carpentry
- Moulding
- Open boats
- Rolling shutters
- Sliced veneer
- Veneer for back or face of plywood

Notes. Filling is recommended in order to obtain a better finish.



Half turning suspended staircase - Argelès/Mer (France)

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### Main local names

Country	Local name
Angola	Kalungi
Cameroon	Asseng-assié
Central African Republic	Bokoi
Congo	Kalungi
Côte d'Ivoire	Sipo
Democratic Republic of the Congo	Kalungi
Democratic Republic of the Congo	Liboyo
Equatorial Guinea	Abebay
Gabon	Assi
Germany (importated tropical timber)	Sipo-mahogany
Ghana	Utile
Nigeria	Utile
Uganda	Mufumbi
United Kingdom (importated tropical timber)	Utile