

## Etimoe

**Family.** Leguminosae (Caesalpiniaceae)

**Botanical Name(s).**

*Copaifera mildbraedii*

*Copaifera salikounda*

*Copaifera p.p.*

**Continent.** Africa

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

### Description of logs

**Diameter.** From 80 to 120 cm

**Thickness of sapwood.** From 5 to 10 cm

**Floats.** No

**Log durability.** Moderate (treatment recommended)

### Description of wood

**Colour reference.** Red brown

**Sapwood.** Clearly demarcated

**Texture.** Medium

**Grain.** Straight or interlocked

**Interlocked grain.** Slight

**Notes.** Logs are almost floatable. Presence of resin. Wood often moiré.

### 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>	0.71
Monnin hardness <sup>1</sup>	5.0
Coefficient of volumetric shrinkage	0.53 % per %
Total tangential shrinkage (St)	7.5 %
Total radial shrinkage (Sr)	4.5 %
Ratio St/Sr	1.7
Fibre saturation point	26 %
Thermal conductivity (λ)	0.24 W/(m.K)
Lower heating value	
Crushing strength <sup>1</sup>	68 MPa
Static bending strength <sup>1</sup>	115 MPa
Modulus of elasticity <sup>1</sup>	14,560 MPa

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

**Notes.** *C. mildbraedii* seems to have lower properties than *C. salikounda*.



Quarter sawn



Flat sawn

### Natural durability and preservation

Resistance to fungi. Class 3 - 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 3 - poorly permeable

Use class ensured by natural durability.

Class 2 - inside or under cover (dampness possible)

### 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.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
<b>Prewarm 1</b>		> 50	50	87	17.0
<b>Prewarm 2</b>	4	> 50	50	86	16.5
<b>Drying</b>		> 50	53	85	15.7
		50 - 40	53	82.0	14.6
		40 - 35	54	78.0	13.4
		35 - 30	55	77.0	12.9
		30 - 27	57	73.0	11.9
		27 - 24	58	68.0	10.7
		24 - 21	60	61.0	9.3
		21 - 18	62	52.0	7.9
		18 - 15	64	43.0	6.6
		15 - 12	65	39.0	6.0
		12 - 9	65	31.0	5.0
		9 - 6	65	28.0	4.5
<b>Conditioning</b>	8		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. Sometimes, resin may clog tools .

## Assembling

Nailing and screwing. Good

## 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
- Exterior panelling
- Flooring
- Glued laminated
- Indoor staircases
- Interior joinery
- Interior panelling
- Light carpentry
- Moulding
- Shingles
- Sliced veneer
- Veneer for back or face of plywood
- Veneer for interior of plywood
- Wood frame house

## Main local names

Country	Local name
Benin	Akpafo
Cameroon	Essak
Central African Republic	Bilombi
Central African Republic	Yama
Congo	Yama
Côte d'Ivoire	Étimoé

Democratic Republic of the Congo

Gabon

Ghana

Nigeria

Bofélélé

Andem-éviné

Entedua

Ovbialeke