

Copaiba

Family. Leguminosae (Caesalpiniaceae)

Botanical Name(s).

Copaifera duckei
Copaifera martii
Copaifera multijuga
Copaifera officinalis
Copaifera reticulata
Copaifera p.p.

Continent. Latin America

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

Notes. Other species are commercialized under the name COPAIBA.

Description of logs

Diameter. From 45 to 80 cm

Thickness of sapwood. From 2 to 3 cm

Floats. Yes

Log durability. Low (treatment necessary)

Description of wood

Colour reference. Red brown

Sapwood. Clearly demarcated

Texture. Medium

Grain. Straight or interlocked

Interlocked grain. Slight

Notes. Heartwood varies from pink to red brown with copper-coloured veins. Resin exudation. Grain sometimes wavy.

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 ¹	0.50
Monnin hardness ¹	2.6
Coefficient of volumetric shrinkage	0.40 % per %
Total tangential shrinkage (St)	5.9 %
Total radial shrinkage (Sr)	3.1 %
Ratio St/Sr	1.9
Fibre saturation point	26 %
Thermal conductivity (λ)	0.18 W/(m.K)
Lower heating value	19,030 kJ/kg
Crushing strength ¹	38 MPa
Static bending strength ¹	85 MPa



Quarter sawn



Flat sawn

Modulus of elasticity ¹	12,450 MPa
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¹ At 12 % moisture content, with 1 MPa = 1 N/mm

Natural durability and preservation

Resistance to fungi. Class 5 - not durable

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

Resistance to termites. Class S - susceptible

Treatability. Class 3 - poorly permeable

Use class ensured by natural durability.

Class 1 - inside (no dampness)

Requirement of a preservative treatment

Against dry wood borer. Does not require any preservative treatment

In case of temporary humidification. Use not recommended

In case of permanent humidification. Use not recommended

Drying

Drying rate. Rapid

Risk of distorsion. No risk or very slight risk

Risk of casehardening. Yes

Risk of checking. No risk or very slight risk

Risk of collapse. No known specific risk

Notes.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	50	86	16.5
Prewarm 2	3	> 50	52	85	16.0
Drying		> 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
Conditioning	6		58	(3)	(2)
Cooling	(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. Fuzzy surface. Keep sharp tools.

Assembling

Nailing and screwing. Poor

Notes. Variable nails holding according to the species.

Commercial grading

Appearance grading for sawn timbers.

According to ATIBT grading rules, possible grade: FAS (First And Second), n°1 Common and select, n°2 Common

Visual grading for structural applications

According to French standard NF B 52-001-1 (2018), strength class D24 can be provided by visual grading.

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

- Blockboard
- Boxes and crates
- Current furniture or furniture components
- Fiber or particle boards
- Flooring
- Formwork
- Interior joinery
- Interior panelling
- Light carpentry
- Moulding
- Seats
- Sliced veneer
- Turned goods
- Veneer for back or face of plywood
- Veneer for interior of plywood

Main local names

Country	Local name
Belize	Copaiba
Bolivia	Copaibo
Brazil	Copaiba
Brazil	Pau-d'oleo
Colombia	Canime
French Guiana	Panchimouti
Guyana	Balsam
Guyana	Maram
Panama	Caniva
Panama	Cupay
Peru	Copaiba
Suriname	Hoepelhout
Suriname	Koepajoewa
Venezuela	Aceite
Venezuela	Cabimo