

Crabwood

Family. Meliaceae

Botanical Name(s).

Carapa guianensis

Carapa nicaraguensis (synonymous)

Carapa procera

Carapa p.p.

Continent. Latin America

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

Notes. *Carapa procera* may be found in Africa.

Description of logs

Diameter. From 50 to 80 cm

Thickness of sapwood. From 3 to 5 cm

Floats. No

Log durability. Moderate (treatment recommended)

Description of wood

Colour reference. Red brown

Sapwood. Not clearly demarcated

Texture. Medium

Grain. Straight or interlocked

Interlocked grain. Slight

Notes. Buoyancy is variable: ANDIROBA BRANCA (varzea) floats, ANDIROBA VERMELHA (terra firme) does not float.

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	0.67
Monnin hardness ¹	3.5
Coefficient of volumetric shrinkage	0.55 % per %
Total tangential shrinkage (St)	7.7 %
Total radial shrinkage (Sr)	4.8 %
Ratio St/Sr	1.6
Fibre saturation point	27 %
Thermal conductivity (λ)	0.22 W/(m.K)
Lower heating value	18,700 kJ/kg
Crushing strength ¹	59 MPa
Static bending strength ¹	102 MPa
Modulus of elasticity ¹	14,530 MPa

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



Quarter sawn



Flat sawn

Natural durability and preservation

Resistance to fungi. Class 3 to 4 - moderately to poorly durable

Resistance to dry wood borers. Class S - susceptible (risk in all the wood)

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)

Notes. This species is listed in the European standard NF EN 350 (2016).

Requirement of a preservative treatment

Against dry wood borer. Requires appropriate preservative treatment

In case of temporary humidification. Requires appropriate preservative treatment

In case of permanent humidification. Use not recommended

Drying

Drying rate. Normal to slow

Risk of distorsion. Slight risk

Risk of casehardening. No known specific risk

Risk of checking. High risk

Risk of collapse. Yes

Notes. Low temperature and high humidity are recommended during drying.

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. Some difficulties in planing in presence of interlocked grain.

Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. Tends to split when nailing.

Commercial grading

Appearance grading for sawn timbers.

According to NHLA grading rules (2015) Possible grading: FAS, Select, Common 1, Common 2, Common 3 In French Guiana, the local name of this species is "Carapa". Grading is done according to local rules "Bois guyanais classés". Possible grading: choix 1, choix 2, choix 3, choix 4

Visual grading for structural applications

According to French standard NF B 52-001-1 (2018), strength class D35 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

- Boxes and crates
- 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
- Seats
- Shingles
- Ship building (planking and deck)
- Sliced veneer
- Turned goods
- Veneer for back or face of plywood

Notes. Generally used as substitute for MAHOGANY (*Swietenia spp.*).



Staircase in Carapa for the Yawapa carbet (traditional gazebo-like structure) – Designed by Laurent Pilaoukou (French Guiana).

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Main local names

Country	Local name
Brazil	Andiroba
Brazil	Andiroba branca
Brazil	Andirobeira
Brazil	Carapa
Colombia	Masabalo
Costa Rica	Cedro bateo
Costa Rica	Cedro macho
Ecuador	Figueroa
Ecuador	Tangare
French Guiana	Carapa
Guyana	Crabwood
Honduras	Bastard mahogany
Panama	Cedro bateo
Paraguay	Andiroba
Peru	Andiroba
Suriname	Krappa
Trinidad and Tobago	Crappo
Venezuela	Carapa
Venezuela	Masabalo