

Wamara

Family. Leguminosae (Caesalpiniaceae)

Botanical Name(s).

Swartzia leiocalycina

Swartzia panacoco

Swartzia tomentosa

Swartzia p.p.

Continent. Latin America

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

Notes. CORAÇÃO DE NEGRO includes all the species with black heart belonging to the genus *Swartzia* in South America.

Description of logs

Diameter. From 40 to 60 cm

Thickness of sapwood. From 3 to 8 cm

Floats. No

Log durability. Good

Description of wood

Colour reference. Dark brown

Sapwood. Clearly demarcated

Texture. Medium

Grain. Straight or interlocked

Interlocked grain. Slight

Notes. Logs have a small diameter with a wide light yellow sapwood. Heartwood deep dark brown with lighter thin streaks.

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	1.20
Monnin hardness ¹	18.4
Coefficient of volumetric shrinkage	0.82 % per %
Total tangential shrinkage (St)	8.3 %
Total radial shrinkage (Sr)	6.3 %
Ratio St/Sr	1.3
Fibre saturation point	23 %
Thermal conductivity (λ)	0.38 W/(m.K)
Lower heating value	19,220 kJ/kg
Crushing strength ¹	110 MPa
Static bending strength ¹	202 MPa



Quarter sawn



Flat sawn

Modulus of elasticity ¹	32,700 MPa
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¹ At 12 % moisture content, with 1 MPa = 1 N/mm

Natural durability and preservation

Resistance to fungi. Class 1 - very durable

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

Resistance to termites. Class D - durable

Treatability. Class 4 - not permeable

Use class ensured by natural durability.

Class 4 - in ground or fresh water contact

Notes. According to the European standard NF EN 335 (2013), performance length might be modified by the intensity of end-use exposition.

Requirement of a preservative treatment

Against dry wood borer. Does not require any preservative treatment

In case of temporary humidification. Does not require any preservative treatment

In case of permanent humidification. Does not require any preservative treatment

Drying

Drying rate. Slow

Risk of distorsion. Slight risk

Risk of casehardening. No known specific risk

Risk of checking. High risk

Risk of collapse. No known specific risk

Notes. Drying must be done slowly and carefully.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	40	86	17.0
Prewarm 2	4	> 50	43	85	16.5
Drying		> 50	45	83	15.7
		50 - 40	45	80.0	14.6
		40 - 35	45	77.0	13.8
		35 - 30	45	74.0	12.9
		30 - 27	47	69.0	11.5
		27 - 24	49	61.0	9.9
		24 - 21	50	52.0	8.4
		21 - 18	53	48.0	7.7
		18 - 15	56	41.0	6.6
		15 - 12	59	36.0	5.9
		12 - 9	61	30.0	5.0
		9 - 6	65	29.0	4.7
Conditioning	8		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. Fairly high

Sawteeth recommended. Stellite-tipped

Cutting tools. Tungsten carbide

Peeling. Not recommended or without interest

Slicing. Good

Notes. Requires power. Difficulties due to hardness.

Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. Very high specific gravity: gluing must be especially performed in compliance with the code of practice.

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

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

- Arched goods
- Cabinetwork (high class furniture)
- Current furniture or furniture components
- Flooring
- Interior panelling
- Musical instruments
- Sculpture
- Sliced veneer
- Stringed instruments (bow)
- Turned goods
- Wind instruments
- Wood-ware

Notes. Similar to EBONY (*Diospyros* spp.). End-uses are limited by the small size of logs.

Main local names**Country**

Brazil
Brazil
Brazil
French Guiana
French Guiana
French Guiana
Germany (importated tropical timber)
Guyana
Guyana
Guyana
Suriname
Suriname
Suriname
United Kingdom (importated tropical timber)
United Kingdom (importated tropical timber)

Local name

Carrapatinho
Coração de negro
Gombeira
Bois perdrix
Ferreol
Panacoco
Wamara
Agui
Banya
Wamara
Gandoe
Ijzerhart
Zwart parelhout
Ironwood
Wamara