

Cardeiro

Family. Malvaceae

Botanical Name(s).

Scleronema micranthum

Continent. Latin America

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

Description of logs

Diameter. From 50 to 80 cm

Thickness of sapwood. From 5 to 8 cm

Floats. No

Log durability. Low (treatment necessary)

Description of wood

Colour reference. Red brown

Sapwood. Clearly demarcated

Texture. Coarse

Grain. Straight

Interlocked grain. Absent

Notes. Frequent presence of traumatic canals.



Quarter sawn

Half-quarter sawn



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	0.72
Monnin hardness ¹	3.3
Coefficient of volumetric shrinkage	0.67 % per %
Total tangential shrinkage (St)	10.0 %
Total radial shrinkage (Sr)	5.4 %
Ratio St/Sr	1.9
Fibre saturation point	28 %
Thermal conductivity (λ)	0.24 W/(m.K)
Lower heating value	18,920 kJ/kg
Crushing strength ¹	62 MPa
Static bending strength ¹	100 MPa
Modulus of elasticity ¹	19,140 MPa

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. Slow

Risk of distorsion. High risk

Risk of casehardening. Yes

Risk of checking. High risk

Risk of collapse. No known specific risk

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	50	87	17.0
Prewarm 2	4	> 50	50	86	16.5
Drying		> 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
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. Normal

Sawteeth recommended. Ordinary or alloy steel

Cutting tools. Ordinary

Peeling. Good

Slicing. Not recommended or without interest

Assembling

Nailing and screwing. Good

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 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

- Blockboard
- Current furniture or furniture components
- Flooring
- Glued laminated
- Heavy carpentry
- Interior joinery
- Matches
- Moulding
- Veneer for interior of plywood
- Wood frame house

Notes. Decorative end-uses are not recommended due to frequent traumatic canals.

Main local names

Country	Local name
Brazil	Cardeiro
Brazil	Castanha de paca
Brazil	Cedrinho
Brazil	Cedro bravo