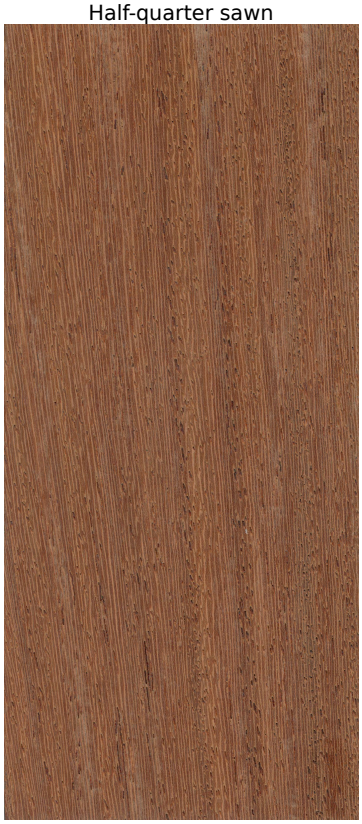
Manchiche

Flat sawn

Half-quarter sawn



Family. Fabaceae

Botanical Name(s).

Lonchocarpus castilloi

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 2 to 5 cm

Floats. No

Log durability. Good

Description of wood

Colour reference. Yellow brown

Sapwood. Clearly demarcated

Texture. Medium to coarse

Grain. Straight to uneven

Interlocked grain. More or less pronounced depending on the origin

Notes. Yellowish-brown to reddish brown. Occasionally with dark streaks. Growth rings visible.

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]	0.91
Monnin hardness[1]	8.0
Coefficient of volumetric shrinkage	0.50 % per %
Total tangential shrinkage (St)	6.2 %
Total radial shrinkage (Sr)	3.4 %
Ratio St/Sr	1.8 %
Fibre saturation point	21
Thermal conductivity (λ)	0.29 W/(m.K)
Lower heating value	19,750 kJ/kg
Crushing strength[1]	77 MPa
Static bending strength[1]	173 MPa
Modulus of elasticity[1]	16,000 MPa

[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. This species covers use class 5 (wood immersed in salt water on a regular or permanent basis).

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. Medium to slow

Risk of distorsion. Slight risk

Risk of casehardening. No known specific risk

Risk of checking. Slight risk

Risk of collapse. No known specific risk

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)		Arrêt	(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. Machining quality impacted by the interlocked grain.

Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. Easy to glue, but only for indoor use.

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 structure

Fire safety

Conventional French grading.

Thickness > 14 mm: M3 (moderately inflammable)

Thickness < 14 mm: M4 (easily inflammable)

Euroclasses grading. D-s2, d0

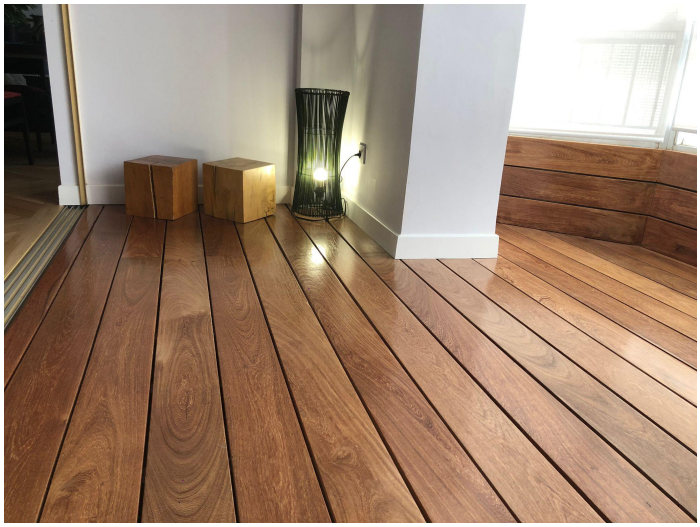
Default grading for solid wood, according to requirements of European standard EN 14081-1+A1 (August 2019).

It concerns structural graded timber in vertical uses and ceiling with mean density upper 0.35 and thickness upper 22 mm.

End-uses

- Bridges (parts in contact with water or ground)
- Bridges (parts not in contact with water or ground)
- Cabinetwork (high class furniture)
- Current furniture or furniture components
- Decking
- Exterior joinery
- Exterior panelling
- Flooring
- Heavy carpentry
- Hydraulic works (seawater)
- Interior joinery
- Interior panelling
- Open boats
- Poles
- Seats
- Shingles
- Ship building (planking and deck)
- Ship building (ribs)
- Sleepers
- Sliced veneer
- Stairs (inside)
- Turned goods
- Vehicle or container flooring
- Wood frame house

Notes. This list presents main known end-uses; they must be implemented according to the code of practice. Important remark: some end-uses are mentioned for information (traditional, regional or ancient end-uses).



Manchiche Deck - Fundación COPADE (© Javier Fernández)

Main local names

Country	Local name
Belize	Cabbage bark
Guatemala	Manchiche
Guatemala	Manchuch
Mexico	Balché
Mexico	Canazin
Mexico	Chacté
Mexico	Chashté
Mexico	Manchiche
Mexico	Matachiche