

Garapa



Scientific Name(s)

Apuleia leiocarpa

Family

FABACEAE-CAESALPINIOIDEAE
(angiosperm)

Commercial Restriction

No commercial restriction

Note: The variety "molaris" is found in the Amazonian forest, mainly in flooded areas. The main species, *Apuleia leiocarpa* is found mainly in the South of Brazil, in the Atlantic coast forests, easily colonizing cleared areas.

Garapa decking showcases a warm, golden hue that brightens up any outdoor space. The wood's colour ranges from light yellow to a deeper golden tone, creating a vibrant and inviting atmosphere.

One of the key characteristics of Garapa decking is its exceptional durability. The wood possesses natural resistance to rot, decay, and insects, making it well-suited for outdoor use and ensuring its longevity. It can withstand heavy foot traffic, furniture, and various weather conditions without compromising its strength. In addition to its durability, Garapa decking offers excellent dimensional stability. It resists warping, cupping, and twisting, even when exposed to changes in temperature and humidity.

This stability ensures a level and structurally sound deck that maintains its integrity over time.

Garapa wood is relatively low maintenance, requiring occasional cleaning to keep it looking its best. It can be left untreated, allowing it to naturally weather to a silver-grey patina over time. However, applying a protective finish can help maintain the wood's golden colour and protect it from UV rays, minimizing fading. Overall, Garapa decking provides a combination of durability, natural beauty, and a warm golden colour.

Wood Description

Color: yellow

Sapwood: clearly demarcated

Texture: medium

Grain: straight or interlocked

Interlocked grain: marked

Note: Lemon-yellow becoming light brown with age. Slight ribbon like aspect, a bit moiré. Irregular interlocked grain.

Log Description

Diameter: from 60 to 90cm

Thickness of sapwood: from 5 to 11cm

Floats: no

Log durability: good



Physical, Mechanical and Acoustic Properties

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

Stability: moderately stable to stable

Musical quality factor: 133,7 measured at 2403 Hz

(*: at 12% moisture content, with 1 MPa = 1 N/mm²)

	Mean	Std dev.
Specific gravity *:	0,79	0,06
Monnin hardness *:	6,7	1,8
Coeff. of volumetric shrinkage:	0,52%	0,05%
Total tangential shrinkage (TS):	7,50%	1,40%
Total radial shrinkage (RS):	4,20%	0,90%
TS/RS ratio:	1,8	-
Fiber saturation point:	22%	-
Crushing strength *:	63MPa	8MPa
Static bending strength *:	116MPa	21MPa
Modulus of elasticity *:	15880MPa	1850MPa

Requirement of a Preservative Treatment

Against dry wood borer attacks: does not require any preservative treatment

In case of risk of temporary humidification: equires appropriate preservative treatment

In case of risk of permanent humidification: use not recommended

Natural Durability and Treatability

Fungi and termite resistance refers to end-uses under temperate climate. Except for special comments on sapwood, natural durability is based on mature heartwood. Sapwood must always be considered as non-durable against wood degrading agents.

E.N. = Euro Norm

Funghi (according to E.N. standards): class 3

- moderately durable

Dry wood borers: durable - sapwood demarcated (risk limited to sapwood)

Termites (according to E.N. standards): class M
- moderately durable

Treatability (according to E.N. standards): class 3

- poorly permeable

Use class ensured by natural durability: class 2

- inside or under cover (dampness possible)

Species covering the use class 5: yes

Note: The natural durability of Grapia is very variable. In some cases, this variability can be observed inside the same piece of wood. This species cannot be used without appropriate preservative treatment for end-uses under use class 3 except for some parts of a work such as windows, less exposed than others (entrance doors, shutters, ...).

This species naturally covers the use class 5 (end-uses in marine environment or in brackish water) due to its high silica content. However, it is not recommended to use it in case of strong structural constraints due to its medium mechanical properties; it is most suitable for end-uses like shipbuilding.

Drying

Drying rate: slow

Risk of distortion: slight risk

Risk of casehardening: no

Risk of checking: slight risk

Risk of collapse: no

Possible drying schedule: 2

This schedule is given for information only and is applicable to thickness lower or equal to 38 mm. It must be used in compliance with the code of practice. For thickness from 38 to 75 mm, the air relative humidity should be increased by 5 % at each step. For thickness over 75 mm, a 10 % increase should be considered.

M.C. (%)	Temperature (°C)		
	Dry-bulb	Wet-bulb	Air humidity (%)
Green	50	47	84
40	50	45	75
30	55	47	67
20	70	55	47
15	75	58	44

Sawing And Machining

Blunting effect: high

Sawteeth recommended: stellite-tipped

Cutting tools: tungsten carbide

Peeling: not recommended or without interest

Slicing: not recommended or without interest

Note: Slicing is very difficult due to the high silica content. In machining, due to the irregular interlocked grain, it is recommended to reduce the feed rate and the cutting angle.

Commercial Grading

Appearance grading for sawn timbers:

- According to NHLA grading rules (January 2007)

- **Possible grading:** FAS, Select, Common 1, Common 2, Common 3

End-uses

- Exterior joinery
- Heavy carpentry
- Ship building (ribs)
- Turned goods
- Wood frame house
- Industrial or heavy flooring
- Ship building
- Vehicle or container flooring
- Tool handles (resilient woods)
- Boxes and crates
- Light carpentry
- Hydraulic works (seawater)
- Cooperage
- Current furniture or furniture components
- Flooring
- Interior joinery
- Stairs (inside)
- Cabinetwork (high class furniture)
- Formwork
- Wood-ware

Note: Finishing is easy but filling is recommended.

Assembling

Nailing / screwing: good but pre-boring necessary

Gluing: correct

Fire Safety

Conventional French grading:

- **Thickness > 14 mm :** M.3 (moderately inflammable)

- **Thickness < 14 mm :** M.4 (easily inflammable)

Euroclasses grading: D s2 d0

Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

Main Local Names

Country	Local Name
Argentina	Ibira Pera
Bolivia	Amarillo
Brazil	Barajuba
Brazil	Garapa
Brazil	Grapia
Brazil	Muirajuba
Colombia	Cobre
Paraguay	Vvira-Pere
Venezuela	Gateado
Argentina	Ibira Pera
Bolivia	Amarillo
Brazil	Barajuba
Brazil	Garapa
Brazil	Grapia
Brazil	Muirajuba
Colombia	Cobre
Paraguay	Vvira-Pere
Venezuela	Gateado