

Common name: ANGELIM VERMELHO

Family: MIMOSACEAE

Scientific name(s): Dinizia excelsa

LOG DESCRIPTION

Diameter: from 65 to 120 cm
Thickness of sapwood: from 5 to 10 cm
Floats: no
Durability in forest : Good

WOOD DESCRIPTION

Colour: Red brown
Sapwood: Clearly demarcated
Texture: Medium
Grain: Straight or interlocked
Interlocked grain: Slight

Note: Hollow tree very common. Unpleasant odour when green or rewetted.

PHYSICAL PROPERTIES

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

MECHANICAL PROPERTIES

	mean	standard deviation		mean	standard deviation
Density *:	1.07 g/cm ³	0.06			
Monnin hardness*:	17.1	1.9	Crushing strength *:	89 MPa	2
Coef of volumetric shrinkage:	0.68 %	0.02	Static bending strength *:	160 MPa	10
Total tangential shrinkage:	8.5 %	0.4	Modulus of elasticity *:	26280 MPa	2220
Total radial shrinkage:	5.1 %	0.4			
Fibre saturation point:	23 %				
Stability:	Moderately stable to poorly stable (* : at 12 % moisture content ; 1 MPa = 1 N/mm ²)				

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.

Fungi: Class 1 - very durable
Dry wood borers: Durable; sapwood demarcated (risk limited to sapwood)
Termites: Class D - Durable
Treatability: 4 - not permeable
Use class*: 4 - in ground or fresh water contact

* ensured by natural durability (according EN standards).

Note: This species naturally covers the use class 5 (end-uses in marine environment or in brackish water) due to its high specific gravity and its hardness.
According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition.

MAIN LOCAL NAMES

Countries	Local names
Brazil	GURUPA
Brazil (Amazon)	ANGELIM FALSO
Brazil (Amazon)	ANGELIM FERRO
Brazil (Amazon)	ANGELIM PEDRA
Brazil (Amazon)	ANGELIM VERMELHO
Brazil (Amazon)	FAVEIRA GRANDE
Brazil (Amazon)	FAVEIRA PRETA
Guyana	PARAKWA

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks:	Does not require any preservative treatment
In case of temporary humidification risk:	Does not require any preservative treatment
In case of permanent humidification risk:	Does not require any preservative treatment

DRYING

Possible drying schedule

Drying rate:	Normal to slow	Temperature (°C)			Air humidity (%)
		M.C. (%)	dry-bulb	wet-bulb	
Risk of distortion:	Slight risk	Green	40	37	82
Risk of casehardening:	No	40	44	38	68
Risk of checking:	Slight risk	30	44	36	59
Risk of collapse:	Yes	20	46	36	52
		15	49	37	46

This schedule is given for information only and is applicable to thickness < 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.

Note: Kiln drying must be handled slowly and carefully. Air drying prior to kiln drying is recommended.

SAWING AND MACHINING

Blunting effect:	Fairly high
Sawteeth recommended:	Stellite-tipped
Cutting tools:	Tungsten carbide
Peeling:	Not recommended or without interest
Slicing:	Not recommended or without interest
Note:	Requires power.

ASSEMBLING

Nailing / Screwing:	Good but pre-boring necessary
Gluing:	Correct (for interior only)
Note:	Gluing must be done with care (very dense wood).

END-USES

Main known end-uses; they must to be implemented according to the code of practice.

Important remark: some end-uses are mentionned for information (traditional, regional or ancient end-uses).

- Sleepers
- Bridges (parts in contact with water or ground)
- Heavy carpentry
- Vehicle or container flooring
- Industrial or heavy flooring
- Bridges (parts not in contact with water or ground)
- Ship building (planking and deck)
- Stairs (inside)
- Posts
- Hydraulic works (seawater)