

Family: FABACEAE-MIMOSOIDEAE (angiosperm)

Scientific name(s): *Dinizia excelsa*

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: 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.

LOG DESCRIPTION

Diameter: from 65 to 120 cm
 Thickness of sapwood: from 5 to 10 cm
 Floats: no
 Log durability: good

PHYSICAL PROPERTIES

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

	<u>Mean</u>	<u>Std dev.</u>
Specific gravity *:	1,07	0,06
Monnin hardness *:	17,1	1,9
Coeff. of volumetric shrinkage:	0,68 %	0,02 %
Total tangential shrinkage (TS):	8,5 %	0,4 %
Total radial shrinkage (RS):	5,1 %	0,4 %
TS/RS ratio:	1,7	
Fiber saturation point:	23 %	

Stability: moderately stable to poorly stable

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	89 MPa	2 MPa
Static bending strength *:	160 MPa	10 MPa
Modulus of elasticity *:	26280 MPa	2220 MPa

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

Musical quality factor: 112 measured at 2817 Hz

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 1 - very durable

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

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

Treatability (according to E.N. standards): class 4 - not permeable

Use class ensured by natural durability: class 4 - in ground or fresh water contact

Species covering the use class 5: Yes

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.

REQUIREMENT OF A PRESERVATIVE TREATMENT

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

In case of risk of temporary humidification: does not require any preservative treatment

In case of risk of permanent humidification: does not require any preservative treatment

DRYING

Drying rate: normal to slow

Risk of distortion: slight risk

Risk of casehardening: no

Risk of checking: slight risk

Risk of collapse: yes

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

Possible drying schedule: 1

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
Green	40	37	82
40	44	38	68
30	44	36	59
20	46	36	52
15	49	37	46

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.

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).

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to NHLA grading rules (January 2007)

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

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.

END-USES

Sleepers

Heavy carpentry

Industrial or heavy flooring

Ship building (planking and deck)

Poles

Bridges (parts in contact with water or ground)

Vehicle or container flooring

Bridges (parts not in contact with water or ground)

Stairs (inside)

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
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

