

Family: FABACEAE-CAESALPINIOIDEAE (angiosperm)

Scientific name(s): Mora excelsa
Mora gonggrijpii
Mora megistosperma
Mora paraensis

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown
Sapwood: clearly demarcated
Texture: medium
Grain: interlocked
Interlocked grain: marked

Note: Heartwood pinkish brown to red brown with sometimes thin darker veins.

LOG DESCRIPTION

Diameter: from 60 to 150 cm
Thickness of sapwood: from 5 to 15 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 *:	1,03	0,03
Monnin hardness *:	8,6	2,1
Coeff. of volumetric shrinkage:	0,68 %	0,04 %
Total tangential shrinkage (TS):	10,0 %	1,5 %
Total radial shrinkage (RS):	6,5 %	1,1 %
TS/RS ratio:	1,5	
Fiber saturation point:	26 %	

Stability: moderately stable to poorly stable

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	80 MPa	6 MPa
Static bending strength *:	141 MPa	13 MPa
Modulus of elasticity *:	18940 MPa	2356 MPa

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

Musical quality factor: 100 measured at 2155 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 3 - poorly permeable

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

Species covering the use class 5: No

Note: 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: slow

Risk of distortion: high risk

Risk of casehardening: no

Risk of checking: high risk

Risk of collapse: yes

Note: Slow and careful drying recommended to reduce defects.

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: Hard to saw due to hardness and interlocked grain.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary

Gluing: correct (for interior only)

Note: Gluing requires 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

Hydraulic works (fresh water)

Industrial or heavy flooring

Bridges (parts not in contact with water or ground)

Tool handles (resilient woods)

Note: Excellent to produce charcoal.

Heavy carpentry

Bridges (parts in contact with water or ground)

Poles

Turned goods

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Brazil	PRACUUBA	Brazil	PRACUUBA BRANCA
Brazil	PRACUUBA VERMELHA	Colombia	NATO
Colombia	NATO ROJO	Ecuador	NATO
Guyana	MORA	Guyana	MORABUKEA
French Guiana	MORA	Panama	ALCORNOCQUE
Suriname	MORA	Suriname	MORABOEKEA
Trinidad and Tobago	MORA	Venezuela	MORA

