Mora

Flat sawn

Quarter sawn

Family. Leguminosae (Caesalpiniaceae)

Botanical Name(s).

Mora excelsa
Mora gonggrijpii
Mora megistosperma
Mora paraensis

Continent. Latin America

CITES. This species is not listed in the CITES Appendices (Washington Convention 2023).

Description of logs

Diameter. From 60 to 150 cm

Thickness of sapwood. From 5 to 15 cm

Floats. No

Log durability. Good

Description of wood

Colour reference. Red brown

Sapwood. Clearly demarcated

Texture. Medium

Grain. Interlocked

Interlocked grain. Marked

Notes. Heartwood pinkish brown to red brown with sometimes thin darker veins.

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]	1.03
Monnin hardness[1]	8.6
Coefficient of volumetric shrinkage	0.68 % per %
Total tangential shrinkage (St)	10.0 %
Total radial shrinkage (Sr)	6.5 %
Ratio St/Sr	1.5
Fibre saturation point	26 %
Thermal conductivity (λ)	0.33 W/(m.K)
Lower heating value	
Crushing strength[1]	80 MPa
Static bending strength[1]	141 MPa
Modulus of elasticity[1]	18,940 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 3-4 - poorly or not permeable

Use class ensured by natural durability.

Class 4 - in ground or fresh water contact

Notes. This species is listed in the European standard NF EN 350 (2016). According to the European standard NF EN 335 (2013), performance length might be modified by the intensity of end-use exposition.

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. Slow

Risk of distorsion. High risk

Risk of casehardening. No known specific risk

Risk of checking. High risk

Risk of collapse. Yes

Notes. Slow and careful drying recommended to reduce defects.

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)		Stop	(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.

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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

Notes. Hard to saw due to hardness and interlocked grain.

Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. Very high specific gravity: gluing must be especially performed in compliance with the code of practice.

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

According to French standard NF B 52-001-1 (2018), strength class D40 can be provided by visual grading.

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)
- Decking
- Heavy carpentry
- Hydraulic works (fresh water)
- Industrial or heavy flooring
- Poles
- Sleepers
- Tool handles (resilient woods)
- Turned goods

Notes. Excellent to produce charcoal.

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Stocked wooden ties – Woods Direct International LLC, New York (United States).
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Main local names

Country	Local name
Brazil	Pracuuba
Brazil	Pracuuba branca
Brazil	Pracuuba vermelha
Colombia	Nato
Colombia	Nato rojo
Ecuador	Nato
French Guiana	Mora
Guyana	Mora
Guyana	Morabukea
Panama	Alcornoque
Suriname	Mora
Suriname	Moraboekea
Trinidad and Tobago	Mora
Venezuela	Mora

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