

Mambode

Family. Leguminosae (Caesalpinaceae)

Botanical Name(s).

Detarium macrocarpum

Detarium senegalense

Continent. Africa

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

Description of logs

Diameter. From 70 to 100 cm

Thickness of sapwood. From 7 to 10 cm

Floats. Yes

Log durability. Moderate (treatment recommended)

Description of wood

Colour reference. Red brown

Sapwood. Clearly demarcated

Texture. Medium

Grain. Straight or interlocked

Interlocked grain. Marked

Notes. Coppery brown wood with dark brown veins. Resin exudation is possible. Medium to coarse texture.

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	0.66
Monnin hardness ¹	3.9
Coefficient of volumetric shrinkage	0.38 % per %
Total tangential shrinkage (St)	5.4 %
Total radial shrinkage (Sr)	3.8 %
Ratio St/Sr	1.4
Fibre saturation point	24 %
Thermal conductivity (λ)	0.22 W/(m.K)
Lower heating value	
Crushing strength ¹	55 MPa
Static bending strength ¹	99 MPa
Modulus of elasticity ¹	13,100 MPa

¹ At 12 % moisture content, with 1 MPa = 1 N/mm

Natural durability and preservation



Flat sawn



Quarter sawn

Resistance to fungi. Class 3 - moderately durable

Resistance to dry wood borers. Class D - durable (sapwood demarcated, risk limited to sapwood)

Resistance to termites. Class M - moderately durable

Treatability. Class 2 - moderately permeable

Use class ensured by natural durability.

Class 2 - inside or under cover (dampness possible)

Notes. This wood is given as not very sensitive to marine borers.

Requirement of a preservative treatment

Against dry wood borer. Does not require any preservative treatment

In case of temporary humidification. Requires appropriate preservative treatment

In case of permanent humidification. Use not recommended

Drying

Drying rate. Slow

Risk of distorsion. Slight risk

Risk of casehardening. No known specific risk

Risk of checking. Slight risk

Risk of collapse. No known specific risk

Notes.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	50	87	17.0
Prewarm 2	4	> 50	50	86	16.5
Drying		> 50	53	83	15.2
		50 - 40	53	80.0	14.1
		40 - 35	54	80.0	13.9
		35 - 30	55	75.0	12.5
		30 - 27	57	70.0	11.0
		27 - 24	58	61.0	9.4
		24 - 21	59	51.0	7.9
		21 - 18	60	47.0	7.3
		18 - 15	61	39.0	6.1
		15 - 12	62	35.0	5.6
		12 - 9	62	30.0	5.0
		9 - 6	62	26.0	4.4
Conditioning	8		55	(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.

Sawing and machining

Blunting effect. Normal

Sawteeth recommended. Ordinary or alloy steel

Cutting tools. Ordinary

Peeling. Good

Slicing. Good

Notes. Possible difficulties for sawing and cutting due to the presence of resin. Tools must always be tightly sharpened.

Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. Resin exudations: to be taken into account when gluing.

Commercial grading

Appearance grading for sawn timbers.

According to the ATIBT grading rules (2017), the main choices are: FAS (First And Second), n°1 Common and select, n°2 Common (see details of these rules on the ATIBT website).

Visual grading for structural applications

No visual grading for structural applications

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

- Cabinetwork (high class furniture)
- Current furniture or furniture components
- Exterior joinery
- Flooring
- Indoor staircases
- Interior joinery
- Interior panelling
- Sliced veneer
- Turned goods
- Wood-ware

Notes. Filling is recommended to obtain a good finish.

Main local names

Country	Local name
Cameroon	Amouk
Equatorial Guinea	Eñuk
France (importated tropical timber)	Mambodé
Gabon	Aboranzork
Gabon	Énouk