Senegal mahogany

Family. Meliaceae

Botanical Name(s).

Khaya senegalensis

Continent. Africa

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

Débit sur quartier

Description of logs

Diameter. From 50 to 90 cm

Thickness of sapwood. From 3 to 8 cm

Floats. No

Log durability. Moderate (treatment recommended)

Description of wood

Colour reference. Red brown

Sapwood. Clearly demarcated

Texture. Medium

Grain. Interlocked

Interlocked grain. Slight

Notes. Wood pink brown turns to red brown with purple tint. Sapwood is not always clearly defined. Lustrous aspect.

Half quarter sawn

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]	0.78
Monnin hardness[1]	5.9
Coefficient of volumetric shrinkage	0.43 % per %
Total tangential shrinkage (St)	5.6 %
Total radial shrinkage (Sr)	4.9 %
Ratio St/Sr	1.1
Fibre saturation point	27 %
Thermal conductivity (λ)	0.26 W/(m.K)
Lower heating value	18,720 kJ/kg
Crushing strength[1]	54 MPa
Static bending strength[1]	86 MPa
Modulus of elasticity[1]	11,650 MPa

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

Notes. Hardness varies from fairly hard to hard.

Natural durability and preservation

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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 S - susceptible

Treatability. Class 3 - poorly permeable

Use class ensured by natural durability.

Class 2 - inside or under cover (dampness possible)

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. Normal

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. Risks of checking and distortion in presence of highly interlocked grain and tension wood.

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	85	15.7
		50 - 40	53	82.0	14.6
		40 - 35	54	78.0	13.4
		35 - 30	55	77.0	12.9
		30 - 27	57	73.0	11.9
		27 - 24	58	68.0	10.7
		24 - 21	60	61.0	9.3
		21 - 18	62	52.0	7.9
		18 - 15	64	43.0	6.6
		15 - 12	65	39.0	6.0
		12 - 9	65	31.0	5.0
		9 - 6	65	28.0	4.5
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.

Sawing and machining

Blunting effect. Normal

Sawteeth recommended. Ordinary or alloy steel

Cutting tools. Ordinary

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Peeling. Not recommended or without interest

Slicing. Good

Notes. Tendency to woolliness. Sharp tools are necessary. A reduced cutting angle is required during machining in presence of interlocked grain .

Assembling

Nailing and screwing. Good

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

According to French standard NF B 52-001-1 (2018), strength class D24 can be assigned 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

- Cabinetwork (high class furniture)
- Current furniture or furniture components
- Flooring
- Heavy carpentry
- Indoor staircases
- Interior joinery
- Interior panelling
- Resistant to one or several acids
- Ship building (planking and deck)
- Sliced veneer
- Turned goods

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Guinean-style djembé – African percussion (Guinea)
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Main local names

Country	Local name
Benin	Abgo
Benin	Acajou cailcédrat
Benin	Zunzatin
Côte d'Ivoire	Acajou cailcédrat
Guinea	Diala
Guinea-Bissau	Bissilom
Mali	Acajou bissilom
Senegal	Bissilom

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