

## Mutenye

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**Family.** Leguminosae (Caesalpiniaceae)

**Botanical Name(s).**

*Guibourtia arnoldiana*

**Continent.** Africa

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

### Description of logs

**Diameter.** From 40 to 80 cm

**Thickness of sapwood.** From 5 to 8 cm

**Floats.** No

**Log durability.** Moderate (treatment recommended)

### Description of wood

**Colour reference.** Brown

**Sapwood.** Clearly demarcated

**Texture.** Fine

**Grain.** Straight or interlocked

**Interlocked grain.** Slight

**Notes.** Heartwood yellowish brown to brown presenting a dark striping or reddish glints.

### 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 <sup>1</sup>	0.79
Monnin hardness <sup>1</sup>	5.9
Coefficient of volumetric shrinkage	0.56 % per %
Total tangential shrinkage (St)	8.8 %
Total radial shrinkage (Sr)	5.0 %
Ratio St/Sr	1.8
Fibre saturation point	27 %
Thermal conductivity (λ)	0.26 W/(m.K)
Lower heating value	19,940 kJ/kg
Crushing strength <sup>1</sup>	79 MPa
Static bending strength <sup>1</sup>	138 MPa
Modulus of elasticity <sup>1</sup>	21,250 MPa

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

### Natural durability and preservation

**Resistance to fungi.** Class 3 - moderately durable



Quarter sawn



Flat sawn

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

Resistance to termites. Class M - moderately durable

Treatability. Class 3-4 - poorly or not permeable

Use class ensured by natural durability.

Class 2 - inside or under cover (dampness possible)

Notes. This species is listed in the European standard NF EN 350 (2016).

## 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. Must be dried carefully.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
<b>Prewarm 1</b>		> 50	45	86	17.0
<b>Prewarm 2</b>	4	> 50	45	86	16.5
<b>Drying</b>		> 50	48	84	15.7
		50 - 40	48	80.5	14.6
		40 - 35	49	77.0	13.4
		35 - 30	50	75.0	12.9
		30 - 27	51	70.0	11.5
		27 - 24	53	62.0	9.9
		24 - 21	54	53.0	8.4
		21 - 18	55	48.5	7.7
		18 - 15	55	40.0	6.6
		15 - 12	55	35.0	5.9
		12 - 9	60	30.0	5.0
		9 - 6	60	28.0	4.7
<b>Conditioning</b>	8		58	(3)	(2)
<b>Cooling</b>	(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. Fairly high

Sawteeth recommended. Stellite-tipped

Cutting tools. Tungsten carbide

**Peeling.** Not recommended or without interest

**Slicing.** Good

**Notes.** Requires power. Some difficulties in planing due to interlocked grain.

## Assembling

**Nailing and screwing.** Good but pre-boring necessary

## 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
- Flooring
- Heavy carpentry
- Indoor staircases
- Interior joinery
- Interior panelling
- Seats
- Sliced veneer
- Turned goods
- Wood frame house
- Wood-ware

**Notes.** Substitute for WALNUT (*Juglans regia*) for sliced veneers.

## Main local names

Country	Local name
Angola	M'penze
Congo	Benzi
Democratic Republic of the Congo	Mbengé
Democratic Republic of the Congo	Mutenyé
United Kingdom (importated tropical timber)	Olive walnut