Bubinga

Half-quarter sawn

Quarter sawn

Family. Leguminosae (Caesalpiniaceae)

Botanical Name(s).

Guibourtia demeusei
Guibourtia pellegriniana
Guibourtia tessmannii

Continent. Africa

CITES. The 3 species of the Guibourtia genus (G. demeusei, G. pellegriniana, G. tessmannii) are listed in Appendix II of CITES (Washington Convention 2023). All parts and products are covered except: (a) Leaves, flowers, pollen, fruits and seeds; (b) Finished products up to a maximum weight of 10 kg of wood of the listed species per consignment; (c) Finished musical instruments, finished parts of musical instruments and finished accessories for musical instruments.

Description of logs

Diameter. From 90 to 150 cm

Thickness of sapwood. From 2 to 8 cm

Floats. No

Log durability. Moderate (treatment recommended)

Description of wood

Colour reference. Red brown

Sapwood. Clearly demarcated

Texture. Medium

Grain. Straight or interlocked

Interlocked grain. Slight

Notes. Wood pink or reddish brown, with some fine purplish red veins. Some brown veins. Grain sometimes wavy.

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]	0.92
Monnin hardness[1]	10.2
Coefficient of volumetric shrinkage	0.62 % per %
Total tangential shrinkage (St)	7.9 %
Total radial shrinkage (Sr)	5.5 %
Ratio St/Sr	1.4
Fibre saturation point	24 %
Thermal conductivity (λ)	0.30 W/(m.K)
Lower heating value	19,750 kJ/kg
Crushing strength[1]	76 MPa

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Static bending strength[1]	137 MPa
Modulus of elasticity[1]	20,180 MPa

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

Notes. Hardness varies from hard to very hard.

Natural durability and preservation

Resistance to fungi. Class 2 - durable

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

Resistance to termites. Class D - durable

Treatability. Class 4 - 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. No known specific risk

Notes. A period of surface drying prior to kiln drying is recommended to avoid defects.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	45	86	17.0
Prewarm 2	4	> 50	45	86	16.5
Drying		> 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
Conditioning	8		58	(3)	(2)
Cooling	(1)		Stop	(3)	(2)

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(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. Care is needed in presence of interlocked grain. Very decorative veneers.

Assembling

Nailing and screwing. Good but pre-boring necessary

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

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 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

- Cabinetwork (high class furniture)
- Current furniture or furniture components
- Decking
- Exterior joinery
- Flooring
- Heavy carpentry
- Indoor staircases
- Interior joinery
- Interior panelling
- Seats
- Sleepers
- Sliced veneer
- Turned goods
- Vehicle or container flooring

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Bubinga Ravier® crystal door (solid wood and acrylic glass assembly), Amstelveen (Netherlands).
Made by Ravier SARL, Domblans (France).
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Main local names

Country	Local name
Cameroon	Bubinga
Cameroon	Essingang
Congo	Lianu
Democratic Republic of the Congo	Waka
Equatorial Guinea	Oveng
Gabon	Ébana
Gabon	Kévazingo
United States of America (importated tropical timber)	Akume

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