

Guarea, Black* / Bossé foncé

Family. Meliaceae

Botanical Name(s).

Guarea thompsonii

Continent. Africa

CITES.

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

Notes. * Common commercial name

Description of logs

Diameter. From 60 to 80 cm

Thickness of sapwood. From 5 to 10 cm

Floats. No

Log durability. Moderate (treatment recommended)

Description of wood

Colour reference. Orange-brown

Sapwood. Clearly demarcated

Texture. Fine

Flat sawn

Grain. Interlocked

Interlocked grain. Slight

Quarter sawn

Notes. The grain of the Guarea Black is irregular, but straighter than that of the Guarea scented. Slightly moiré appearance.

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	0.68
Monnin hardness ¹	5.3
Coefficient of volumetric shrinkage	0.43 % per %
Total tangential shrinkage (St)	7.0 %
Total radial shrinkage (Sr)	4.4 %
Ratio St/Sr	1.6 %
Fibre saturation point	26
Thermal conductivity (λ)	0.23 W/(m.K)
Lower heating value	18,770 kJ/kg
Crushing strength ¹	66 MPa
Static bending strength ¹	116 MPa
Modulus of elasticity ¹	15,600 MPa

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

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 S - susceptible

Treatability. Class 4 - not permeable

Use class ensured by natural durability.

Class 3 - not in ground contact, outside

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. Use not recommended

Drying

Drying rate. Rapid to normal

Risk of distortion. Slight risk

Risk of casehardening. No known specific risk

Risk of checking. Slight risk

Risk of collapse. No known specific risk

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	50	86	16.5
Prewarm 2	3	> 50	52	85	16.0
Drying		> 50	55	82	14.7
		50 - 40	55	80.0	13.8
		40 - 35	55	75.0	12.6
		35 - 30	56	73.0	12.0
		30 - 27	58	67.0	10.5
		27 - 24	60	58.0	8.9
		24 - 21	62	50.0	7.5
		21 - 18	64	45.0	6.8
		18 - 15	65	37.0	5.7
		15 - 12	65	34.0	5.3
		12 - 9	65	28.0	4.5
		9 - 6	65	24.0	4.0
Conditioning	6		58	(3)	(2)
Cooling	(1)		Arrêt	(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. Good

Slicing. Good

Notes. Sawdust is an irritant.

Assembling

Nailing and screwing. Good

Notes. Pre-boring may be necessary due to wood hardness.

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).

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)
- Cigar boxes
- Current furniture or furniture components
- Exterior joinery
- Exterior panelling
- Flooring
- Interior joinery
- Interior panelling
- Light carpentry
- Rolling shutters
- Ship building (planking and deck)
- Sliced veneer
- Veneer for back or face of plywood
- Veneer for interior of plywood

Main local names

Country	Local name
Central African Republic	N'zombou
Côte d'Ivoire	Mutigbanaye
Democratic Republic of the Congo	Diambi
Gabon	Ossoung
Germany (importated tropical timber)	Bosse
Germany (importated tropical timber)	Diambi
Ghana	Guarea

Kenya

Bolon

Nigeria

Obobo nekwi

United Kingdom (importated
tropical timber)

Black guarea