

Family: FABACEAE-CAESALPINIOIDEAE (angiosperm)

Scientific name(s): *Guibourtia demeusei*
Guibourtia pellegriniana
Guibourtia tessmannii

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown
 Sapwood: clearly demarcated
 Texture: medium
 Grain: straight or interlocked
 Interlocked grain: slight

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

LOG DESCRIPTION

Diameter: from 90 to 150 cm
 Thickness of sapwood: from 2 to 8 cm
 Floats: no
 Log durability: moderate (treatment recommended)

PHYSICAL PROPERTIES

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

| | <u>Mean</u> | <u>Std dev.</u> |
|----------------------------------|-------------|-----------------|
| Specific gravity *: | 0.92 | 0.12 |
| Monnin hardness *: | 10.2 | 2.2 |
| Coeff. of volumetric shrinkage: | 0.62 % | 0.15 % |
| Total tangential shrinkage (TS): | 7.9 % | 2.0 % |
| Total radial shrinkage (RS): | 5.5 % | 1.0 % |
| TS/RS ratio: | 1.4 | |
| Fiber saturation point: | 24 % | |
| Stability: poorly stable | | |

Note: Hardness varies from hard to very hard.

MECHANICAL AND ACOUSTIC PROPERTIES

| | <u>Mean</u> | <u>Std dev.</u> |
|----------------------------|-------------|-----------------|
| Crushing strength *: | 76 MPa | 10 MPa |
| Static bending strength *: | 137 MPa | 38 MPa |
| Modulus of elasticity *: | 20180 MPa | 5592 MPa |

(*: at 12% moisture content, with 1 MPa = 1 N/mm²)

Musical quality factor: 111.9 measured at 2613 Hz

NATURAL DURABILITY AND TREATABILITY

Fungi and termite resistance refers to end-uses under temperate climate. Except for special comments on sapwood, natural durability is based on mature heartwood. Sapwood must always be considered as non-durable against wood degrading agents.

E.N. = Euro Norm

Funghi (according to E.N. standards): class 2 - durable

Dry wood borers: class D - durable (sapwood demarcated, risk limited to sapwood)

Termites (according to E.N. standards): class D - durable

Treatability (according to E.N. standards): class 4 - not permeable

Use class ensured by natural durability: class 4 - in ground or fresh water contact

Species covering the use class 5: no

Note: This species is listed in the European standard NF EN 350-2.

According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition.

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: does not require any preservative treatment

In case of risk of temporary humidification: does not require any preservative treatment

In case of risk of permanent humidification: does not require any preservative treatment

DRYING

Drying rate: slow

Risk of distortion: high risk

Risk of casehardening: no

Risk of checking: high risk

Risk of collapse: no

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

Possible drying schedule: 4

| M.C. (%) | Temperature (°C) | | Air humidity (%) |
|----------|------------------|----------|------------------|
| | dry-bulb | wet-bulb | |
| Green | 42 | 39 | 82 |
| 50 | 48 | 43 | 74 |
| 40 | 48 | 43 | 74 |
| 30 | 48 | 43 | 74 |
| 15 | 54 | 46 | 63 |

This schedule is given for information only and is applicable to thickness lower or equal to 38 mm.

It must be used in compliance with the code of practice.

For thickness from 38 to 75 mm, the air relative humidity should be increased by 5 % at each step.

For thickness over 75 mm, a 10 % increase should be considered.

SAWING AND MACHINING

Blunting effect: fairly high

Sawteeth recommended: stellite-tipped

Cutting tools: tungsten carbide

Peeling: no information available

Slicing: good

Note: Requires power. Care is needed in presence of interlocked grain. Very decorative veneers.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary

Gluing: correct (for interior only)

Note: Gluing must be done with care (dry wood and smooth surface).

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to SATA grading rules (1996)

For the "General Purpose Market":

Possible grading for square edged timbers: choix I, choix II, choix III, choix IV

Possible grading for short length lumbers: choix I, choix II

Possible grading for short length rafters: choix I, choix II, choix III

For the "Special Market":

Possible grading for strips and small boards (ou battens): choix I, choix II, choix III

Possible grading for rafters: choix I, choix II, choix III

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 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

END-USES

Cabinetwork (high class furniture)

Interior panelling

Stairs (inside)

Current furniture or furniture components

Seats

Sleepers

Vehicle or container flooring

Sliced veneer

Flooring

Turned goods

Interior joinery

Exterior joinery

Heavy carpentry

MAIN LOCAL NAMES

| <u>Country</u> | <u>Local name</u> | <u>Country</u> | <u>Local name</u> |
|----------------------------------|-------------------|--------------------------|-------------------|
| Cameroon | BUBINGA | Cameroon | ESSINGANG |
| Congo | LIANU | Gabon | EBANA |
| Gabon | KEVAZINGO | Equatorial Guinea | OVENG |
| Democratic Republic of the Congo | WAKA | United States of America | AKUME |



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