

Family: FABACEAE-CAESALPINIOIDEAE (angiosperm)

Scientific name(s): *Brachystegia laurentii*
Brachystegia mildbraedii
Brachystegia zenkeri

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

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

Note: Sapwood very wide and easily attacked by insects. Wood light brown, with copper brown veins. Possibility of wind shakes.

LOG DESCRIPTION

Diameter: from 80 to 120 cm
 Thickness of sapwood: from 10 to 15 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 *: | 0,56 | 0,05 |
| Monnin hardness *: | 2,9 | 0,7 |
| Coeff. of volumetric shrinkage: | 0,40 % | 0,07 % |
| Total tangential shrinkage (TS): | 6,0 % | 0,6 % |
| Total radial shrinkage (RS): | 3,7 % | 0,5 % |
| TS/RS ratio: | 1,6 | |
| Fiber saturation point: | 28 % | |
| Stability: stable | | |

Note: Hardness varies from soft to fairly hard.

MECHANICAL AND ACOUSTIC PROPERTIES

| | <u>Mean</u> | <u>Std dev.</u> |
|----------------------------|-------------|-----------------|
| Crushing strength *: | 49 MPa | 4 MPa |
| Static bending strength *: | 85 MPa | 11 MPa |
| Modulus of elasticity *: | 12400 MPa | 1820 MPa |

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

Musical quality factor: 117,5 measured at 2661 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 3 - moderately durable

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

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

Treatability (according to E.N. standards): class 3 - poorly permeable

Use class ensured by natural durability: class 2 - inside or under cover (dampness possible)

Species covering the use class 5: No

Note: A preservative treatment is recommended as sawnwoods often contain sapwood.

REQUIREMENT OF A PRESERVATIVE TREATMENT

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

In case of risk of temporary humidification: requires appropriate preservative treatment

In case of risk of permanent humidification: use not recommended

DRYING

Drying rate: slow

Risk of distortion: high risk

Risk of casehardening: no

Risk of checking: high risk

Risk of collapse: yes

Possible drying schedule: 6

| M.C. (%) | Temperature (°C) | | Air humidity (%) |
|----------|------------------|----------|------------------|
| | dry-bulb | wet-bulb | |
| Green | 42 | 41 | 94 |
| 50 | 48 | 43 | 74 |
| 30 | 54 | 46 | 63 |
| 20 | 60 | 51 | 62 |
| 15 | 60 | 51 | 62 |

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: normal

Sawteeth recommended: ordinary or alloy steel

Cutting tools: ordinary

Peeling: good

Slicing: good

ASSEMBLING

Nailing / screwing: good

Gluing: correct

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 : M.3 (moderately inflammable)

Thickness < 14 mm : M.4 (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

Veneer for interior of plywood

Interior joinery

Sliced veneer

Light carpentry

Wood frame house

Fiber or particle boards

Flooring

Stairs (inside)

Veneer for back or face of plywood

Interior panelling

Current furniture or furniture components

Glued laminated

Blockboard

Boxes and crates

Cooperage

Cabinetwork (high class furniture)

MAIN LOCAL NAMES

| <u>Country</u> | <u>Local name</u> | <u>Country</u> | <u>Local name</u> |
|----------------|-------------------|----------------------------------|-------------------|
| Cameroon | EKOP-EVENE | Cameroon | EKOP-LEKE |
| Congo | BOMANGA | Gabon | NZANG |
| Gabon | YEGNA | Democratic Republic of the Congo | BOMANGA |
| France | ARIELLA | United Kingdom | ARIELLA |

