

Family: Meliaceae (angiosperm)

Scientific name(s): Entandrophragma cylindricum

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown
Sapwood: clearly demarcated
Texture: fine
Grain: interlocked
Interlocked grain: slight

Note: Some logs are not floatable.

Wood pinkish brown to copper red brown. Possible presence of ring shakes and blister grains (longitudinal fissure in the shape of barley grain on the curved surface of round timber, generally concealed by the bark and linked to a disfunction in tree growth). Cedar like scent.

LOG DESCRIPTION

Diameter: from 70 to 120 cm
Thickness of sapwood: from 4 to 8 cm
Floats: yes
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.

| | Mean | Std dev. |
|----------------------------------|-------------------|----------|
| Specific gravity *: | 0.69 | 0.04 |
| Monnin hardness *: | 4.2 | 1.0 |
| Coeff. of volumetric shrinkage: | 0.47 % | 0.06 % |
| Total tangential shrinkage (TS): | 7.2 % | 0.9 % |
| Total radial shrinkage (RS): | 5.0 % | 0.6 % |
| TS/RS ratio: | 1.4 | |
| Fiber saturation point: | 29 % | |
| Stability: | moderately stable | |

MECHANICAL AND ACOUSTIC PROPERTIES

| | Mean | Std dev. |
|----------------------------|-----------|----------|
| Crushing strength *: | 62 MPa | 7 MPa |
| Static bending strength *: | 102 MPa | 11 MPa |
| Modulus of elasticity *: | 13960 MPa | 2403 MPa |

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

Musical quality factor: 109.4 measured at 2656 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

Fungi (according to E.N. standards): class 3 - moderately durable

Dry wood borers: class D - 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 3 - not in ground contact, outside

Species covering the use class 5: no

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

The French standard NF P 23-305 (December 2014) indicates that this species covers the use class 3.1 for untreated heartwood.

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: normal

Risk of distortion: high risk

Risk of casehardening: no known specific risk

Risk of checking: slight risk

Risk of collapse: no known specific risk

Note: Quartersawn drying is slower.

POSSIBLE DRYING SCHEDULE

| 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 drying 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

Note: Log turning sawing recommended (internal stresses). Tendency to tearing in planing (interlocked grain). Sanding requires care.

ASSEMBLING

Nailing / screwing: good

Gluing: correct

Note: Tends to stain when gluing.

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

Visual grading for structural applications: According to European standard EN 1912 (2012) and associated national standards (see explanatory note), strength class D40 can be provided by visual grading. Strength class D35 can be provided by visual grading according to French standard NF B 52-001-1 (2011).

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 (April 2016).

It concerns structural graded timber in vertical uses and ceiling with mean density upper 0.35 and thickness upper 22 mm.

END-USES

Sliced veneer

Current furniture or furniture components

Interior joinery

Veneer for interior of plywood

Flooring

Ship building (planking and deck)

Cabinetwork (high class furniture)

Exterior joinery

Interior panelling

Veneer for back or face of plywood

Stairs (inside)

Light carpentry

Note: Light and regular interlocked grain: appreciated for slicing. Highly interlocked grain: troublesome for some end-uses.



This list presents main known end-uses; they must be implemented according to the code of practice. Important remark: some end-uses are mentioned for information (traditional, regional or ancient end-uses).

MAIN LOCAL NAMES

| <u>Country</u> | <u>Local name</u> | <u>Country</u> | <u>Local name</u> |
|--------------------------|-------------------|----------------------------------|-------------------|
| Angola | UNDIANUNO | Cameroon | ASSIÉ |
| Cameroon | SAPELLI | Congo | UNDIANUNO |
| Côte d'Ivoire | ABOUDIKRO | Gabon | UNDIANUNO |
| Ghana | PENKWA | Ghana | SAPELEWOOD |
| Nigeria | SAPELE | Uganda | MUYOVU |
| Central African Republic | M'BOYO | Democratic Republic of the Congo | LIFAKI |
| Germany | SAPELLI-MAHOGANY | United Kingdom | SAPELE |

