# Afara

Quarter sawn

Half-quarter sawn

Family. Combretaceae

Botanical Name(s).

*Terminalia superba*

Continent. Africa

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

## Description of logs

Diameter. From 60 to 100 cm

Thickness of sapwood. -

Floats. Yes

Log durability. Low (treatment necessary)

## Description of wood

Colour reference. Light yellow

Sapwood. Not demarcated

Texture. Medium

Grain. Straight or interlocked

Interlocked grain. Slight

Notes. Sometimes brittleheart. Some logs have a black greyish heartwood, more or less veined.

## 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] | 0.54 |
| Monnin hardness[1] | 2.4 |
| Coefficient of volumetric shrinkage | 0.42 % per % |
| Total tangential shrinkage (St) | 6.1 % |
| Total radial shrinkage (Sr) | 4.3 % |
| Ratio St/Sr | 1.4 |
| Fibre saturation point | 28 % |
| Thermal conductivity (λ) | 0.19 W/(m.K) |
| Lower heating value | 18,410 kJ/kg |
| Crushing strength[1] | 47 MPa |
| Static bending strength[1] | 80 MPa |
| Modulus of elasticity[1] | 11,750 MPa |

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

## Natural durability and preservation

Resistance to fungi. Class 4 - poorly durable



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Resistance to dry wood borers. Class S - susceptible (risk in all the wood)

Resistance to termites. Class S - susceptible

Treatability. Class 2 - moderately permeable

Use class ensured by natural durability.

Class 1 - inside (no dampness)

Notes. This species is listed in the European standard NF EN 350 (2016). Preservative treatment is sometimes difficult due to a variable permeability (low to good).

## Requirement of a preservative treatment

Against dry wood borer. Requires appropriate preservative treatment

In case of temporary humidification. Requires appropriate preservative treatment

In case of permanent humidification. Use not recommended

## Drying

Drying rate. Rapid to normal

Risk of distorsion. No risk or very slight risk

Risk of casehardening. No known specific risk

Risk of checking. No risk or very slight risk

Risk of collapse. No known specific risk

Notes.

Suggested drying program.

| Phases | Duration (H) | MC (%) probes | T (°C) | Rh (%) | UGL (%) |
|---|---|---|---|---|---|
| **Prewarm 1** | | > 50 | 55 | 84 | 15.5 |
| **Prewarm 2** | 3 | > 50 | 57 | 83 | 15.0 |
| **Drying** | | > 50 | 60 | 76 | 12.5 |
| | | 50 - 40 | 60 | 73.0 | 11.6 |
| | | 40 - 35 | 60 | 69.0 | 10.7 |
| | | 35 - 30 | 60 | 62.0 | 9.5 |
| | | 30 - 27 | 63 | 55.0 | 8.2 |
| | | 27 - 24 | 64 | 50.0 | 7.5 |
| | | 24 - 21 | 65 | 46.0 | 6.9 |
| | | 21 - 18 | 65 | 39.0 | 6.0 |
| | | 18 - 15 | 68 | 32.0 | 5.0 |
| | | 15 - 12 | 70 | 29.0 | 4.5 |
| | | 12 - 9 | 70 | 25.0 | 4.0 |
| | | 9 - 6 | 70 | 24.0 | 3.9 |
| **Conditioning** | 6 | | 63 | (3) | (2) |
| **Cooling** | (1) | | Stop | (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. Normal

Sawteeth recommended. Ordinary or alloy steel



Last update date: 04/02/2024

Cutting tools. Ordinary

Peeling. Good

Slicing. Good

Notes. Internal stresses in some logs (usually timbers from plantation). Sometimes, blunting effect quite high.

## Assembling

Nailing and screwing. Good

## 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 D24 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

- Blockboard
- Boxes and crates
- Current furniture or furniture components
- Exterior joinery
- Fiber or particle boards
- Glued laminated
- Interior joinery
- Interior panelling
- Light carpentry
- Moulding
- Seats
- Sliced veneer
- Veneer for back or face of plywood
- Veneer for interior of plywood
- Wood frame house
- Wood-ware

Notes. Sawdust may cause allergic reactions during machining.



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Half turning suspended staircase (dark colored figured afara) - Saint-Gély-du-Fesc (France)
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## Main local names

| Country | Local name |
|---|---|
| Benin | Azinii |
| Cameroon | Akom |
| Central African Republic | N'ganga |
| Congo | Limba |
| Côte d'Ivoire | Fraké |
| Democratic Republic of the Congo | Limba |
| Equatorial Guinea | Akom |
| France (importated tropical timber) | Fraké |
| France (importated tropical timber) | Limba |
| France (importated tropical timber) | Limbo |
| France (importated tropical timber) | Noyer du mayombe |
| Gabon | Akom |
| Ghana | Ofram |
| Nigeria | Afara |
| Nigeria | White afara |
| Sierra Leone | Kojagei |
| United States of America (importated tropical timber) | Korina |



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