BILINGA

Nauclea diderrichii Merr., N. gilletii, N. xanthoxylon

Family: Rubiaceae · Continent: Africa



IDENTIFICATION

Family: Rubiaceae · Continent: Africa
Botanical names: Nauclea diderrichii Merr. (syn. Sarcocephalus diderrichii, Nauclea trillesii), Nauclea gilletii Merr., Nauclea xanthoxylon Aubrev. (syn. Sarcocephalus xanthoxylon)
CITES (Washington Convention, 2016): no trade restriction

LOG DESCRIPTION

Diameter: 60 to 90 cm
Sapwood thickness: 3 to 5 cm
Buoyancy: does not float
Durability in forest: good

WOOD DESCRIPTION

Reference colour: orange yellow
Sapwood: clearly demarcated
Texture: medium
Grain: interlocked
Interlocked grain: marked
Notes: golden yellow or orange yellow wood, slightly figured. The colour is stable in interior use.



PHYSICAL & MECHANICAL PROPERTIES

Property	Mean value
Density (1)	**0.76**
Monnin hardness (1)	**5.3**
Volumetric shrinkage coefficient	**0.55% per %**
Total tangential shrinkage (T)	**7.5%**
Total radial shrinkage (R)	**4.5%**
T/R ratio	**1.7**
Fibre saturation point	**25%**
Thermal conductivity (λ)	**0.25 W/(m.K)**
Lower heating value	**19,600 kJ/kg**
Crushing strength (1)	**63 MPa**
Static bending strength (1)	**95 MPa**
Longitudinal modulus of elasticity (1)	**14,660 MPa**

(1) At 12% moisture content, with 1 MPa = 1 N/mm²

NATURAL DURABILITY AND TREATABILITY

Fungi resistance: class 1, very durable (species listed in standard NF EN 350)
Dry wood borer resistance: class D, durable (sapwood distinct, risk limited to sapwood)
Termite resistance: class D, durable · Treatability: class 2, moderately permeable
Use class covered by natural durability: class 4, in contact with the ground or fresh water
Bilinga naturally covers use class 5 (sea or brackish water). Service life may vary with use (NF EN 335, May 2013).

PRESERVATIVE TREATMENT

Against dry wood borer attacks: this wood does not require preservative treatment.
Temporary humidification: no preservative treatment required.
Permanent humidification: no preservative treatment required.

DRYING

Drying rate: slow
Risk of distortion: low
Risk of case hardening: no known risk
Risk of checking: high
Risk of collapse: no known risk
Notes: difficult to dry because of the marked interlocked grain; quarter-sawing is recommended to avoid defects.
Suggested kiln schedule: no. 6

SAWING AND MACHINING

Blunting effect: normal
Sawteeth recommended: ordinary or alloy steel
Cutting tools: ordinary
Peeling: poor
Slicing: good

ASSEMBLING

Nailing and screwing: good holding, pre-drilling required.
Notes: slight tendency to split when nailed. This wood is acidic; take this into account when gluing.

COMMERCIAL GRADING

Appearance grading of sawn timber according to SATA rules (1996).
General market: strips grades I, II, III, IV; short lengths grades I, II; short rafters grades I, II, III.
Special markets: flooring strips and boards grades I, II, III; rafters grades I, II, III.
Visual structural grading: according to European standard EN 1912 (2012) and the corresponding national standards, strength class D50 can be assigned by visual grading. Strength class D35 can be assigned according to French standard NF B 52-001-1 (2011).

FIRE SAFETY

French conventional classification: thickness > 14 mm: M3 (moderately flammable); thickness < 14 mm: M4 (easily flammable).
Euroclass: D-s2, d0.
Default classification for solid timber meeting NF EN 14081-1 (April 2016): structural timber used for walls and ceilings, graded, with minimum mean density 0.35 and minimum thickness 22 mm.

MAIN END USES

- Heavy carpentry
- Boatbuilding (planking, deck)
- Cabinetwork (luxury furniture)
- Vehicle or container flooring
- Panelling
- Interior joinery
- Furniture and components
- Flooring
- Heavy-duty or industrial flooring
- Sliced veneer
- Decking
- Bridges (ground/water contact)
- Bridges (not in contact)
- Posts
- Exterior cladding
- Hydraulic works (marine)
- Sleepers

In hot, dry climates, risk of checking in exterior uses; filling is required. Resistant to one or more acids.



MAIN LOCAL NAMES

Country — Local name	Country — Local name
Germany — Aloma	Equatorial Guinea — Aloma
Angola — Engolo	Nigeria — Opepe
Benin — Opépé	Uganda — Kilingi
Cameroon — Akondoc	Central African Republic — Kilu
Congo — Linzi, Mokessé, N'gulu-maza	DR Congo — N'gulu-maza, Bonkingu
Côte d'Ivoire — Badi	United Kingdom — Opepe
Gabon — Bilinga	Sierra Leone — Bundui
Ghana — Kusia	

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SIÈGE SOCIAL

Libreville, Gabon · BP 2234

TÉLÉPHONE

+ 241 60 45 27 49

E-MAIL

contact@snbg-groupe.ga

SITE WEB

www.snbg-groupe.ga