SAPELLI

Entandrophragma cylindricum Sprague

Family: Meliaceae · Continent: Africa



IDENTIFICATION

Family: Meliaceae · Continent: Africa
Botanical name: Entandrophragma cylindricum Sprague
CITES (Washington Convention, 2016): no trade restriction

LOG DESCRIPTION

Diameter: 70 to 120 cm
Sapwood thickness: 4 to 8 cm
Buoyancy: floats
Durability in forest: moderate (treatment recommended)

WOOD DESCRIPTION

Reference colour: red brown
Sapwood: clearly demarcated
Texture: fine
Grain: interlocked
Interlocked grain: slight to very marked
Notes: pinkish-brown to coppery red-brown wood with a cedar-like scent. Ring shakes and "barley grain" surface furrows (growth defects, usually hidden under the bark) may occur.



PHYSICAL & MECHANICAL PROPERTIES

Property	Mean value
Density (1)	**0.69**
Monnin hardness (1)	**4.2**
Volumetric shrinkage coefficient	**0.47% per %**
Total tangential shrinkage (T)	**7.2%**
Total radial shrinkage (R)	**5.0%**
T/R ratio	**1.4**
Fibre saturation point	**29%**
Thermal conductivity (λ)	**0.23 W/(m.K)**
Lower heating value	**17,810 kJ/kg**
Crushing strength (1)	**62 MPa**
Static bending strength (1)	**102 MPa**
Longitudinal modulus of elasticity (1)	**13,960 MPa**

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

NATURAL DURABILITY AND TREATABILITY

Fungi resistance: class 3, moderately durable (species listed in standard NF EN 350)
Dry wood borer resistance: class D, durable (sapwood distinct, risk limited to sapwood)
Termite resistance: class M, moderately durable · Treatability: class 3, poorly permeable
Use class covered by natural durability: class 2, indoors or under cover (risk of humidification)

PRESERVATIVE TREATMENT

Against dry wood borer attacks: this wood does not require preservative treatment.
Temporary humidification: requires appropriate preservative treatment.
Permanent humidification: use of this wood is not recommended.

DRYING

Drying rate: normal
Risk of distortion: high
Risk of case hardening: no known risk
Risk of checking: low
Risk of collapse: no known risk
Notes: quarter-sawn pieces dry much more slowly.
Suggested kiln schedule: no. 4

ASSEMBLING

Nailing and screwing: good holding.
Notes: the wood may stain when glued.

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: strength class D40 according to European standard EN 1912 (2012) and the corresponding national standards; strength class D35 according to French standard NF B 52-001-1 (2011).

SAWING AND MACHINING

Blunting effect: normal
Sawteeth recommended: ordinary or alloy steel
Cutting tools: ordinary
Peeling: good
Slicing: good
Notes: fibres tend to tear when planing (interlocked grain).

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

- Carpentry
- Coffins
- Boatbuilding (planking, deck)
- Cabinetwork (luxury furniture)
- Interior stairs
- Plywood (face or back)
- Plywood (core)
- Panelling
- Exterior joinery
- Interior joinery
- Furniture and components
- Flooring
- Sliced veneer

Slight, regular interlocked grain: prized for slicing. Strong interlocked grain can be a drawback for some uses.



MAIN LOCAL NAMES

Country — Local name	Country — Local name
Germany — Sapelli-mahogany	Ghana — Penkwa, Sapelewood
Angola — Undianuno	Nigeria — Sapele
Cameroon — Assié, Assié-sapelli, Sapelli	Uganda — Muyovu
Congo — Undianuno	Central African Republic — M'boyo
Côte d'Ivoire — Aboudikro	
Gabon — Undianuno	

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