OKAN

Cylicodiscus gabunensis Harms

Family: Leguminosae (Mimosaceae) · Continent: Africa



IDENTIFICATION

Family: Leguminosae (Mimosaceae)
Botanical name: Cylicodiscus gabunensis Harms
Continent: Africa
CITES (Washington Convention, 2016): no trade restriction

LOG DESCRIPTION

Diameter: 90 to 150 cm
Sapwood thickness: 5 to 8 cm
Buoyancy: does not float
Durability in forest: good

WOOD DESCRIPTION

Reference colour: reddish brown
Sapwood: clearly demarcated
Texture: medium
Grain: interlocked
Interlocked grain: pronounced
Notes: very unpleasant smell when green. The yellowish-brown heartwood turns reddish brown on exposure to air.



PHYSICAL & MECHANICAL PROPERTIES

Property	Mean value
Density (1)	**0.91**
Monnin hardness (1)	**10.3**
Volumetric shrinkage coefficient	**0.61% per %**
Total tangential shrinkage (T)	**7.9%**
Total radial shrinkage (R)	**5.8%**
T/R ratio	**1.4**
Fibre saturation point	**25%**
Thermal conductivity (λ)	**0.29 W/(m.K)**
Lower heating value	**19,410 kJ/kg**
Crushing strength (1)	**82 MPa**
Static bending strength (1)	**134 MPa**
Longitudinal modulus of elasticity (1)	**22,260 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 4, not permeable
Use class covered by natural durability: class 4, in contact with the ground or fresh water
Thanks to its high density and hardness, it also naturally covers use class 5 (regularly or permanently immersed in salt or brackish water); service life may vary with conditions of 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: high
Risk of case hardening: no known risk
Risk of checking: high
Risk of collapse: no known risk
Suggested kiln schedule: no. 7

ASSEMBLING

Nailing and screwing: good holding, pre-drilling required.
Notes: dense wood; gluing must strictly follow good practice and the glue manufacturer's recommendations.

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) with the corresponding national standards, and French standard NF B 52-001-1 (2011), strength class D40 can be assigned by visual grading.

SAWING AND MACHINING

Blunting effect: fairly high
Sawteeth recommended: stellite-tipped
Cutting tools: tungsten carbide
Peeling: not recommended or of no interest
Slicing: not recommended or of no interest
Notes: sawing and machining require powerful equipment. A good finish can be difficult to obtain due to the sometimes pronounced interlocked grain. Tendency to tear fibres on quarter-sawn faces.

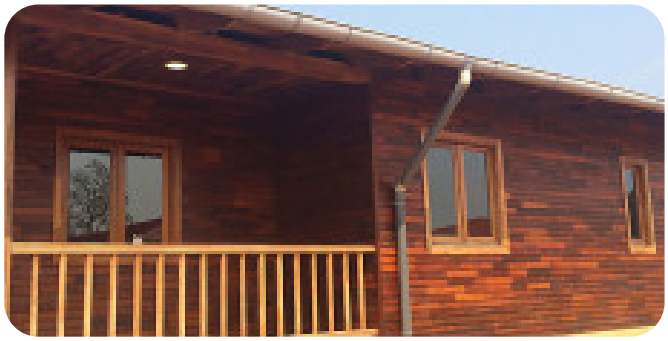
FIRE SAFETY

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

- Turned articles
- Heavy carpentry
- Vehicle or container flooring
- Flooring
- Heavy-duty or industrial flooring
- Decking
- Sleepers
- Bridges (in contact with ground or water)
- Bridges (not in contact with ground or water)
- Posts
- Sculpture
- Hydraulic works (marine environment)

Okan is a substitute for Azobé and Greenheart.



MAIN LOCAL NAMES

Country	Local name
Cameroon	**Adoum, African greenheart, Bokoka**
Congo	**N'duma**
Côte d'Ivoire	**Bouémon, Bouemon**
Gabon	**Édoum, Oduma**
Ghana	**Adadua, Benya, Denya**
Nigeria	**Okan**

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