

## Okan

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**Family.** Fabaceae-Mimosoideae

**Botanical Name(s).**

*Cylicodiscus gabunensis*

**Continent.** Africa

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

### Description of logs

**Diameter.** From 90 to 150 cm

**Thickness of sapwood.** From 5 to 8 cm

**Floats.** No

**Log durability.** Good

### Description of wood

**Colour reference.** Red brown

**Sapwood.** Clearly demarcated

**Texture.** Medium

**Grain.** Interlocked

**Interlocked grain.** Marked

**Notes.** Unpleasant odour when green. Heartwood yellow brown becomes red brown with air.

### 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 <sup>1</sup>	0.91
Monnin hardness <sup>1</sup>	10.3
Coefficient of volumetric shrinkage	0.61 % per %
Total tangential shrinkage (St)	7.9 %
Total radial shrinkage (Sr)	5.8 %
Ratio St/Sr	1.4
Fibre saturation point	25 %
Thermal conductivity (λ)	0.29 W/(m.K)
Lower heating value	19,410 kJ/kg
Crushing strength <sup>1</sup>	82 MPa
Static bending strength <sup>1</sup>	134 MPa
Modulus of elasticity <sup>1</sup>	22,260 MPa

<sup>1</sup> At 12 % moisture content, with 1 MPa = 1 N/mm

### Natural durability and preservation

**Resistance to fungi.** Class 1 - very durable



Quarter sawn



Flat sawn

Resistance to dry wood borers. Class D - durable (sapwood demarcated, risk limited to sapwood)

Resistance to termites. Class D - durable

Treatability. Class 4 - not permeable

Use class ensured by natural durability.

Class 4 - in ground or fresh water contact

Notes. This species is listed in the European standard NF EN 350 (2016). It naturally covers the use class 5 (wood permanently or regularly submerged in salt water, sea water or brackish water) due to its high specific gravity and hardness. According to the European standard NF EN 335 (2013), performance length might be modified by the intensity of end-use exposition.

## Requirement of a preservative treatment

Against dry wood borer. Does not require any preservative treatment

In case of temporary humidification. Does not require any preservative treatment

In case of permanent humidification. Does not require any preservative treatment

## Drying

Drying rate. Slow

Risk of distorsion. High risk

Risk of casehardening. No known specific risk

Risk of checking. High risk

Risk of collapse. No known specific risk

Notes.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
<b>Prewarm 1</b>		> 50	40	86	17.0
<b>Prewarm 2</b>	4	> 50	43	85	16.5
<b>Drying</b>		> 50	45	83	15.7
		50 - 40	45	80.0	14.6
		40 - 35	45	77.0	13.8
		35 - 30	45	74.0	12.9
		30 - 27	47	69.0	11.5
		27 - 24	49	61.0	9.9
		24 - 21	50	52.0	8.4
		21 - 18	53	48.0	7.7
		18 - 15	56	41.0	6.6
		15 - 12	59	36.0	5.9
		12 - 9	61	30.0	5.0
		9 - 6	65	29.0	4.7
<b>Conditioning</b>	8		58	(3)	(2)
<b>Cooling</b>	(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. Fairly high

**Sawteeth recommended.** Stellite-tipped

**Cutting tools.** Tungsten carbide

**Peeling.** Not recommended or without interest

**Slicing.** Not recommended or without interest

**Notes.** Difficult to obtain good finish due to sometimes highly interlocked grain. Tendency to tear on quartersawn.

## Assembling

**Nailing and screwing.** Good but pre-boring necessary

**Notes.** High specific gravity: gluing must be especially performed in compliance with the code of practice.

## 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 European standard EN 1912 (2012) and associated national standards, strength class D40 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

- Bridges (parts in contact with water or ground)
- Bridges (parts not in contact with water or ground)
- Decking
- Flooring
- Heavy carpentry
- Hydraulic works (seawater)
- Industrial or heavy flooring
- Poles
- Sculpture
- Sleepers
- Turned goods
- Vehicle or container flooring

**Notes.** Substitute for AZOBE (*Lophira alata*) and GREENHEART (*Chlorocardium rodiei*).



"Drôle de Carré", Mallet-Stevens gardens – creation by Bois et Loisirs, Croix (France).  
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### Main local names

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