

Family: FABACEAE-MIMOSOIDEAE (angiosperm)

Scientific name(s): *Cylicodiscus gabunensis*

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown
Sapwood: clearly demarcated
Texture: medium
Grain: interlocked
Interlocked grain: marked

Note: Unpleasant odour when green. Heartwood yellow brown becomes red brown with air.

LOG DESCRIPTION

Diameter: from 90 to 150 cm
Thickness of sapwood: from 5 to 8 cm
Floats: no
Log durability: good

PHYSICAL PROPERTIES

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

	<u>Mean</u>	<u>Std dev.</u>
Specific gravity *:	0,91	0,10
Monnin hardness *:	10,3	3,4
Coeff. of volumetric shrinkage:	0,61 %	0,10 %
Total tangential shrinkage (TS):	7,9 %	1,0 %
Total radial shrinkage (RS):	5,8 %	0,6 %
TS/RS ratio:	1,4	
Fiber saturation point:	25 %	

Stability: moderately stable to poorly stable

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	82 MPa	12 MPa
Static bending strength *:	134 MPa	23 MPa
Modulus of elasticity *:	22260 MPa	3348 MPa

(*: at 12% moisture content, with 1 MPa = 1 N/mm²)

NATURAL DURABILITY AND TREATABILITY

Fungi and termite resistance refers to end-uses under temperate climate. Except for special comments on sapwood, natural durability is based on mature heartwood. Sapwood must always be considered as non-durable against wood degrading agents.

E.N. = Euro Norm

Funghi (according to E.N. standards): class 1 - very durable

Dry wood borers: durable - sapwood demarcated (risk limited to sapwood)

Termites (according to E.N. standards): class D - durable

Treatability (according to E.N. standards): class 4 - not permeable

Use class ensured by natural durability: class 4 - in ground or fresh water contact

Species covering the use class 5: Yes

Note: This species is listed in the European standard NF EN 350-2.

It naturally covers the use class 5 (end-uses in marine environment or in brackish water) due to its high specific gravity and hardness.

According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition.

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: does not require any preservative treatment

In case of risk of temporary humidification: does not require any preservative treatment

In case of risk of permanent humidification: does not require any preservative treatment

DRYING

Drying rate: slow

Risk of distortion: high risk

Risk of casehardening: no

Risk of checking: high risk

Risk of collapse: no

Note: Kiln drying must be handled carefully.

Possible drying schedule: 1

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
Green	40	37	82
40	44	38	68
30	44	36	59
20	46	36	52
15	49	37	46

This schedule is given for information only and is applicable to thickness lower or equal to 38 mm.

It must be used in compliance with the code of practice.

For thickness from 38 to 75 mm, the air relative humidity should be increased by 5 % at each step.

For thickness over 75 mm, a 10 % increase should be considered.

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

Note: Requires power. It is sometimes difficult to obtain a good finish because of highly interlocked grain. Tendency to tear on quartersawn.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary

Gluing: correct (for interior only)

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to SATA grading rules (1996)

For the "General Purpose Market":

Possible grading for square edged timbers: choix I, choix II, choix III, choix IV

Possible grading for short length lumbers: choix I, choix II

Possible grading for short length rafters: choix I, choix II, choix III

For the "Special Market":

Possible grading for strips and small boards (ou battens): choix I, choix II, choix III

Possible grading for rafters: choix I, choix II, choix III

FIRE SAFETY

Conventional French grading: Thickness > 14 mm : M.3 (moderately inflammable)

Thickness < 14 mm : M.4 (easily inflammable)

Euroclasses grading: D s2 d0

Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

END-USES

Hydraulic works (seawater)

Sleepers

Heavy carpentry

Sculpture

Bridges (parts in contact with water or ground)

Flooring

Poles

Industrial or heavy flooring

Vehicle or container flooring

Turned goods

Bridges (parts not in contact with water or ground)

Note: Substitute for AZOBE (*Lophira alata*) and GREENHEART (*Ocotea rodiaei*).

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Cameroon	ADOUM	Cameroon	AFRICAN GREENHEART
Cameroon	BOKOKA	Congo	N' DUMA
Ivory Coast	BOUEMON	Gabon	EDOUM
Gabon	ODUMA	Ghana	ADADUA
Ghana	BENYA	Ghana	DENYA
Nigeria	OKAN		

