

Family: IRVINGIACEAE (angiosperm)

Scientific name(s): Klainedoxa gabonensis

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: brown
 Sapwood: not clearly demarcated
 Texture: fine
 Grain: straight or interlocked
 Interlocked grain: marked
 Note: Sapwood very important and not durable.
 Grain sometimes wavy. Presence of light thin veins and sometimes black veining.

LOG DESCRIPTION

Diameter: from 60 to 100 cm
 Thickness of sapwood:
 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 *:	1,06	0,05
Monnin hardness *:	12,2	3,6
Coeff. of volumetric shrinkage:	0,77 %	0,13 %
Total tangential shrinkage (TS):	9,5 %	0,5 %
Total radial shrinkage (RS):	7,7 %	1,2 %
TS/RS ratio:	1,2	
Fiber saturation point:	25 %	
Stability:	poorly stable	

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	92 MPa	7 MPa
Static bending strength *:	168 MPa	21 MPa
Modulus of elasticity *:	25620 MPa	3720 MPa

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

Musical quality factor: 120,2 measured at 2661 Hz

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: heartwood durable but sapwood not clearly demarcated

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

Treatability (according to E.N. standards): class 3 - poorly permeable

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

Species covering the use class 5: No

Note: The possible presence of few demarcated sapwood in sawnwood may have an influence on the expected durability.

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: requires appropriate 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 information available

Risk of checking: high risk

Risk of collapse: no information available

Note: Drying is very difficult.

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: Blunting effect due to hardness. No silica. Requires power.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary

Gluing: poor

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 (fresh water)

Sleepers

Industrial or heavy flooring

Vehicle or container flooring

Poles

Bridges (parts in contact with water or ground)

Heavy carpentry

Bridges (parts not in contact with water or ground)

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Cameroon	NGON	Congo	KUMA-KUMA
Ivory Coast	KROMA	Gabon	EVES
Gabon	EVEUSS	Ghana	KRUMA
Equatorial Guinea	EVES	Equatorial Guinea	EVEUSS
Nigeria	ODUDU	Central African Republic	OBORO
Democratic Republic of the Congo	IKELE	Democratic Republic of the Congo	KUMA-KUMA

