Common name:	BILINGA
Family:	RUBIACEAE
Scientific name(s):	Nauclea diderrichii Sarcocephalus spp. (synonymous) Nauclea gilletii

LOG DESCRIPTION

Diameter:	from 60 to 90 cm
Thickness of sapwood:	from 3 to 5 cm
Floats:	no
Durability in forest :	Good

WOOD DESCRIPTION

Colour:	Orange - yellow
Sapwood:	Clearly demarcated
Texture:	Medium
Grain:	Interlocked
Interlocked grain:	Marked

Note: Heartwood golden yellow or orangey yellow slightly moiré. In interior end-uses, the colour remains stable.

PHYSICAL PROPERTIES

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

	mean	standard deviation
Density *:	0.76 g/cm3	0.07
Monnin hardness*:	5.3	1.3
Coef of volumetric shrinkage:	0.55 %	0.05
Total tangential shrinkage:	7.5 %	0.9
Total radial shrinkage:	4.5 %	0.7
Fibre saturation point:	25 %	
Stability:	Moderately stable to stable	

MECHANICAL PROPERTIES

	mean	standard deviation
Crushing strength *:	63 MPa	7
Static bending strength *:	95 MPa	11
Modulus of elasticity *:	14660 MPa	1934

(* : at 12 % moisture content ; 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.

Fungi:	Class 1 - very durable
Dry wood borers:	Durable; sapwood demarcated (risk limited to sapwood)
Termites:	Class D - Durable
Treatability:	2 - moderately permeable
Use class*:	4 - in ground or fresh water contact
Note:	This species is listed in the European standard NF EN 350-2. Bilinga naturally covers the use class 5 (end-uses in marine environment or in brackish water). According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition.

* ensured by natural durability (according EN standards).

MAIN LOCAL NAMES

Countries	Local names
Angola	ENGOLO
Benin	OPEPE
Cameroon	AKONDOC
Central African Rep	KILU
Congo	LINZI
Congo	MOKESSE
Congo	N'GULU-MAZA
Côte d'Ivoire	BADI
Dem Rep of Congo	BONKNGU
Dem Rep of Congo	N'GULU-MAZA
Equatorial Guinea	ALOMA
Gabon	BILINGA
Ghana	KUSIA
Nigeria	OPEPE
Sierra Leone	BUNDUI
Uganda	KILINGI
Germany	ALOMA

Countries	Local names
United Kingdom	OPEPE

BILINGA

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks:	Does not require any preservative treatment
In case of temporary humidification risk:	Does not require any preservative treatment
In case of permanent humidification risk:	Does not require any preservative treatment

DRYING

Drying rate:	Slow
Risk of distortion:	Slight risk
Risk of casehardening:	No
Risk of checking:	High risk
Risk of collapse:	No

Possible drying schedule

M.C. (%)	Temperature (°C) dry-bulb	wet-bulb	Air humidity (%)
Green	50	47	84
40	50	45	75
30	55	47	67
20	70	55	47
15	75	58	44

This schedule is given for information only and is applicable to thickness < 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.

Note: Difficult to dry due to high interlocked grain. Quartersawn recommended in order to avoid defects.

SAWING AND MACHINING

Blunting effect:	Normal
Sawteeth recommended:	Ordinary or alloy steel
Cutting tools:	Ordinary
Peeling:	Bad
Slicing:	Good
Note:	Requires power.

ASSEMBLING

Nailing / Screwing:	Good but pre-boring necessary
Gluing:	Correct
Note:	Slight tendency to split when nailing. Gluing must be done with care: the wood is acid.

END-USES

Main known end-uses; they must to be implemented according to the code of practice.
Important remark: some end-uses are mentionned for information (traditional, regional or ancient end-uses).

Note: Exterior facing must be protected against humidity variation in order to avoid shakes. Filling is necessary.

Sleepers
Heavy carpentry
Posts
Bridges (parts in contact with water or ground)
Hydraulic works (seawater)
Vehicle or container flooring
Industrial or heavy flooring
Flooring
Cabinetwork (high class furniture)
Current furniture or furniture components
Sliced veneer
Ship building (planking and deck)
Exterior panelling
Interior joinery
Interior panelling
Bridges (parts not in contact with water or ground)
Resistant to one or several acids