

Family: EBENACEAE (angiosperm)

Scientific name(s): Diospyros crassiflora  
Diospyros mespiliformis

Commercial restriction: no commercial restriction

Note: Other African Diospyros species are not commercialized due to their light colour (ex.: *D. sanzaminika*). Moreover, there are a lots of other Diospyros species, especially in Asia-Océania: among others, *D. perrierii* in Madagascar, *D. celebica* and *D. rumphii* (Ebène de Macassar).

Wood often commercialized in small logs of 1 m to 1,5 m long.

## WOOD DESCRIPTION

Color: black  
Sapwood: clearly demarcated  
Texture: fine  
Grain: straight or interlocked  
Interlocked grain: slight

Note: Logs may present different kinds of defects, especially small pinholes and heartwood rots.  
Wood is uniform black to black brown (*D. mespiliformis*).

## LOG DESCRIPTION

Diameter: from 30 to 60 cm  
Thickness of sapwood: from 5 to 12 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 *:	0,90	0,06
Monnin hardness *:	7,0	0,6
Coeff. of volumetric shrinkage:	0,51 %	0,04 %
Total tangential shrinkage (TS):	11,0 %	0,5 %
Total radial shrinkage (RS):	7,0 %	0,2 %
TS/RS ratio:	1,6	
Fiber saturation point:	29 %	
Stability: poorly stable		

Note: Properties are very variable according to the species and the origin; thus, specific gravity may vary from 0,75 to 1,1.

## MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	58 MPa	8 MPa
Static bending strength *:	130 MPa	31 MPa
Modulus of elasticity *:	15500 MPa	3500 MPa

(\*: at 12% moisture content, with 1 MPa = 1 N/mm<sup>2</sup>)

Musical quality factor: 123,6 measured at 2282 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: 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: No

## 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

Possible drying schedule: 5

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
30	42	41	94
25	42	39	82
20	48	43	74
15	48	43	74

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: high

Sawteeth recommended: stellite-tipped

Cutting tools: tungsten carbide

Peeling: not recommended or without interest

Slicing: nood

Note: For machining and slicing, powerful machines are necessary due to the high hardness. Sawdust may cause dermatitis.

## ASSEMBLING

Nailing / screwing: good but pre-boring necessary

Gluing: correct

## 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

Wood-ware

Musical instruments

Cabinetwork (high class furniture)

Tool handles (resilient woods)

Turned goods

Wind instruments

Sculpture

Note: A preliminary surface treatment with alcohol is recommended for polyester coatings and undercoats.

## MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Benin	CUBAGA	Benin	EBENE
Cameroon	EPINDE-PINDE	Cameroon	MAVINI
Cameroon	MEVINI	Cameroon	NDOU
Congo	MOPINI	Gabon	EVILA
Equatorial Guinea	EBANO	Nigeria	ABOKPO
Nigeria	KANRAN	Nigeria	NYARETI
Nigeria	OSIBIN	Central African Republic	BINGO
Central African Republic	NGOUBOU	United Kingdom	AFRICAN EBONY
Germany	AFRIKANISCHES EBENHOLZ		

