

African ebony

Family. Ebenaceae

Botanical Name(s).

Diospyros crassiflora

Diospyros mespiliformis

Diospyros viridicans

Diospyros p.p.

Continent. Africa

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

Notes. 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.

Description of logs

Diameter. From 30 to 60 cm

Thickness of sapwood. From 5 to 12 cm

Floats. No

Log durability. Good

Description of wood

Colour reference. Black

Sapwood. Clearly demarcated

Texture. Fine

Grain. Straight or interlocked

Interlocked grain. Slight

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

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 ¹	0.90
Monnin hardness ¹	7.0
Coefficient of volumetric shrinkage	0.51 % per %
Total tangential shrinkage (St)	11.0 %
Total radial shrinkage (Sr)	7.0 %
Ratio St/Sr	1.6
Fibre saturation point	29 %
Thermal conductivity (λ)	0.29 W/(m.K)
Lower heating value	



Flat sawn



Half-quarterer sawn

Crushing strength ¹	58 MPa
Static bending strength ¹	130 MPa
Modulus of elasticity ¹	15,500 MPa

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

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

Natural durability and preservation

Resistance to fungi. Class 1 - very durable

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

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 (%)
Prewarm 1		> 50	40	86	17.0
Prewarm 2	4	> 50	43	85	16.5
Drying		> 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
Conditioning	8		58	(3)	(2)
Cooling	(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. High

Sawteeth recommended. Stellite-tipped

Cutting tools. Tungsten carbide

Peeling. Not recommended or without interest

Slicing. Good

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

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.

No conventional grading rules for this cabinetwork species. Grading according to final uses.

Visual grading for structural applications

No visual grading for structural applications

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

- Cabinetwork (high class furniture)
- Musical instruments
- Sculpture
- Tool handles (resilient woods)
- Turned goods
- Wind instruments
- Wood-ware

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



Burkina Faso sculpture
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Main local names

Country	Local name
Benin	Cubaga
Benin	Ébène
Cameroon	Épindé-pindé
Cameroon	Mavini
Cameroon	Mévini
Cameroon	Ndou
Central African Republic	Bingo
Central African Republic	Ngoubou
Congo	Mopini
Equatorial Guinea	Ebano
France (importated tropical timber)	Ébène d'afrique
Gabon	Évila
Germany (importated tropical timber)	Afrikanisches ebenholz
Nigeria	Abokpo
Nigeria	Kanran
Nigeria	Nyareti
Nigeria	Osibin
United Kingdom (importated tropical timber)	African ebony