Ekki

Flat sawn

Quarter sawn

Family. Ochnaceae

Botanical Name(s).

Lophira alata
Lophira procera (synonymous)

Continent. Africa

CITES.

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

Description of logs

Diameter. From 60 to 100 cm

Thickness of sapwood. From 2 to 4 cm

Floats. No

Log durability. Good

Description of wood

Colour reference. Dark red

Sapwood. Clearly demarcated

Texture. Coarse

Grain. Interlocked

Interlocked grain. Marked

Notes. Dark red to purple brown wood. Intermediate zone between sapwood and heartwood. White deposits in the pores.

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]	1.06
Monnin hardness[1]	10.7
Coefficient of volumetric shrinkage	0.69 % per %
Total tangential shrinkage (St)	10.3 %
Total radial shrinkage (Sr)	7.3 %
Ratio St/Sr	1.4 %
Fibre saturation point	28 %
Thermal conductivity (λ)	0.34 W/(m.K)
Lower heating value	19,590 kJ/kg
Crushing strength[1]	96 MPa
Static bending strength[1]	162 MPa
Modulus of elasticity[1]	21,420 MPa

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

Natural durability and preservation

Resistance to fungi. Class 2 - 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

Notes. This species is listed in the European standard NF EN 350 (2016). Transitional wood has a variable durability. Good resistance to marine borers in temperate water but moderate resistance in tropical water. This species is thus considerated as "moderately durable" towards marine borers and covers the use class 5 only when used in temperate or cold marine environment. According to the European standard NF EN 335 (2013), performance length might be modified by the intensity of end-use exposition.

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

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)		Arrêt	(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. Fairly high

Sawteeth recommended. Stellite-tipped

Cutting tools. Tungsten carbide

Peeling. Not recommended or without interest

Slicing. Not recommended or without interest

Notes. Requires power. Log turning sawing recommended (internal stresses). Some difficulties in planing due to interlocked grain.

Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. Very high specific gravity: gluing must be especially performed in compliance with the code of practice.

Commercial grading

Appearance grading for sawn timbers.

According to the ATIBT grading rules (2017), the main choices are: FAS (First And Second), n°1 Common and select, n°2 Common (see details of these rules on the ATIBT website).

Fire safety

Conventional French grading.

Thickness > 14 mm: M3 (moderately inflammable)

Thickness < 14 mm: M4 (easily inflammable)

Euroclasses grading. D-s2, d0

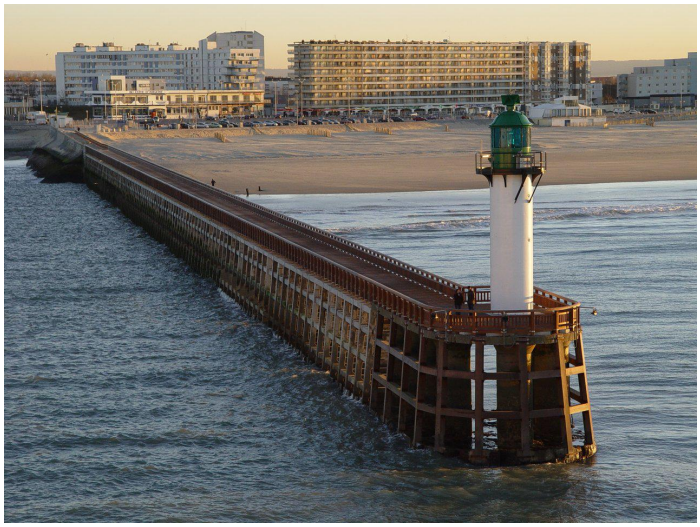
Default grading for solid wood, according to requirements of European standard EN 14081-1+A1 (August 2019).

It concerns structural graded timber in vertical uses and ceiling with mean density upper 0.35 and thickness upper 22 mm.

End-uses

- Bridges (parts in contact with water or ground)
- Bridges (parts not in contact with water or ground)
- Cooperage
- Decking
- Heavy carpentry
- Hydraulic works (fresh water)
- Hydraulic works (seawater)
- Industrial or heavy flooring
- Poles
- Resistant to one or several acids
- Sleepers
- Stairs (inside)
- Stakes
- Vehicle or container flooring
- Wood frame house

Notes. For end-uses under permanent humidification, transition wood must be eliminated.



“Tillac” on the Calais pier – Design by Bois et loisirs (France) (© Denis Delequeuche)

Main local names

Country	Local name
Benin	Éki
Cameroon	Bongossi
Cameroon	Okoka
Central African Republic	Kofyo
Congo	Bonkolé
Côte d'Ivoire	Azobé
Equatorial Guinea	Akoga
Gabon	Akoga
Germany (importated tropical timber)	Bongossi
Germany (importated tropical timber)	Bonkole
Ghana	Kaku
Nigeria	Eba
Nigeria	Ekki
Sierra Leone	Hendui
United Kingdom (importated tropical timber)	Ekki