

Limbali

Family. Leguminosae (Caesalpiniaceae)

Botanical Name(s).

Gilbertiodendron dewevrei

Maclobium dewevrei (synonymous)

Gilbertiodendron preussii

Gilbertiodendron splendidum

Gilbertiodendron p.p.

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 5 to 10 cm

Floats. No

Log durability. Moderate (treatment recommended)

Description of wood

Colour reference. Red brown

Sapwood. Clearly demarcated

Texture. Coarse

Grain. Straight or interlocked

Interlocked grain. Slight

Notes. Wood red brown with greenish or copper shades. Possible internal stresses.

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	0.81
Monnin hardness ¹	5.1
Coefficient of volumetric shrinkage	0.62 % per %
Total tangential shrinkage (St)	9.1 %
Total radial shrinkage (Sr)	4.7 %
Ratio St/Sr	1.9
Fibre saturation point	28 %
Thermal conductivity (λ)	0.26 W/(m.K)
Lower heating value	17,080 kJ/kg
Crushing strength ¹	72 MPa
Static bending strength ¹	137 MPa
Modulus of elasticity ¹	18,010 MPa

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



Quarter sawn



Half-quarter sawn

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 M - moderately durable

Treatability. Class 3 - poorly permeable

Use class ensured by natural durability.

Class 3 - not in ground contact, outside

Notes. This species is listed in the European standard NF EN 350 (2016). Good resistance to white rot. Moderate resistance to brown cubical rot. 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. Use not recommended

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. Drying must be handled with care to reduce risks of cracks. Air drying under cover recommended.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	50	87	17.0
Prewarm 2	4	> 50	50	86	16.5
Drying		> 50	53	85	15.7
		50 - 40	53	82.0	14.6
		40 - 35	54	78.0	13.4
		35 - 30	55	77.0	12.9
		30 - 27	57	73.0	11.9
		27 - 24	58	68.0	10.7
		24 - 21	60	61.0	9.3
		21 - 18	62	52.0	7.9
		18 - 15	64	43.0	6.6
		15 - 12	65	39.0	6.0
		12 - 9	65	31.0	5.0
		9 - 6	65	28.0	4.5
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. Fairly high

Sawteeth recommended. Stellite-tipped

Cutting tools. Tungsten carbide

Peeling. Bad

Slicing. Not recommended or without interest

Notes. Requires power. Log turning sawing recommended as soon as possible after felling (risks of splitting).

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.

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).

Visual grading for structural applications

According to French standard NF B 52-001-1 (2018), strength class D40 can be provided by visual grading.

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

- Exterior joinery
- Exterior panelling
- Heavy carpentry
- Indoor staircases
- Industrial or heavy flooring
- Interior joinery
- Interior panelling
- Ship building (planking and deck)
- Vehicle or container flooring
- Wood frame house



Floor at the offices of Fibres Industries Bois, Saint Paul, La Réunion (France).

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Main local names

Country	Local name
Cameroon	Ékobem
Central African Republic	Molapa
Congo	Épal
Côte d'Ivoire	Vaa
Democratic Republic of the Congo	Ditshipi
Democratic Republic of the Congo	Ligudu
Democratic Republic of the Congo	Limbali
Gabon	Abeum
Ghana	Tetekon
Liberia	Sehmeh
Nigeria	Ekpagoi eze