

African Padauk

Family. Fabaceae

Botanical Name(s).

Pterocarpus osun

Pterocarpus soyauxii

Continent. Africa

CITES. The species of the genus *Pterocarpus* are listed in Appendix II of CITES (Washington Convention 2023). Only African populations are concerned. The products concerned are logs, sawn wood, veneer, plywood and engineered wood. *P. santalinus* species is concerned only with logs, chips, powder and extracts.

Description of logs

Diameter. From 60 to 100 cm

Thickness of sapwood. From 6 to 10 cm

Floats. No

Log durability. Moderate (treatment recommended)

Description of wood

Colour reference. Red

Sapwood. Clearly demarcated

Texture. Coarse

Grain. Straight or interlocked

Interlocked grain. Marked

Notes. Variable buoyancy. Wood bright red becoming purplish brown with light.

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	0.79
Monnin hardness ¹	8.3
Coefficient of volumetric shrinkage	0.44 % per %
Total tangential shrinkage (St)	5.0 %
Total radial shrinkage (Sr)	3.2 %
Ratio St/Sr	1.6
Fibre saturation point	21 %
Thermal conductivity (λ)	0.26 W/(m.K)
Lower heating value	
Crushing strength ¹	65 MPa
Static bending strength ¹	116 MPa
Modulus of elasticity ¹	15,870 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 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 2 - moderately 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). It naturally covers the use class 5 (wood permanently or regularly submerged in salt water, sea water or brackish water) only for end-uses under temperate and cold 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. Normal to slow

Risk of distorsion. No risk or very slight risk

Risk of casehardening. No known specific risk

Risk of checking. No risk or very slight risk

Risk of collapse. No known specific risk

Notes.

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	45	86	17.0
Prewarm 2	4	> 50	45	86	16.5
Drying		> 50	48	84	15.7
		50 - 40	48	80.5	14.6
		40 - 35	49	77.0	13.4
		35 - 30	50	75.0	12.9
		30 - 27	51	70.0	11.5
		27 - 24	53	62.0	9.9
		24 - 21	54	53.0	8.4
		21 - 18	55	48.5	7.7
		18 - 15	55	40.0	6.6
		15 - 12	55	35.0	5.9
		12 - 9	60	30.0	5.0
		9 - 6	60	28.0	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. Fairly high

Sawteeth recommended. Stellite-tipped

Cutting tools. Tungsten carbide

Peeling. Not recommended or without interest

Slicing. Good

Notes. Sometimes, irritant sawdust. Requires power. Sometimes, difficulties due to interlocked grain.

Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. Pre-boring necessary: risks of splits especially with thin boards.

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 D30 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

- Bridges (parts in contact with water or ground)
- Bridges (parts not in contact with water or ground)
- Cabinetwork (high class furniture)
- Decking
- Exterior joinery
- Flooring
- Heavy carpentry
- Hydraulic works (seawater)
- Indoor staircases
- Industrial or heavy flooring
- Interior joinery
- Sculpture
- Seats
- Ship building (planking and deck)
- Ship building (ribs)
- Sleepers
- Sliced veneer
- Turned goods
- Vehicle or container flooring



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Main local names

Country	Local name
Angola	Tacula
Belgium (importated tropical timber)	Corail
Cameroon	Mbel
Central African Republic	Padouk
Congo	Kisésé
Democratic Republic of the Congo	Mongola
Democratic Republic of the Congo	Mukula
Democratic Republic of the Congo	N'gula
Equatorial Guinea	Palo rojo
France (importated tropical timber)	Padouk d'afrique
Gabon	Mbel
Germany (importated tropical timber)	Padauk
Italia (importated tropical timber)	Paduk
Netherlands (importated tropical timber)	Padoek
Nigeria	Osun
United Kingdom (importated tropical timber)	African padauk
United Kingdom (importated tropical timber)	Barwood
United Kingdom (importated tropical timber)	Camwood
United Kingdom (importated tropical timber)	Padauk