

Tchitola

Family. Leguminosae (Caesalpiniaceae)

Botanical Name(s).

Oxystigma mannii

Oxystigma oxyphyllum

Pterygopodium oxyphyllum (synonymous)

Continent. Africa

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

Description of logs

Diameter. From 70 to 120 cm

Thickness of sapwood. From 6 to 10 cm

Floats. Yes

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. Some logs are not floatable. Heartwood copper red brown with blackish veins. Blackish resin exudation.

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	0.64
Monnin hardness ¹	2.9
Coefficient of volumetric shrinkage	0.45 % per %
Total tangential shrinkage (St)	7.5 %
Total radial shrinkage (Sr)	3.9 %
Ratio St/Sr	1.9
Fibre saturation point	28 %
Thermal conductivity (λ)	0.22 W/(m.K)
Lower heating value	19,830 kJ/kg
Crushing strength ¹	58 MPa
Static bending strength ¹	88 MPa
Modulus of elasticity ¹	14,960 MPa

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

Natural durability and preservation



Half-quarter sawn



Flat sawn

Resistance to fungi. Class 3 - moderately durable

Resistance to dry wood borers. Class D - durable (sapwood demarcated, risk limited to sapwood)

Resistance to termites. Class M - moderately durable

Treatability. Class 3-4 - poorly or not permeable

Use class ensured by natural durability.

Class 2 - inside or under cover (dampness possible)

Notes. This species is listed in the European standard NF EN 350 (2016).

Requirement of a preservative treatment

Against dry wood borer. Does not require any preservative treatment

In case of temporary humidification. Requires appropriate preservative treatment

In case of permanent humidification. Use not recommended

Drying

Drying rate. Normal

Risk of distorsion. Slight risk

Risk of casehardening. No known specific risk

Risk of checking. 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	50	87	17.0
Prewarm 2	4	> 50	50	86	16.5
Drying		> 50	53	83	15.2
		50 - 40	53	80.0	14.1
		40 - 35	54	80.0	13.9
		35 - 30	55	75.0	12.5
		30 - 27	57	70.0	11.0
		27 - 24	58	61.0	9.4
		24 - 21	59	51.0	7.9
		21 - 18	60	47.0	7.3
		18 - 15	61	39.0	6.1
		15 - 12	62	35.0	5.6
		12 - 9	62	30.0	5.0
		9 - 6	62	26.0	4.4
Conditioning	8		55	(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. Normal

Sawteeth recommended. Ordinary or alloy steel

Cutting tools. Ordinary

Peeling. Good

Slicing. Good

Notes. Resin tends to clog tools. Irritant sawdust.

Assembling

Nailing and screwing. Good

Notes. Resin exudations: to be taken into account when gluing.

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

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

- Blockboard
- Boxes and crates
- Current furniture or furniture components
- Exterior joinery
- Exterior panelling
- Fiber or particle boards
- Formwork
- Glued laminated
- Interior joinery
- Light carpentry
- Shingles
- Sliced veneer
- Veneer for back or face of plywood
- Veneer for interior of plywood
- Wood frame house

Notes. Due to the presence of resin, it is often used painted. Wood from less resinous logs can be used as a substitute for WALNUT (*Juglans spp.*).

Main local names

Country	Local name
Angola	Tola chinfuta
Cameroon	Nom sinedon
Congo	Kitola
Congo	Tchitola
Democratic Republic of the Congo	Akwakwa
Democratic Republic of the Congo	Tshibudimbu
Gabon	Émola
Gabon	M'babou
Nigeria	Lolagbola