Brown sterculia

Family. Malvaceae

Botanical Name(s).

Sterculia rhinopetala

Continent. Africa

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

Quarter sawn

Description of logs

Diameter. From 60 to 80 cm

Thickness of sapwood. From 4 to 6 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

Half-quarter sawn

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]	0.84
Monnin hardness[1]	5.6
Coefficient of volumetric shrinkage	0.68 % per %
Total tangential shrinkage (St)	10.0 %
Total radial shrinkage (Sr)	5.0 %
Ratio St/Sr	2.0
Fibre saturation point	26 %
Thermal conductivity (λ)	0.27 W/(m.K)
Lower heating value	
Crushing strength[1]	72 MPa
Static bending strength[1]	133 MPa
Modulus of elasticity[1]	18,670 MPa

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

Natural durability and preservation

Resistance to fungi. Class 2 - durable

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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 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. 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 in order to reduce defects. Quartersawn 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. Normal

Sawteeth recommended. Ordinary or alloy steel

Cutting tools. Ordinary

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Peeling. Good

Slicing. Good

Notes. Very irritant sawdust. Some difficulties in planing due to interlocked grain.

Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. Tends to split when nailing. 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

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

- Current furniture or furniture components
- Flooring
- Heavy carpentry
- Indoor staircases
- Interior joinery
- Interior panelling
- Seats
- Sliced veneer
- Veneer for back or face of plywood
- Veneer for interior of plywood
- Wood frame house

Notes. Filling is recommended to obtain a good finish.

Main local names

Country	Local name
Cameroon	N'kanang
Côte d'Ivoire	Lotofa
Ghana	Wawabima
Nigeria	Aye
United Kingdom (importated tropical timber)	Brown sterculia

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