

Rubberwood

Family. Euphorbiaceae

Botanical Name(s).

Hevea brasiliensis

Continent. Latin America

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

Notes. Native from the Amazonian forest, HEVEA was widely planted in South East Asia and later in Africa. RUBBER WOOD is the name used in all South East Asia.

Description of logs

Diameter. From 30 to 60 cm

Thickness of sapwood. -

Floats. Yes

Log durability. Low (treatment necessary)

Description of wood

Colour reference. Creamy white

Sapwood. Not demarcated

Texture. Coarse

Grain. Straight or interlocked

Interlocked grain. Slight

Notes. Logs must be treated, extracted and sawn as soon as possible after felling. Cream white wood becoming light brown.

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	0.65
Monnin hardness ¹	3.0
Coefficient of volumetric shrinkage	0.41 % per %
Total tangential shrinkage (St)	5.6 %
Total radial shrinkage (Sr)	2.2 %
Ratio St/Sr	2.5
Fibre saturation point	24 %
Thermal conductivity (λ)	0.22 W/(m.K)
Lower heating value	17,850 kJ/kg
Crushing strength ¹	51 MPa
Static bending strength ¹	82 MPa
Modulus of elasticity ¹	11,760 MPa

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



Flat sawn



Quarter sawn

Natural durability and preservation

Resistance to fungi. Class 5 - not durable
 Resistance to dry wood borers. Class S - susceptible (risk in all the wood)
 Resistance to termites. Class S - susceptible
 Treatability. Class 1 - easily permeable
 Use class ensured by natural durability.
 Class 1 - inside (no dampness)
 Notes. Prone to blue stain.

Requirement of a preservative treatment

Against dry wood borer. Requires appropriate preservative treatment
 In case of temporary humidification. Requires appropriate preservative treatment
 In case of permanent humidification. Use not recommended

Drying

Drying rate. Rapid
 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. Careful piling, top weighting of the stacks and end-coating are recommended to avoid distortions and cracks.

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. Presence of internal stresses. Sharp edges are recommended to avoid a fuzzy surface. Latex tends to clog sawteeth.

Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. Tends to split when nailing.

Commercial grading

Appearance grading for sawn timbers.

Different grading rules applied according to wood origin.

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
- Fiber or particle boards
- Flooring
- Glued laminated
- Indoor staircases
- Interior joinery
- Interior panelling
- Light carpentry
- Moulding
- Pulp
- Sliced veneer
- Veneer for interior of plywood

Notes. Stains well.



Chair in rubber wood blockboard – South East Wood Co Ltd, Klaeng District, Rayong (Thailand).

© Jean Gérard - Cirad

Main local names

Country

Brazil
 Brazil
 Brazil
 Brazil
 France (importated tropical timber)
 Guyana
 Malaysia
 Peru
 Peru
 Thailand
 United Kingdom (importated tropical timber)
 United States of America (importated tropical timber)
 Venezuela

Local name

Hevea
 Mapalapa
 Seringa
 Seringueira
 Hévéa
 Hatti
 Hevea wood
 Jeve
 Shirenga
 Rubber tree
 Para rubber tree
 Rubber wood
 Arbol de caucho