



## MASSARANDUBA

### Source

FSC Massaranduba is available in the forests of Precious Woods, located in the Amazon region of Brazil. The large trunks have a straight and cylindrical shape, and attain a maximum diameter of 180 cm, however most of the trunks are much thinner. The trunks contain “balata”, which is used as a substitute for rubber in some countries.

### Appearance

The heartwood is flesh-colored to reddish brown. It darkens slightly after exposure to reddish or purple brown. The 3-5 cm wide whitish sapwood is easy to distinguish. The grain is straight (sometimes curved or interlocked) and the texture is fine.

### Processing properties

Machining goes quite well, with a smooth result despite the high density. The fine sawdust can cause an allergic reaction. Pre-drilling is recommended. With gluing and finishing is limited experience but is reported to be good. The GluGreen® Technology could successfully be applied to green sawn timber. Drying goes slowly with a tendency to check and bend. To avoid checking during air drying, the timber needs to be protected from the weather.

### Application

This very strong and durable species is used for a wide spread of applications, like hydraulic constructions, bridges, jetties, sheet piling, stables, boardwalks, piles and garden timber. Massaranduba is a perfect substitute for Bangkirai.

### Technical properties

Green density	1.200 kg/m <sup>3</sup>
Density (at 12%)	1.060 kg/m <sup>3</sup>
Shrinkage green – oven dry	6,3% radial; 9,4% tangential
Shrinkage green – 65% RH (abt. 12% EMC)	2,3% radial; 3,5% tangential
Swelling between 50-90% RH	2,8% radial; 4,0% tangential
Equilibrium Moisture Content (EMC)	13,7% (at 65% RH water adsorption) 14,1% (at 65% RH water desorption) 20,2% (at 95% RH water adsorption)
Fibre Saturation Point (FSP)	27%
Durability according to EN 113 (without soil contact)	Heartwood class 1
Durability according to ENV 807 (with soil contact)	Heartwood class 1-2
Durability according to EN 350:2016	Heartwood class 1
Bending strength, MOR (defect free samples)	196 N/mm <sup>2</sup>
Modulus of elasticity, MOE (defect free samples)	24.700 N/mm <sup>2</sup>
Shear strength (defect free samples)	18,5 N/mm <sup>2</sup>
Janka hardness	11.800 N (transversal); 14.200 N (parallel)
Strength class (EN 338)	D50 *)
Fire resistance flooring (EN 13501-1)	Bfl-s1
Chemical composition	Cellulose: 41,9%; Hemicellulose: 23%; Lignine: 35,1%
<i>The figures in this table are mainly indicative, unless a specific standard is mentioned, which provides exact figures.</i>	
*) This value is determined by testing of a limited number of full scale samples.	

### References

This information is based on research (mainly independent) and experience of Precious Woods, (semi-) scientific literature and the (Dutch) Houtvademecum (10<sup>th</sup> edition 2010).