



## ANGELIM VERMELHO (RED ANGELIM)

### Source

FSC Angelim vermelho is available in the forests of Precious Woods, located in the Amazon region of Brazil. The clear bole length of the stems is between 20-30 m. The shape of the trunk is straight and cylindrical, often with buttresses. The diameter of the trunk is up to 1,5 m which makes it possible to produce larger dimensions of sawn wood. Frequently, the trees do have hollow stems.

### Appearance

Fresh sawn Angelim vermelho has a red brown color, slightly darkening after exposure. The darker lines, parallel to the growth rings are characteristic. The sapwood is whitish. Fresh timber has an unpleasant smell, which mainly disappears over time. The grain is often curved and interlocked and the texture is medium coarse. Sometimes Angelim vermelho is confused with Angelim pedra / Sapupira. Angelim vermelho has a tendency to leech (extractives which solve in water during wetting).

### Processing properties

Despite the high density and interlocked grain, machining goes well. The use of hard-metal tools is recommended. Pre-drilling is necessary. There is little experience regarding gluing and finishing. The GluGreen® Technology could successfully be applied to green sawn timber. The timber dries slowly with some risks of checking and deformation. As a result of the interlocked grain, specially thinner dimensions can lead to more risk of deformation.

### Application

Due to the good mechanical and physical properties, the timber is often used in all kinds of hydraulic constructions, like bridge constructions, decking, sheet pilings, jetties, sound barriers, stables and piles.

### Technical properties

Green density	1.200 – 1.300 kg/m <sup>3</sup>
Density (at 12%)	1.000 kg/m <sup>3</sup>
Shrinkage green – oven dry	5,7% radial; 9,5% tangential
Shrinkage green – 65% RH (abt. 12% EMC)	2,1% radial; 4,0% tangential
Equilibrium Moisture Content (EMC)	14% (at 60% RH) 20% (at 90% RH)
Fibre Saturation Point (FSP)	23%
Durability according to EN 350:2016	Heartwood class 1
Bending strength, MOR (defect free samples)	156 N/mm <sup>2</sup>
Modulus of elasticity, MOE (defect free samples)	16.900 N/mm <sup>2</sup>
Shear strength (defect free samples)	18,6 N/mm <sup>2</sup>
Janka hardness	14.300 N (transversal); 13.500 N (parallel)
Strength class (EN 338)	D50 *)
Fire resistance flooring (EN 13501-1)	Cfl-s1

*The figures in this table are mainly indicative, unless a specific standard is mentioned, which provides exact figures.*

*\*) This value is determined by testing of a moderate number of full scale samples; a slight higher value could be expected by testing more 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).