

Family: DIPTEROCARPACEAE (angiosperm)

Scientific name(s): Hopea griffithii

Hopea spp.\* (voir note)

Commercial restriction: no commercial restriction

Note: \*Hopea density < 0,85. The most dense species are marketed under the name of "GIAM".

## WOOD DESCRIPTION

Color: yellow brown  
Sapwood: not clearly demarcated  
Texture: medium  
Grain: straight or interlocked  
Interlocked grain: slight

Note: Some logs are not buoyant. Yellow brown to chocolate reddish brown wood with an occasional dark striping. Texture is fine to medium.

## LOG DESCRIPTION

Diameter: from 60 to 120 cm  
Thickness of sapwood: from 5 to 7 cm  
Floats: yes  
Log durability: moderate (treatment recommended)

## PHYSICAL PROPERTIES

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

	<u>Mean</u>	<u>Std dev.</u>
Specific gravity *:	0,70	
Monnin hardness *:	4,0	
Coeff. of volumetric shrinkage:	0,47 %	
Total tangential shrinkage (TS):	6,6 %	
Total radial shrinkage (RS):	3,2 %	
TS/RS ratio:	2,1	
Fiber saturation point:	20 %	
Stability:	moderately stable	

## MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	59 MPa	
Static bending strength *:	102 MPa	
Modulus of elasticity *:	15600 MPa	
(*: at 12% moisture content, with 1 MPa = 1 N/mm <sup>2</sup> )		

## NATURAL DURABILITY AND TREATABILITY

Fungi and termite resistance refers to end-uses under temperate climate. Except for special comments on sapwood, natural durability is based on mature heartwood. Sapwood must always be considered as non-durable against wood degrading agents.

E.N. = Euro Norm

Funghi (according to E.N. standards): class 2-3 - durable to moderately durable

Dry wood borers: heartwood durable but sapwood not clearly demarcated

Termites (according to E.N. standards): class S - susceptible

Treatability (according to E.N. standards): class 4 - not permeable

Use class ensured by natural durability: class 3 - not in ground contact, outside

Species covering the use class 5: No

Note: Hopea spp. with a density < 0,85 (GIAM) have a better resistance to fungi.

According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition.

## REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: does not require any preservative treatment

In case of risk of temporary humidification: does not require any preservative treatment

In case of risk of permanent humidification: use not recommended

## DRYING

Drying rate: slow

Risk of distortion: high risk

Risk of casehardening: no

Risk of checking: high risk

Risk of collapse: no

Possible drying schedule: 2

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
Green	50	47	84
40	50	45	75
30	55	47	67
20	70	55	47
15	75	58	44

This schedule is given for information only and is applicable to thickness lower or equal to 38 mm.

It must be used in compliance with the code of practice.

For thickness from 38 to 75 mm, the air relative humidity should be increased by 5 % at each step.

For thickness over 75 mm, a 10 % increase should be considered.

## SAWING AND MACHINING

Blunting effect: normal

Sawteeth recommended: stellite-tipped

Cutting tools: tungsten carbide

Peeling: good

Slicing: not recommended or without interest

## ASSEMBLING

Nailing / screwing: poor

Gluing: correct

Note: Tends to split when nailing or screwing. Nails holding is poor.

## COMMERCIAL GRADING

Appearance grading for sawn timbers: According to MGR grading rules (2009)

Possible grading: Prime, Select, Standard, Serviceable, Utility

## FIRE SAFETY

Conventional French grading: Thickness > 14 mm : M.3 (moderately inflammable)

Thickness < 14 mm : M.4 (easily inflammable)

Euroclasses grading: D s2 d0

Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

## END-USES

Wood frame house

Veneer for back or face of plywood

Flooring

Stairs (inside)

Cooperage

Vehicle or container flooring

Fiber or particle boards

Note: Resistant to acids.

Light carpentry

Veneer for interior of plywood

Interior joinery

Current furniture or furniture components

Exterior joinery

Sleepers

Turned goods

---

**MAIN LOCAL NAMES**

---

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Cambodia	KOKI	Indonesia	CENGAL
Indonesia	MERAWAN	Peninsular Malaysia	GAGIL
Peninsular Malaysia	MERAWAN	Myanmar	THINGAN
Papua New Guinea	LIGHT HOPEA	Philippines	MANGGACHAPUI
Thailand	TAKIEN	Vietnam	SAO
Germany	MERAWAN	France	MERAWAN
Italia	MERAWAN	United Kingdom	MERAWAN

