

Family: LAMIACEAE (angiosperm)

Scientific name(s): *Gmelina arborea*

Commercial restriction: no commercial restriction

Note: Also called GMELINA, used for reforestation outside its native area.

## WOOD DESCRIPTION

Color: light yellow  
Sapwood: not clearly demarcated  
Texture: medium  
Grain: interlocked  
Interlocked grain: slight

Note: Wood light yellow to yellow brown with reddish or brownish veins. Oily to the touch. Presence of knots of variable sizes.

## LOG DESCRIPTION

Diameter: from 40 to 80 cm  
Thickness of sapwood: from 5 to 7 cm  
Floats: no  
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 *:	0,49	0,03
Monnin hardness *:	1,9	0,3
Coeff. of volumetric shrinkage:	0,45 %	0,08 %
Total tangential shrinkage (TS):	5,9 %	0,5 %
Total radial shrinkage (RS):	2,8 %	0,3 %
TS/RS ratio:	2,1	
Fiber saturation point:	26 %	

Stability: moderately stable to stable

Note: Properties of plantation timbers and timbers from natural forest are often similar, on condition that planted trees have reach enough maturity.

## MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	32 MPa	7 MPa
Static bending strength *:	64 MPa	9 MPa
Modulus of elasticity *:	9120 MPa	1711 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 4 - poorly durable

Dry wood borers: susceptible - sapwood not or slightly demarcated (risk in all the wood)

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

Treatability (according to E.N. standards): class 3 - poorly permeable

Use class ensured by natural durability: class 1 - inside (no dampness)

Species covering the use class 5: No

Note: Wood poorly to moderately resistant to fungi.

## REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: requires appropriate preservative treatment

In case of risk of temporary humidification: requires appropriate preservative treatment

In case of risk of permanent humidification: use not recommended

## DRYING

Drying rate: slow

Risk of distortion: no risk or very slight risk

Risk of casehardening: yes

Risk of checking: no risk or very slight risk

Risk of collapse: no

Possible drying schedule: 6

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
Green	42	41	94
50	48	43	74
30	54	46	63
20	60	51	62
15	60	51	62

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: ordinary or alloy steel

Cutting tools: ordinary

Peeling: good

Slicing: good

## ASSEMBLING

Nailing / screwing: poor

Gluing: correct

## COMMERCIAL GRADING

Appearance grading for sawn timbers: Grading depending on the source

## 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

Sliced veneer  
Boxes and crates  
Veneer for interior of plywood  
Interior panelling  
Fiber or particle boards  
Sculpture

Current furniture or furniture components  
Matches  
Interior joinery  
Musical instruments  
Pulp  
Pencils

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**MAIN LOCAL NAMES**

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<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
India	GAMARI	India	GUMARI
India	GUMHAR	India	SEWAN
India	GUMHU	Laos	MAI SO
Myanmar	YEMANE	Thailand	SAW
Thailand	SOR	France	GMELINA

