

Common name:	MANIL
Family:	CLUSIACEAE
Scientific name(s):	Symphonia globulifera Symphonia gabonensis (synonymous)
Note:	This species is also found in Africa (OSSOL in Gabon).

LOG DESCRIPTION		WOOD DESCRIPTION	
Diameter:	from 50 to 80 cm	Colour:	Yellow brown
Thickness of sapwood:	from 4 to 8 cm	Sapwood:	Clearly demarcated
Floats:	no	Texture:	Medium
Durability in forest :	Low (must be treated)	Grain:	Straight
		Interlocked grain:	Absent
Note:	Wood light brown to yellow brown.		

PHYSICAL PROPERTIES			MECHANICAL PROPERTIES		
Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.					
	mean	standard deviation		mean	standard deviation
Density *:	0.71 g/cm <sup>3</sup>	0.05			
Monnin hardness*:	3.3	0.6	Crushing strength *:	58 MPa	4
Coef of volumetric shrinkage:	0.61 %	0.06	Static bending strength *:	104 MPa	10
Total tangential shrinkage:	10.1 %	0.9	Modulus of elasticity *:	15630 MPa	1686
Total radial shrinkage:	4.8 %	0.6			
Fibre saturation point:	29 %				
Stability:	Poorly stable		(* : at 12 % moisture content ; 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.

Fungi:	Class 3 moderately durable	* ensured by natural durability (according EN standards).
Dry wood borers:	Durable; sapwood demarcated (risk limited to sapwood)	
Termites:	Class S - Susceptible	
Treatability:	3 - poorly permeable	
Use class*:	2 - inside or under cover (dampness possible)	
Note:	Treatability seems rather easy with oily-type preservative products and difficult with saline-type preservative products.	

#### MAIN LOCAL NAMES

Countries	Local names	Countries	Local names
Bolivia	AZUFRE	U.S.A.	BOARWOOD
Bolivia	BREA AMARILLA		
Brazil	ANANI		
Brazil	CANADI		
Brazil	MANI		
Colombia	AZUFRE		
Colombia	MACHARE		
Ecuador	MACHARE		
Ecuador	PUENGA		
Ecuador	ZAPUTI		
French Guiana	MANIL		
French Guiana	MANIL MARECAGE		
Guyana	MANNI		
Peru	AZUFRE		
Peru	BREA-CASPI		
Surinam	MANI		
Surinam	MATAKI		
Trinidad and Tobago	MANGUE		
Venezuela	MANI		
Venezuela	PERAMANCILLO		
Venezuela	PARAMAN		

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**MANIL**

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**REQUIREMENT OF A PRESERVATIVE TREATMENT**

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Against dry wood borer attacks:	Does not require any preservative treatment
In case of temporary humidification risk:	Requires appropriate preservative treatment
In case of permanent humidification risk:	Use not recommended

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**DRYING**

## Possible drying schedule

		Temperature (°C)			Air humidity (%)
		M.C. (%)	dry-bulb	wet-bulb	
Drying rate:	Normal				
Risk of distortion:	High risk				
Risk of casehardening:	Yes				
Risk of checking:	High risk				
Risk of collapse:	No				
		Green	42	39	82
		50	48	43	74
		40	48	43	74
		30	48	43	74
		15	54	46	63

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This schedule is given for information only and is applicable to thickness < 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.

Note: Air drying under cover recommended. Moderate drying conditions and end-coating are recommended.

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**SAWING AND MACHINING**

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Blunting effect:	Normal
Sawteeth recommended:	Ordinary or alloy steel
Cutting tools:	Ordinary
Peeling:	Good
Slicing:	Good

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**ASSEMBLING**

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Nailing / Screwing:	Good but pre-boring necessary
Gluing:	Correct
Note:	Risks of splitting when nailing.

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**END-USES**

Main known end-uses; they must to be implemented according to the code of practice.

Important remark: some end-uses are mentionned for information (traditional, regional or ancient end-uses).

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Interior joinery  
Current furniture or furniture components  
Flooring  
Interior panelling  
Heavy carpentry  
Boxes and crates  
Cooperage  
Veneer for back or face of plywood  
Sliced veneer  
Wood frame house  
Wood-ware  
Moulding  
Pulp

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