

Common name:	PIN DES CARAÏBES
Family:	PINACEAE
Scientific name(s):	Pinus caribaea
Note:	Coming from Central America and the Caribbean, this species was introduced in several tropical areas.

LOG DESCRIPTION	WOOD DESCRIPTION
Diameter:	from 25 to 50 cm
Thickness of sapwood:	from 5 to 10 cm
Floats:	yes
Durability in forest :	Low (must be treated)
	Colour: Yellow brown
	Sapwood: Not clearly demarcated
	Texture: Fine
	Grain: Straight
	Interlocked grain: Absent
Note:	Pale yellow to yellow brown wood. When wood has a lot of resin there is frequently a reddish brown area forming a star shape at the heart of the log. This shape is sometimes very large.

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 *:	0.58 g/cm ³	0.12			
Monnin hardness*:	3.5	1.5	Crushing strength *:	45 MPa	9
Coef of volumetric shrinkage:	0.39 %	0.06	Static bending strength *:	85 MPa	17
Total tangential shrinkage:	7.1 %	1.3	Modulus of elasticity *:	11600 MPa	3100
Total radial shrinkage:	3.8 %	1.1			
Fibre saturation point:	28 %				
Stability:	Moderately stable		(* : at 12 % moisture content ; 1 MPa = 1 N/mm ²)		
Note:	According to the origin and the age of the plantings, physical and mechanical properties can vary greatly. One can for instance find woods with a density under 0.4 or others with a density over 0.8.				

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 3-4 moderately to poorly durable	* ensured by natural durability (according EN standards).
Dry wood borers:	Durable; sapwood demarcated (risk limited to sapwood)	
Termites:	Class S - Susceptible	
Treatability:	3-4 - poorly or not permeable	
Use class*:	2 - inside or under cover (dampness possible)	
Note:	This species is listed in the European standard NF EN 350-2. But this standard refers to woods from natural plantings whose durability is higher than that of planted trees, especially when they are young. Wood is usually used with sapwood, which is permeable to preservative products.	

MAIN LOCAL NAMES

Countries	Local names
Cuba	PINO MACHO
Honduras	PINO VETA
Honduras	PITCHPIN
Nicaragua	OCOTE
Nicaragua	PITCHPIN
New Caledonia	PINUS
Polynesia	PIN DE POLYNÉSIE
France	PIN DES CARAÏBES
U.S.A.	CARIBBEAN PINE

REQUIREMENT OF A PRESERVATIVE TREATMENT

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:	Requires appropriate preservative treatment

DRYING

Possible drying schedule

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

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.

SAWING AND MACHINING

Blunting effect:	Normal
Sawteeth recommended:	Ordinary or alloy steel
Cutting tools:	Ordinary
Peeling:	Not recommended or without interest
Slicing:	Not recommended or without interest
Note:	Clogging of saw blades, tools, work surfaces and feeding devices due to resin.

ASSEMBLING

Nailing / Screwing:	Good
Gluing:	Correct
Note:	The presence of resin may create difficulties for gluing.

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).

- Heavy carpentry
- Wood frame house
- Exterior panelling
- Light carpentry
- Blockboard
- Posts
- Formwork
- Interior joinery
- Interior panelling
- Turned goods
- Current furniture or furniture components
- Boxes and crates