

Common name:	CUMARU
Family:	FABACEAE
Scientific name(s):	Dipteryx spp. Coumarouna spp. (synonymous)

LOG DESCRIPTION	WOOD DESCRIPTION
Diameter:	from 50 to 90 cm
Thickness of sapwood:	from 2 to 3 cm
Floats:	no
Durability in forest :	Good
	Colour: Red brown
	Sapwood: Clearly demarcated
	Texture: Medium
	Grain: Interlocked
	Interlocked grain: Marked
Note:	Unpleasant odour when green. Heartwood varies from yellow brown to reddish brown with darker thin veins.

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 *:	1.07 g/cm ³	0.05			
Monnin hardness*:	13.1	2.5	Crushing strength *:	103 MPa	8
Coef of volumetric shrinkage:	0.73 %	0.09	Static bending strength *:	170 MPa	23
Total tangential shrinkage:	7.7 %	1.2	Modulus of elasticity *:	26610 MPa	3224
Total radial shrinkage:	5.5 %	0.9			
Fibre saturation point:	22 %				
Stability:	Moderately stable to stable		(* : at 12 % moisture content ; 1 MPa = 1 N/mm ²)		

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 1 - very durable	* ensured by natural durability (according EN standards).
Dry wood borers:	Durable; sapwood demarcated (risk limited to sapwood)	
Termites:	Class D - Durable	
Treatability:	4 - not permeable	
Use class*:	4 - in ground or fresh water contact	
Note:	According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition.	

MAIN LOCAL NAMES

Countries	Local names
Bolivia	ALMENDRILLO
Brazil	CHAMPANHA
Brazil	CUMARU
Brazil	CUMARU FERRO
Brazil	CUMARURANA
Colombia	SARRAPIA
French Guiana	GAIAC DE CAYENNE
French Guiana	TONKA
Guyana	KUMARU
Guyana	TONKA BEAN
Honduras	EBO
Peru	CHARAPILLA
Peru	SHIHUAHUACO AMARILLO
Surinam	KOEMAROE
Surinam	TONKA
Venezuela	SARRAPIA

CUMARU

REQUIREMENT OF A PRESERVATIVE TREATMENT

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

DRYING

Possible drying schedule

Drying rate:	Slow	Temperature (°C)			Air humidity (%)
		M.C. (%)	dry-bulb	wet-bulb	
Risk of distortion:	Slight risk	Green	40	37	82
Risk of casehardening:	No	40	44	38	68
Risk of checking:	High risk	30	44	36	59
Risk of collapse:	No	20	46	36	52
		15	49	37	46

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: Drying must be done with care and slowly. Risks of casehardening for thick boards.

SAWING AND MACHINING

Blunting effect:	Fairly high
Sawteeth recommended:	Stellite-tipped
Cutting tools:	Tungsten carbide
Peeling:	Not recommended or without interest
Slicing:	Good
Note:	Sawing and machining are difficult due to hardness and interlocked grain. Requires power.

ASSEMBLING

Nailing / Screwing:	Good but pre-boring necessary
Gluing:	Poor

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).

Note: Slicing: only for decorative veneer.

Sleepers

Bridges (parts in contact with water or ground)

Bridges (parts not in contact with water or ground)

Hydraulic works (fresh water)

Industrial or heavy flooring

Wood frame house

Posts

Stakes

Ship building (planking and deck)

Cooperage

Heavy carpentry

Sliced veneer

Tool handles (resilient woods)

Turned goods

Hydraulic works (seawater)
