

Common name:	COCOTIER
Family:	ARECACEAE
Scientific name(s):	Cocos nucifera
Note:	COCONUT TREE is a monocotyledon. The material of the stipe (trunk) is falsely called wood by analogy with Gymnosperms' and Angiosperms' wood. It has neither sapwood nor heartwood. Only the outlying crown has wood characteristics.

LOG DESCRIPTION	WOOD DESCRIPTION		
Diameter:	from 30 to 60 cm	Colour:	Red brown
Thickness of sapwood:	from to cm	Sapwood:	Absent
Floats:	No information available	Texture:	Coarse
Durability in forest :	Low (must be treated)	Grain:	Straight to entangled
		Interlocked grain:	Absent
Note:	Beige to pinkish beige, punctuated with or criss-crossed by red-brown to dark brown fibres, whatever the stock orientation. Proportion of fibre grows from the heart to the outer of the stem.		

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 *:	0.90 g/cm ³			
Monnin hardness*:	8.3		Crushing strength *:	60 MPa
Coef of volumetric shrinkage:	0.52 %		Static bending strength *:	82 MPa
Total tangential shrinkage:	6.1 %		Modulus of elasticity *:	13800 MPa
Total radial shrinkage:	5.6 %			
Fibre saturation point:	23 %			
Stability:	Moderately stable	(* : at 12 % moisture content ; 1 MPa = 1 N/mm ²)		
Note:	Stem with a very soft and fibrous heart with a great variation of density (along with other properties) from the heart to the periphery (in a ratio of 1 to 5 for density). The material giving the best properties is at the periphery of the stem. This peripheral part has the same end-uses as wood. The indicated values are those of the material taken from this zone.			

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 5 - not durable	* ensured by natural durability (according EN standards).
Dry wood borers:	Susceptible	
Termites:	Class S - Susceptible	
Treatability:	2-3 - poorly to moderately permeable	
Use class*:	1 - inside (no dampness)	
Note:	Durability and permeability to preservative products vary greatly with density: wood is denser at the periphery, more durable but less permeable to preservative products.	

MAIN LOCAL NAMES	
Countries	Local names
Brazil	COQUEIRO
Spain	COCOTERO
France	COCOTIER
Gabon	MBANGA
Indonesia	KELAPA
Malaysia (islands)	KELAPA
Mexico	COCOTERO
Philippines	NIOG
Portugal	COQUEIRO
United Kingdom	COCONUT
U.S.A.	COCONUT
U.S.A.	COCOWOOD
Vietnam	DUA

COCOTIER

REQUIREMENT OF A PRESERVATIVE TREATMENT

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

DRYING

Possible drying schedule

Drying rate:	Slow	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:	Yes	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.

Note: Risks of collapse is usually localised in the central area.

SAWING AND MACHINING

Blunting effect:	High
Sawteeth recommended:	Stellite-tipped
Cutting tools:	Tungsten carbide
Peeling:	Not recommended or without interest
Slicing:	Not recommended or without interest
Note:	Variable density from the heart (<0,25), which is unusable, to the periphery (>1). The log turning sawing with unique taking of the peripheral stocks is compulsory to obtain pieces with homogeneous characteristics. The rate of silica may be very high. It is hard to have a careful finish because of the entanglement of the fibres.

ASSEMBLING

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

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: Only the heart, very soft and very fibrous, can be used for isolation.

Interior panelling
Wood-ware
Turned goods
Cabinetwork (high class furniture)
Industrial or heavy flooring
Interior joinery
Light carpentry
Current furniture or furniture components
Blockboard
Shingles
Insulation
