

Family: SAPOTACEAE (angiosperm)

Scientific name(s): Palaquium spp.

Commercial restriction: no commercial restriction

Note: NYATOH is the name given to the light and medium SAPOTACEAE woods (Payena, Ganua and especially Palaquium); the name BITIS is given to heavy woods .

WOOD DESCRIPTION

Color: red brown
 Sapwood: clearly demarcated
 Texture: medium
 Grain: straight or interlocked
 Interlocked grain: slight
 Note: Wood dark pink to red brown. Grain sometimes wavy.

LOG DESCRIPTION

Diameter: from 50 to 100 cm
 Thickness of sapwood: from 4 to 9 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 *:	0,57	0,06
Monnin hardness *:	2,6	0,6
Coeff. of volumetric shrinkage:	0,48 %	0,03 %
Total tangential shrinkage (TS):	7,7 %	0,8 %
Total radial shrinkage (RS):	4,1 %	0,5 %
TS/RS ratio:	1,9	
Fiber saturation point:	29 %	
Stability:	stable	

Note: Wood properties vary according to the different species.

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	53 MPa	7 MPa
Static bending strength *:	83 MPa	13 MPa
Modulus of elasticity *:	12770 MPa	2150 MPa
(*: at 12% moisture content, with 1 MPa = 1 N/mm ²)		
Musical quality factor:	111,1 measured at 2659 Hz	

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 3 - moderately durable

Dry wood borers: durable - sapwood demarcated (risk limited to sapwood)

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 2 - inside or under cover (dampness possible)

Species covering the use class 5: No

Note: Several species are grouped under the name NYATOH of the genus Palaquium and the natural durability is variable from one species to another. It is thus recommended to restrict the use without preservative treatment for end-uses under use class 2.

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: does not require any 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: normal to slow

Risk of distortion: high risk

Risk of casehardening: no

Risk of checking: high risk

Risk of collapse: no

Possible drying schedule: 2

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
Green	50	47	84
40	50	45	75
30	55	47	67
20	70	55	47
15	75	58	44

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: high

Sawteeth recommended: stellite-tipped

Cutting tools: tungsten carbide

Peeling: good

Slicing: good

Note: Very variable silica content according to species. Sawdust may cause irritations.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary

Gluing: correct

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to MGR grading rules (2009)

Possible grading: Prime, Select, Standard, Serviceable, Utility

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

Current furniture or furniture components

Interior joinery

Interior panelling

Veneer for back or face of plywood

Flooring

Moulding

Cabinetwork (high class furniture)

Exterior joinery

Sliced veneer

Light carpentry

Turned goods

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
India	PALI	Indonesia	NYATOH
Peninsular Malaysia	RIAM	Malaysia (islands)	MAYANG
Malaysia (islands)	NYATOH	Malaysia (islands)	TABAN
Papua New Guinea	PENCIL CEDAR	Philippines	NATO
Thailand	KHA-NUNNOK	Vietnam	CHAY
Italia	NYATOH	Netherlands	BALAM
United Kingdom	NYATOH	United Kingdom	PADANG

