KASAI

Family: SAPINDACEAE (angiosperm)
Scientific name(s): Pometia pinnata
Pometia tomentosa
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown
Sapwood: not clearly demarcated
Texture: medium
Grain: straight or interlocked
Interlocked grain: slight

LOG DESCRIPTION

Diameter: from 60 to 90 cm
Thickness of sapwood: from 3 to 5 cm
Floats: no
Log durability: moderate (treatment recommended)

Note: Wood light red becoming red brown with light. Lustrous aspect. Grain sometimes wavy. Presence of brownish resin.

PHYSICAL PROPERTIES

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

	Mean	Std dev.
Specific gravity *:	0,72	0,08
Monnin hardness *:	5,4	0,6
Coeff. of volumetric shrinkage:	0,54 %	0,08 %
Total tangential shrinkage (TS):	10,0 %	0,7 %
Total radial shrinkage (RS):	6,9 %	0,6 %
TS/RS ratio:	1,4	
Fiber saturation point:	30 %	

Stability: stable

MECHANICAL AND ACOUSTIC PROPERTIES

	Mean	Std dev.
Crushing strength *:	58 MPa	5 MPa
Static bending strength *:	114 MPa	9 MPa
Modulus of elasticity *:	17330 MPa	1480 MPa

(*: at 12% moisture content, with 1 MPa = 1 N/mm²)

Musical quality factor: 97,5 measured at 2618 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: susceptible - sapwood not or slightly demarcated (risk in all the wood)
Termites (according to E.N. standards): class M - moderately durable
Treatability (according to E.N. standards): class 3-4 - poorly or not permeable
Use class ensured by natural durability: class 2 - inside or under cover (dampness possible)
Species covering the use class 5: No
Note: This species is listed in the European standard NF EN 350-2.

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: requires appropriate 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: yes
Note: Drying must be handled with care in order to reduce defects. Drying veneers is more or less difficult (pocket moisture).

Possible drying schedule: 1

M.C. (%)	Temperature (°C) dry-bulb	wet-bulb	Air humidity (%)
Green	40	37	82
40	44	38	68
30	44	36	59
20	46	36	52
15	49	37	46

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: normal
Sawteeth recommended: ordinary or alloy steel
Cutting tools: ordinary
Peeling: good
Slicing: not recommended or without interest
Note: Some difficulties due to interlocked or wavy grain. Planed surface sometimes rough. Sawdust may be irritant. Steaming recommended before peeling.

ASSEMBLING

Nailing / screwing: good
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.

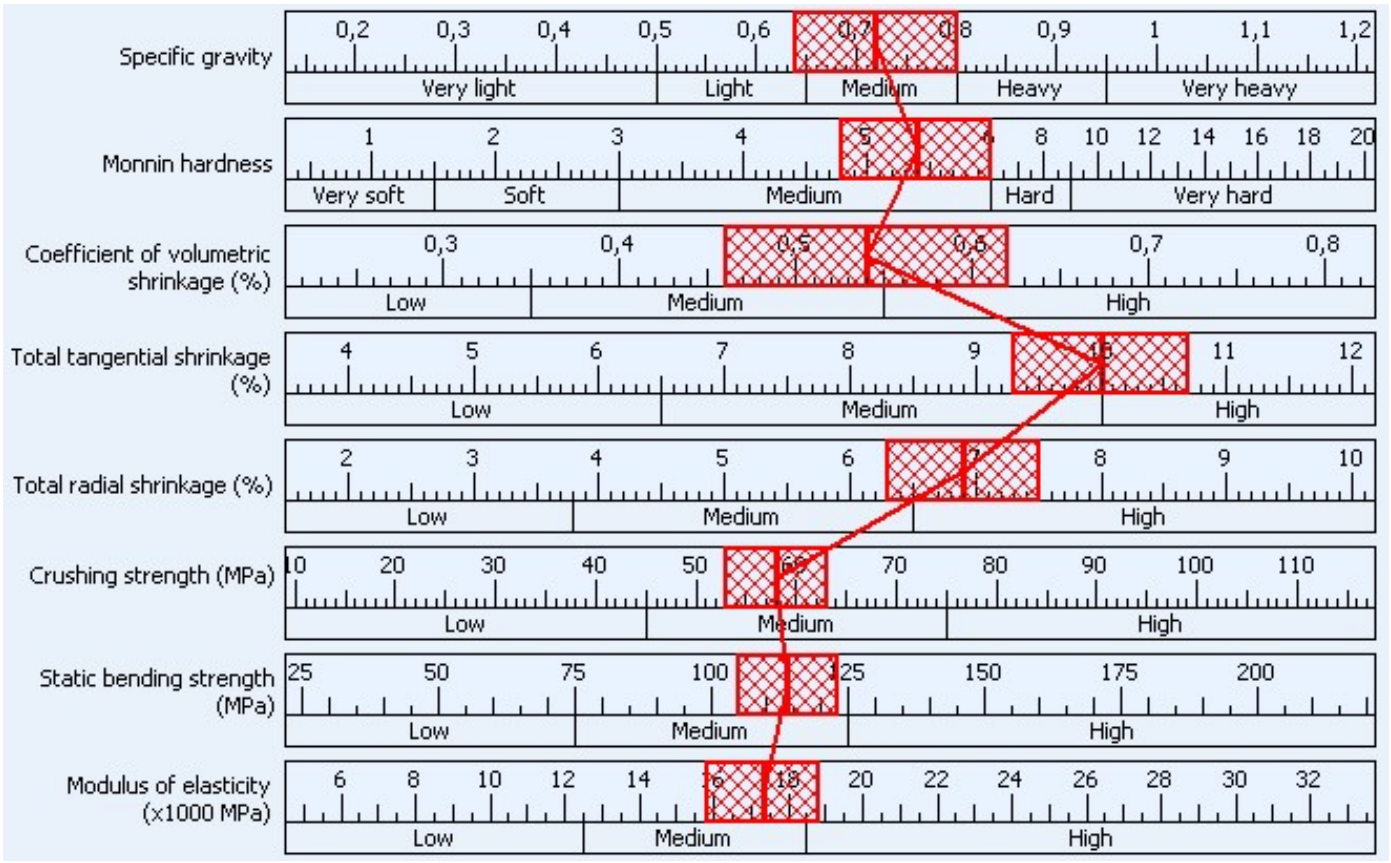
END-USES

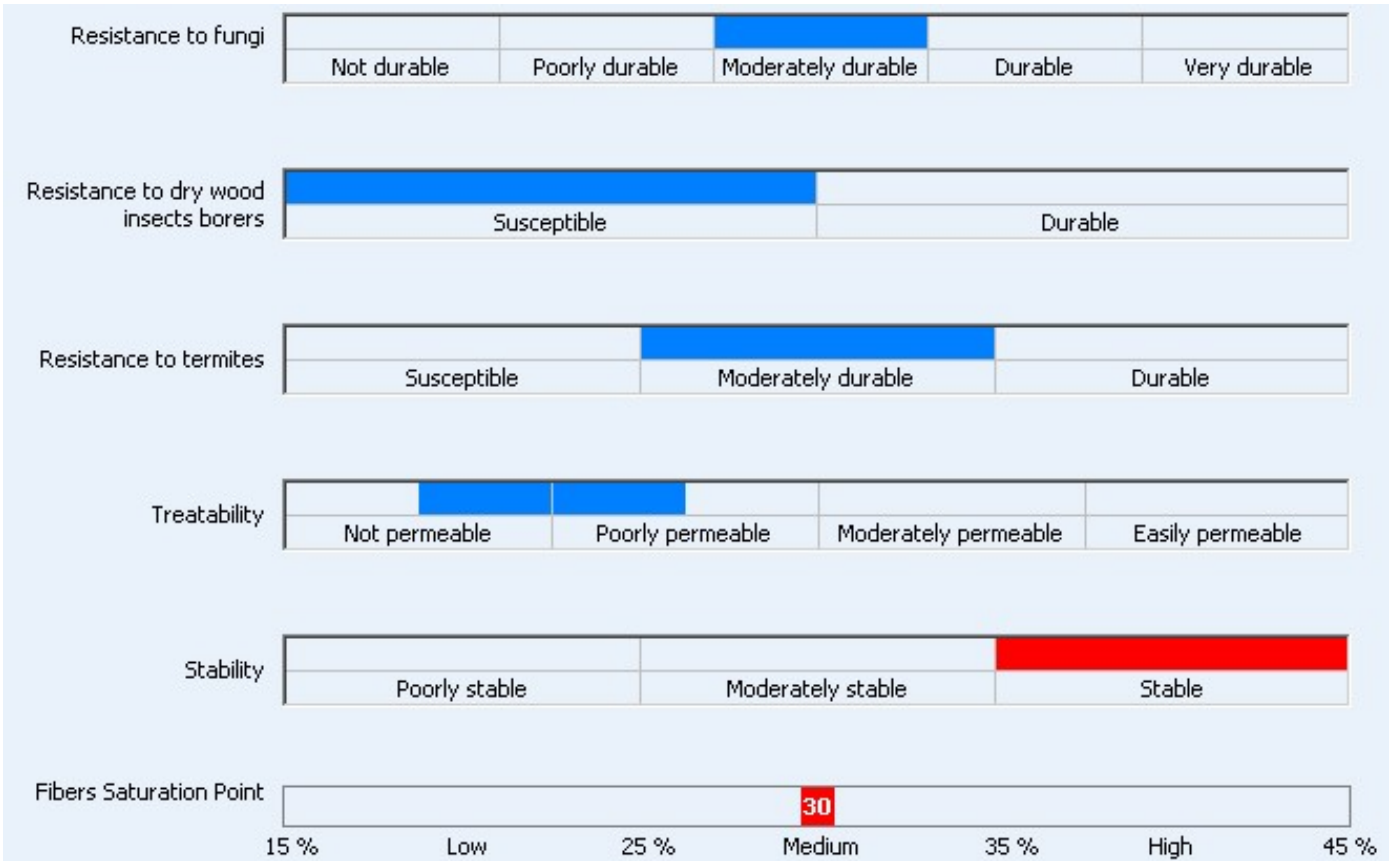
Flooring
Veneer for interior of plywood
Boxes and crates
Interior joinery
Current furniture or furniture components
Moulding
Veneer for back or face of plywood
Exterior joinery
Interior panelling
Cooperage

Note: Can be used for exterior joinery with an efficient treatment. Filling is recommended to obtain a good finish.

MAIN LOCAL NAMES

Country	Local name	Country	Local name
Indonesia	MATOA	Peninsular Malaysia	KASAI
Peninsular Malaysia	SIBU	Malaysia (islands)	KASAI
Papua New Guinea	TAUN	Philippines	AGUPANGA
Philippines	MALUGAI	Philippines	TUNGAUI
Solomon Islands	TAUN	Vietnam	TRUONG


Specific gravity
0,2 0,3 0,4 0,5 0,6 0,7 0,8 0,9 1 1,1 1,2
Very light
Light
Medium
Heavy
Very heavy
Monnin hardness
1 2 3 4 5 6 8 10 12 14 16 18 20
Very soft
Soft
Medium
Hard
Very hard
Coefficient of volumetric shrinkage (%)
0,3 0,4 0,5 0,6 0,7 0,8
Low
Medium
High
Total tangential shrinkage (%)
4 5 6 7 8 9 10 11 12
Low
Medium
High
Total radial shrinkage (%)
2 3 4 5 6 7 8 9 10
Low
Medium
High
Crushing strength (MPa)
10 20 30 40 50 60 70 80 90 100 110
Low
Medium
High
Static bending strength (MPa)
25 50 75 100 125 150 175 200
Low
Medium
High
Modulus of elasticity (x1000 MPa)
6 8 10 12 14 16 18 20 22 24 26 28 30 32
Low
Medium
High


Resistance to fungi
Not durable
Poorly durable
Moderately durable
Durable
Very durable
Resistance to dry wood insects borers
Susceptible
Durable
Resistance to termites
Susceptible
Moderately durable
Durable
Treatability
Not permeable
Poorly permeable
Moderately permeable
Easily permeable
Stability
Poorly stable
Moderately stable
Stable
Fibers Saturation Point
30
15 %
Low
25 %
Medium
35 %
High
45 %