MENGKULANG

Family: MALVACEAE (angiosperm)

Scientific name(s): Tarrietia javanica
Heritiera javanica (synonymous)
Tarrietia simplicifolia
Heritiera simplicifolia (synonymous)

Commercial restriction: no commercial restriction

Note: Genera Tarrietia and Heritiera are synonymous.

WOOD DESCRIPTION

Color: brown

Sapwood: clearly demarcated

Texture: coarse

Grain: straight or interlocked

Interlocked grain: slight

Note: Some logs are not floatable.
The colour varies from light pink to red, darkening to red brown with light. Silver figure clearly visible.

LOG DESCRIPTION

Diameter: from 60 to 100 cm

Thickness of sapwood: from 2 to 5 cm

Floats: yes

Log durability: moderate (treatment recommended)

PHYSICAL PROPERTIES

MECHANICAL AND ACOUSTIC 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 *:	0,68	0,03
Monnin hardness *:	4,0	0,8
Coeff. of volumetric shrinkage:	0,43 %	0,14 %
Total tangential shrinkage (TS):	8,7 %	0,9 %
Total radial shrinkage (RS):	4,5 %	0,7 %
TS/RS ratio:	1,9	
Fiber saturation point:	35 %	
Stability:	moderately stable	

	Mean	Std dev.
Crushing strength *:	59 MPa	4 MPa
Static bending strength *:	101 MPa	16 MPa
Modulus of elasticity *:	14450 MPa	2450 MPa

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

Musical quality factor: 113,4 measured at 2651 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 4 - poorly 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: This species is listed in the European standard NF EN 350-2.
Resistance to decay low to moderate.

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: rapid to normal
Risk of distortion: slight risk
Risk of casehardening: no
Risk of checking: high risk
Risk of collapse: no
Note: Drying requires care in order to minimize defects.

Possible drying schedule: 4

M.C. (%)	Temperature (°C) dry-bulb	wet-bulb	Air humidity (%)
Green	42	39	82
50	48	43	74
40	48	43	74
30	48	43	74
15	54	46	63

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: fairly high
Sawteeth recommended: stellite-tipped
Cutting tools: tungsten carbide
Peeling: good
Slicing: nood
Note: Blunting effect normal to high due to silica content. Tendency to tear on quartersawn.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
Gluing: correct
Note: Tends to split when nailing.

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)

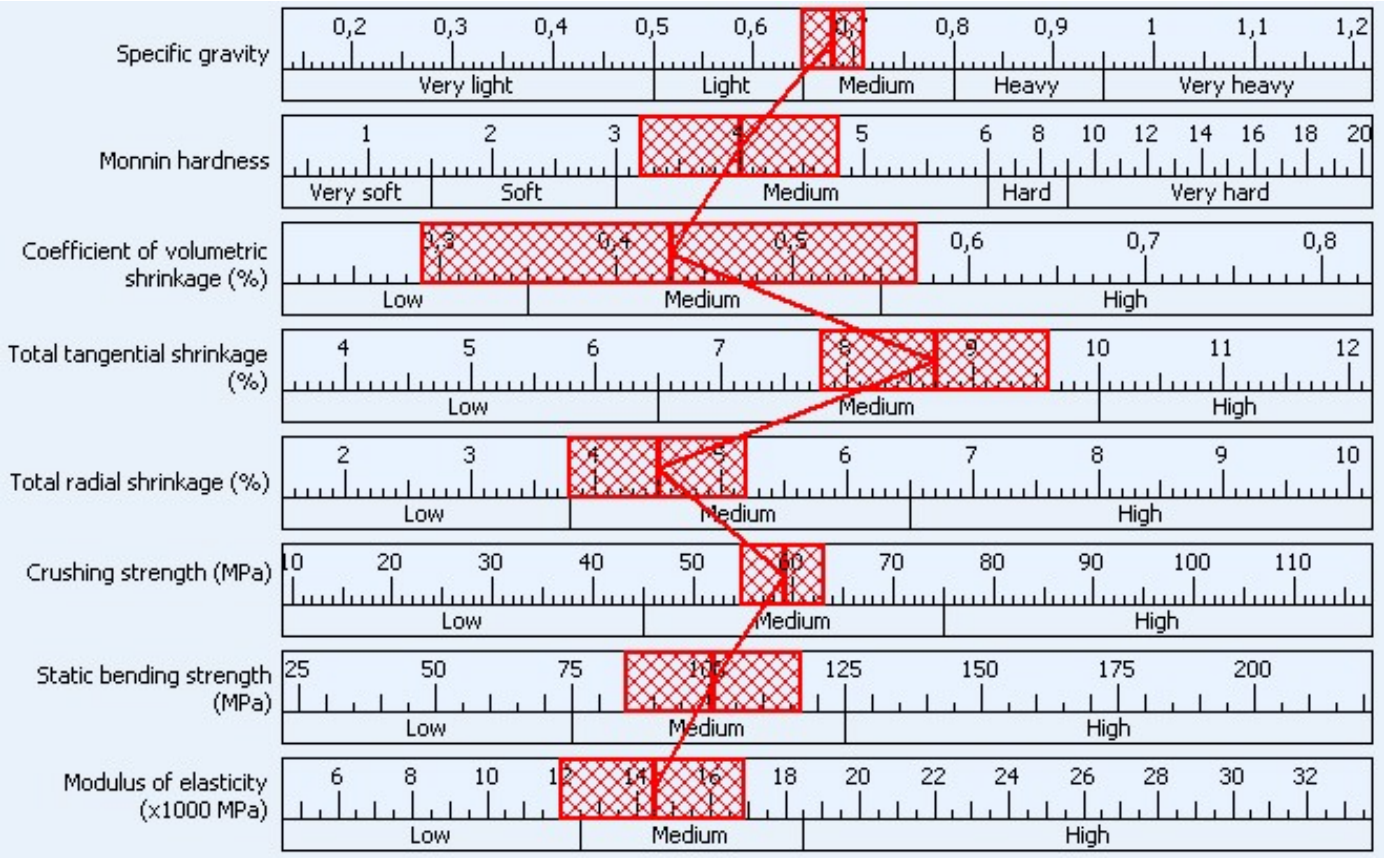
Euroclasses grading: D s2 d0
Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

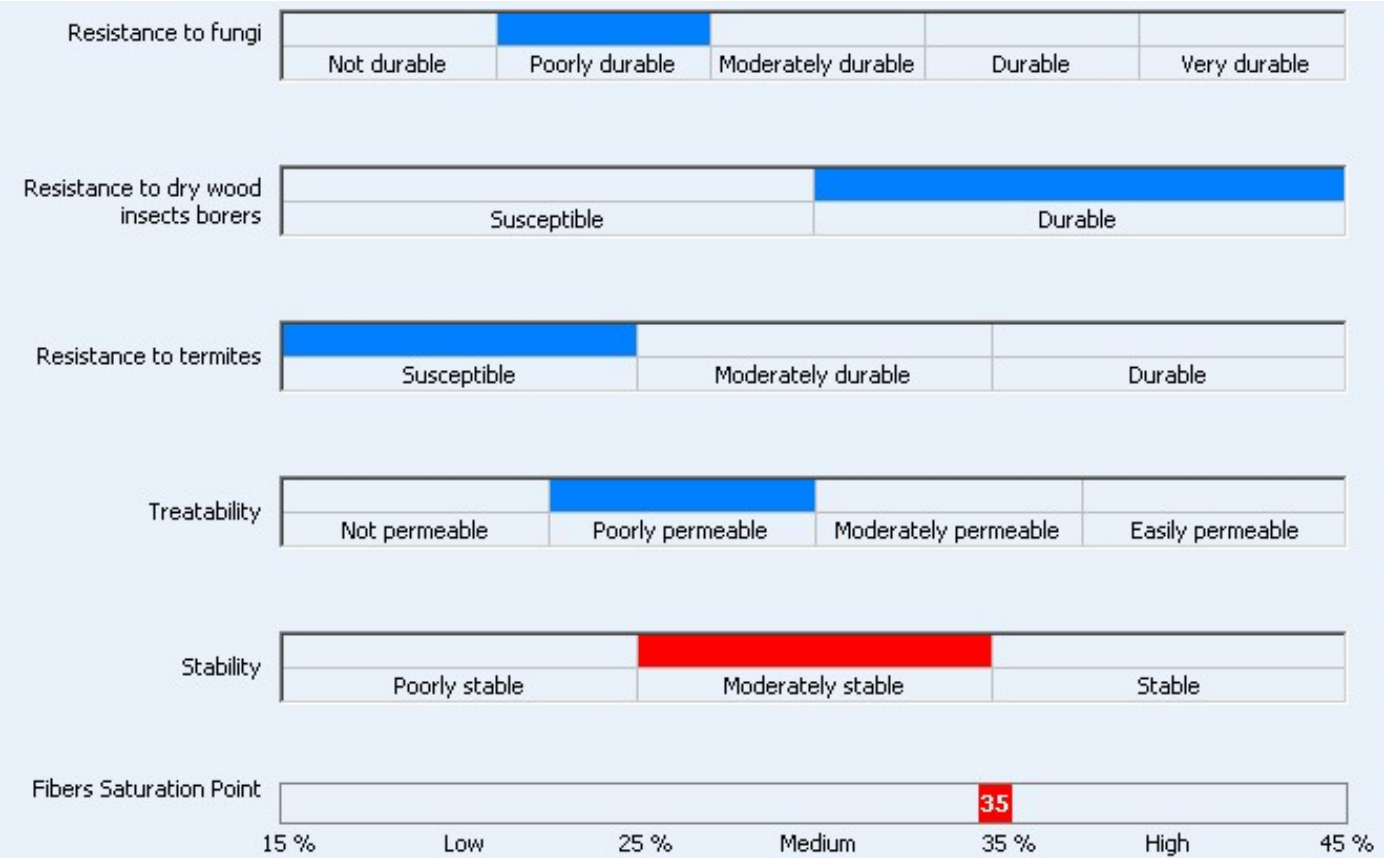
END-USES

Veneer for interior of plywood
Sliced veneer
Current furniture or furniture components
Interior joinery
Exterior joinery
Light carpentry
Formwork
Cabinetwork (high class furniture)
Note: Finishing quite good with filling.
Veneer for back or face of plywood
Flooring
Interior panelling
Blockboard
Exterior panelling
Glued laminated
Boxes and crates

MAIN LOCAL NAMES

Country	Local name	Country	Local name
Cambodia	DON CHEM	Indonesia	PALAPI
Indonesia	TERALING	Laos	MAI HAO
Laos	MAI PO HAO	Peninsular Malaysia	KEMBANG
Peninsular Malaysia	MENGKULANG	Malaysia (islands)	MENGKULANG
Myanmar	KANZO	Philippines	LUMBAYAU
Thailand	CHUMPRAK	Vietnam	HUYNH


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 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
35
15 %
Low
25 %
Medium
35 %
High
45 %