Mengkulang

Half-quarter sawn

Flat sawn

Family. Malvaceae

Botanical Name(s).
Heritiera javanica
Tarrietia javanica (synonymous)
Heritiera simplicifolia
Tarrietia simplicifolia (synonymous)
Heritiera sumatrana
Tarrietia sumatrana (synonymous)
Heritiera p.p.
Tarrietia p.p. (synonymous)

Continent. Asia-Oceania

CITES. This species is not listed in the CITES Appendices (Washington Convention 2023).

Notes. Genera Tarrietia and Heritiera are synonymous.

Description of logs

Diameter. From 60 to 100 cm

Thickness of sapwood. From 2 to 5 cm

Floats. Yes

Log durability. Moderate (treatment recommended)

Description of wood

Colour reference. Brown

Sapwood. Clearly demarcated

Texture. Coarse

Grain. Straight or interlocked

Interlocked grain. Slight

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

Physics and mechanics

The properties indicated are for mature wood. These properties may vary significantly depending on the origin and growing conditions of the wood.

Property	Average value
Specific gravity[1]	0.68
Monnin hardness[1]	4.0
Coefficient of volumetric shrinkage	0.43 % per %
Total tangential shrinkage (St)	8.7 %
Total radial shrinkage (Sr)	4.5 %
Ratio St/Sr	1.9
Fibre saturation point	35 %
Thermal conductivity (λ)	0.23 W/(m.K)
Lower heating value	

Last update date: 06/12/2024

Crushing strength[1]	59 MPa
Static bending strength[1]	101 MPa
Modulus of elasticity[1]	14,450 MPa

[1] At 12 % moisture content, with 1 MPa = 1 N/mm

Natural durability and preservation

Resistance to fungi. Class 4 - poorly durable

Resistance to dry wood borers. Class D - durable (sapwood demarcated, risk limited to sapwood)

Resistance to termites. Class S - susceptible

Treatability. Class 3 - poorly permeable

Use class ensured by natural durability.

Class 2 (inside or under cover, dampness possible) according to NF P 23-305 standard (December 2014)

Notes. This species is listed in the European standard NF EN 350 (2016). According to NF P 23-305 standard (December 2014), the MENGKULANG cannot be used without appropriate preservative treatment for end-uses under use class 3.1.

Requirement of a preservative treatment

Against dry wood borer. Does not require any preservative treatment

In case of temporary humidification. Requires appropriate preservative treatment

In case of permanent humidification. Use not recommended

Drying

Drying rate. Rapid to normal

Risk of distorsion. Slight risk

Risk of casehardening. No known specific risk

Risk of checking. High risk

Risk of collapse. No known specific risk

Notes. Drying requires care in order to minimize defects.

Suggested drying program.

Last update date: 06/12/2024

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	50	86	16.5
Prewarm 2	3	> 50	52	85	16.0
Drying		> 50	55	82	14.7
		50 - 40	55	80.0	13.8
		40 - 35	55	75.0	12.6
		35 - 30	56	73.0	12.0
		30 - 27	58	67.0	10.5
		27 - 24	60	58.0	8.9
		24 - 21	62	50.0	7.5
		21 - 18	64	45.0	6.8
		18 - 15	65	37.0	5.7
		15 - 12	65	34.0	5.3
		12 - 9	65	28.0	4.5
		9 - 6	65	24.0	4.0
Conditioning	6		58	(3)	(2)
Cooling	(1)		Stop	(3)	(2)

(1)) Cooling: until the temperature inside the kiln no longer exceeds external temperature by more than 30 °C.
(2) UGL = final H% x 0,8 to 0,9.
(3) Subtract RH from the UGL determined in (2) and temperature, using the Hailwood-Horrobin equation.

Sawing and machining

Blunting effect. Fairly high

Sawteeth recommended. Stellite-tipped

Cutting tools. Tungsten carbide

Peeling. Good

Slicing. Good

Notes. Blunting effect normal to high due to silica content. Tendency to tear on quartersawn.

Assembling

Nailing and screwing. Good but pre-boring necessary

Notes. 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

Visual grading for structural applications

According to French standard NF B 52-001-1 (2018), strength class D35 can be provided by visual grading.

Fire safety

Conventional French grading.

Thickness > 14 mm: M3 (moderately inflammable)
Thickness < 14 mm: M4 (easily inflammable)

Euroclasses grading. D-s2, d0

Default grading for solid wood, according to requirements of European standard EN 14081-1+A1 (August 2019). It concerns structural graded timber in vertical uses and ceiling with mean density upper 0.35 and thickness upper 22 mm.

Last update date: 06/12/2024

End-uses

- Blockboard
- Boxes and crates
- Cabinetwork (high class furniture)
- Current furniture or furniture components
- Exterior joinery
- Exterior panelling
- Flooring
- Formwork
- Glued laminated
- Interior joinery
- Interior panelling
- Light carpentry
- Sliced veneer
- Veneer for back or face of plywood
- Veneer for interior of plywood

Notes. Finishing quite good with filling.

Main local names

Country	Local name
Cambodia	Don chem
Indonesia	Palapi
Indonesia	Teraling
Laos	Mai hao
Laos	Mai po hao
Malaysia	Kembang
Malaysia	Mengkulang
Malaysia	Mengkulang
Myanmar	Kanzo
Philippines	Lumbayau
Thailand	Chumprak
Viet Nam	Huynh

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