

Family: BURSERACEAE (angiosperm)

Scientific name(s): Canarium spp.* (voir note)

Santiria spp.* (voir note)

Dacryodes spp.* (voir note)

Commercial restriction: no commercial restriction

Note: * Canarium spp. , Santiria spp. , Dacryodes spp.: origins Asia-Oceania.

Other genera of the Burseraceae family are also commercialized under the name KEDONDONG in Asia-Oceania: Garuga, Protium, Scutinanthe, Triomma.

WOOD DESCRIPTION

Color: light brown
Sapwood: not clearly demarcated
Texture: medium
Grain: interlocked
Interlocked grain: slight

LOG DESCRIPTION

Diameter: from 60 to 90 cm
Thickness of sapwood: from 3 to 5 cm
Floats: yes
Log durability: low (must be treated)

Note: The colour varies according to the species. Lustrous surface. Grain irregular to wavy, sometimes highly interlocked grain.

PHYSICAL PROPERTIES

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

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>		<u>Mean</u>	<u>Std dev.</u>
Specific gravity *:	0,63		Crushing strength *:	63 MPa	
Monnin hardness *:	3,3		Static bending strength *:	70 MPa	
Coeff. of volumetric shrinkage:	0,53 %		Modulus of elasticity *:	10790 MPa	
Total tangential shrinkage (TS):	6,5 %		(*: at 12% moisture content, with 1 MPa = 1 N/mm²)		
Total radial shrinkage (RS):	4,2 %				
TS/RS ratio:	1,5				
Fiber saturation point:	26 %		Musical quality factor:	113,6 measured at 2470 Hz	
Stability:	moderately stable to stable				
Note: Physical and mechanical properties vary according to the species.					

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 5 - not durable

Dry wood borers: susceptible - sapwood not or slightly demarcated (risk in all the wood)

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 1 - inside (no dampness)

Species covering the use class 5: No

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: requires appropriate preservative treatment

In case of risk of temporary humidification: use not recommended

In case of risk of permanent humidification: use not recommended

DRYING

Drying rate: normal to slow

Risk of distortion: slight risk

Risk of casehardening: no

Risk of checking: slight risk

Risk of collapse: no

Note: Drying must be handled with care.

Possible drying schedule: 4

M.C. (%)	Temperature (°C)		Air humidity (%)
	dry-bulb	wet-bulb	
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: good

Note: More or less difficult to machine (interlocked grain, fibrous wood). Some species are siliceous. Canarium and Santiria are the most suitable for 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

Boxes and crates

Veneer for back or face of plywood

Matches

Interior joinery

Light carpentry

Veneer for interior of plywood

Sliced veneer

Current furniture or furniture components

Interior panelling

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Andaman (islands)	DHUP	Andaman (islands)	KEDONDONG
India	DHUWHITE	India	WHITE DHUP
Indonesia	KENARI	Indonesia	KIHARPAN
Peninsular Malaysia	UPI	Malaysia (islands)	KEDONDONG
Philippines	DULIT	Philippines	PILI
Thailand	MA-KERM	Vietnam	CHAM

