CUPIUBA

Family: GOUPIACEAE (angiosperm)
Scientific name(s): Goupia glabra
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: yellow brown
Sapwood: clearly demarcated
Texture: medium
Grain: interlocked
Interlocked grain: marked but not frequent
Note: Unpleasant odour. Sometimes, presence of internal stresses.

LOG DESCRIPTION

Diameter: from 60 to 100 cm
Thickness of sapwood: from 3 to 8 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.

	Mean	Std dev.
Specific gravity *:	0,84	0,03
Monnin hardness *:	6,2	1,8
Coeff. of volumetric shrinkage:	0,66 %	0,08 %
Total tangential shrinkage (TS):	8,8 %	0,9 %
Total radial shrinkage (RS):	5,1 %	0,9 %
TS/RS ratio:	1,7	
Fiber saturation point:	26 %	
Stability:	poorly stable	

MECHANICAL AND ACOUSTIC PROPERTIES

	Mean	Std dev.
Crushing strength *:	62 MPa	11 MPa
Static bending strength *:	110 MPa	16 MPa
Modulus of elasticity *:	18190 MPa	2939 MPa

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

Musical quality factor: 102 measured at 2642 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 D - durable
Treatability (according to E.N. standards): class 2 - moderately permeable
Use class ensured by natural durability: class 2 - inside or under cover (dampness possible)
Species covering the use class 5: No
Note: Resistance to brown cubical rot: good to very good. Resistance to white rot: 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

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DRYING

Drying rate: slow
Risk of distortion: high risk
Risk of casehardening: yes
Risk of checking: high risk
Risk of collapse: no
Note: Drying must be done slowly.

Possible drying schedule: 6

M.C. (%)	Temperature (°C) dry-bulb	wet-bulb	Air humidity (%)
Green	42	41	94
50	48	43	74
30	54	46	63
20	60	51	62
15	60	51	62

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: not recommended or without interest
Slicing: nood
Note: A careful sanding is necessary due to interlocked grain.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
Gluing: correct (for interior only)
Note: Pre-boring recommended to avoid splits.

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to NHLA grading rules (January 2007)
Possible grading: FAS, Select, Common 1, Common 2, Common 4
In French Guiana, the local name of this species is "GOUPI". Grading is done according to local rules "Bois guyanais classés".
Possible grading: Choix 1, choix 2, choix 3, choix 4

Visual grading for structural applications: Traded timber with CE marking. Possible strength class: D40 related to the European standard EN 14081 (May 2006).

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

Industrial or heavy flooring
Heavy carpentry
Sliced veneer
Exterior panelling
Wood frame house
Flooring
Current furniture or furniture components
Exterior joinery
Stairs (inside)
Turned goods

Note: The unpleasant odour may limit the use of this timber. For furniture end-uses, filling and varnishing are necessary.

MAIN LOCAL NAMES

Country	Local name	Country	Local name
Brazil	CACHACEIRO	Brazil	COPIUVA
Brazil	CUPIUBA	Colombia	CHAQUIRO
Colombia	SAINO	Colombia	SAPINO
Guyana	COPI	Guyana	KABUKALLI
French Guiana	GOUPI	Peru	CAPRICORNIA
Suriname	KOEPI	Venezuela	CONGRIO BLANCO
United Kingdom	KABUKALLI		

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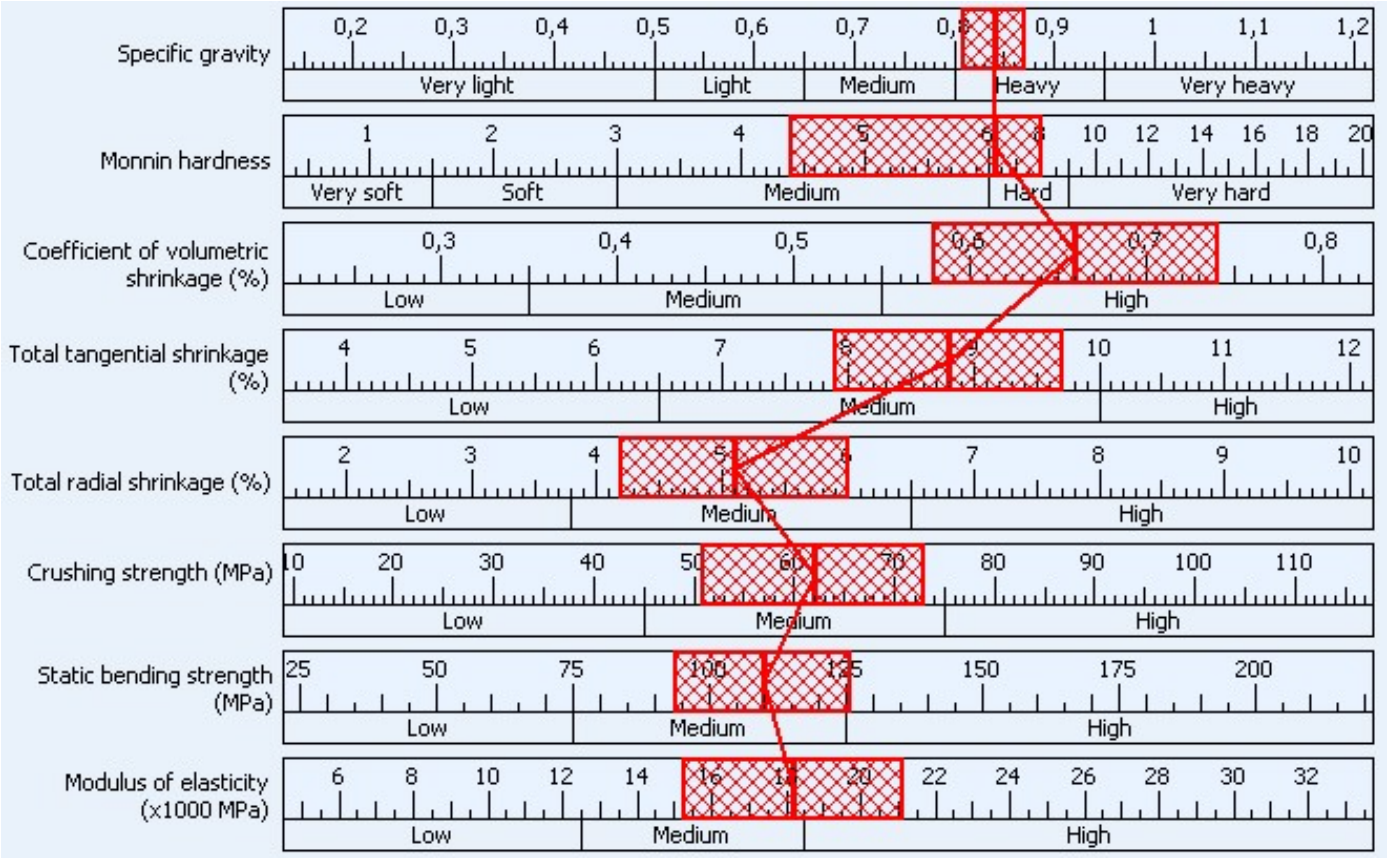
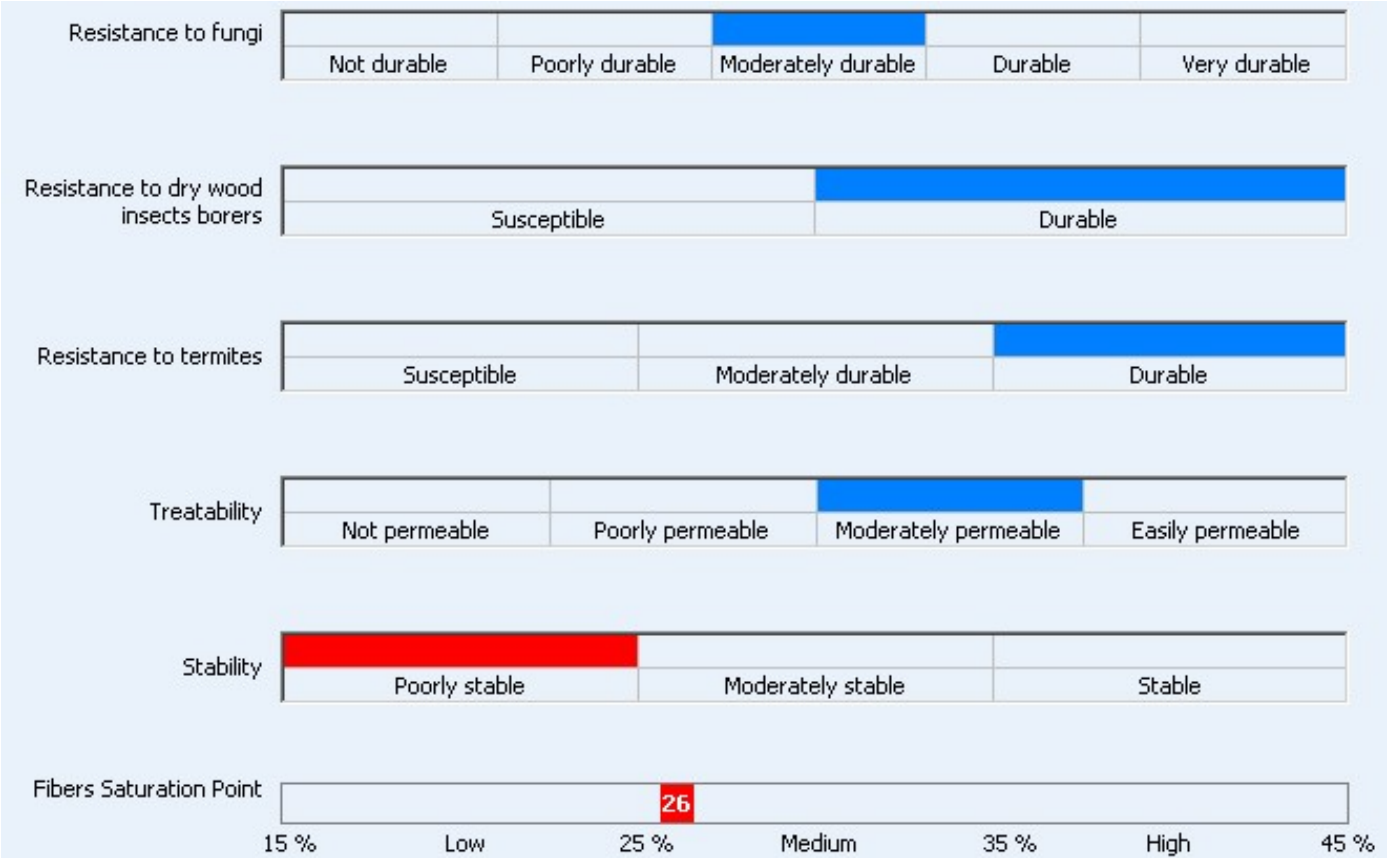

Specific gravity
0,2 0,3 0,4 0,5 0,6 0,7 0,8 0,9 1 1,1 1,2
Very light
Light
Medium
Heavy
Very heavy
Monnin hardness
1 2 3 4 5 6 8 10 12 14 16 18 20
Very soft
Soft
Medium
Hard
Very hard
Coefficient of volumetric shrinkage (%)
0,3 0,4 0,5 0,6 0,7 0,8
Low
Medium
High
Total tangential shrinkage (%)
4 5 6 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
26
15 %
Low
25 %
Medium
35 %
High
45 %