WALLABA

Family: FABACEAE-CAESALPINIOIDEAE (angiosperm)

Scientific name(s): Eperua falcata
Eperua grandiflora
Eperua rubiginosa

Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown
Sapwood: clearly demarcated
Texture: medium
Grain: straight
Interlocked grain: absent

LOG DESCRIPTION

Diameter: from 40 to 70 cm
Thickness of sapwood: from 4 to 6 cm
Floats: no
Log durability: good

Note: Wood red brown to dark brown, with lighter veins. Very important internal stresses. Presence of resin veins. Unpleasant odour when green.

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 *:	0,88	0,06
Monnin hardness *:	7,0	1,2
Coeff. of volumetric shrinkage:	0,42 %	0,09 %
Total tangential shrinkage (TS):	6,5 %	1,1 %
Total radial shrinkage (RS):	2,3 %	0,6 %
TS/RS ratio:	2,8	
Fiber saturation point:	29 %	

Stability: moderately stable

MECHANICAL AND ACOUSTIC PROPERTIES

	Mean	Std dev.
Crushing strength *:	72 MPa	7 MPa
Static bending strength *:	120 MPa	11 MPa
Modulus of elasticity *:	18450 MPa	3100 MPa

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

Musical quality factor: 97,2 measured at 2766 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 1 - very 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 4 - not permeable
Use class ensured by natural durability: class 4 - in ground or fresh water contact
Species covering the use class 5: Yes

Note: This species is listed in the European standard NF EN 350-2.
Natural durability class and use class mentioned are those of Eperua falcata. Eperua grandiflora and Eperua rubiginosa have a poorer durability.
Eperua falcata naturally covers use class 5 (end-uses in marine environment and in brackish water) due to its high density.

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: does not require any preservative treatment
In case of risk of temporary humidification: does not require any preservative treatment
In case of risk of permanent humidification: does not require any preservative treatment

DRYING

Drying rate: slow
Risk of distortion: high risk
Risk of casehardening: no
Risk of checking: high risk
Risk of collapse: no
Note: Initial surface drying is necessary before kiln drying in order to reduce defects.

Possible drying schedule: 6

	Temperature (°C)		
M.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: not recommended or without interest
Note: Requires power. Resin may clog sawteeth and cutters. Resin exudation is not a problem with dry woods.

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 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 "WAPA". Grading is done according to local rules "Bois guyanais classés".
Possible grading: Choix 1, choix 2, choix 3, choix 4

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.

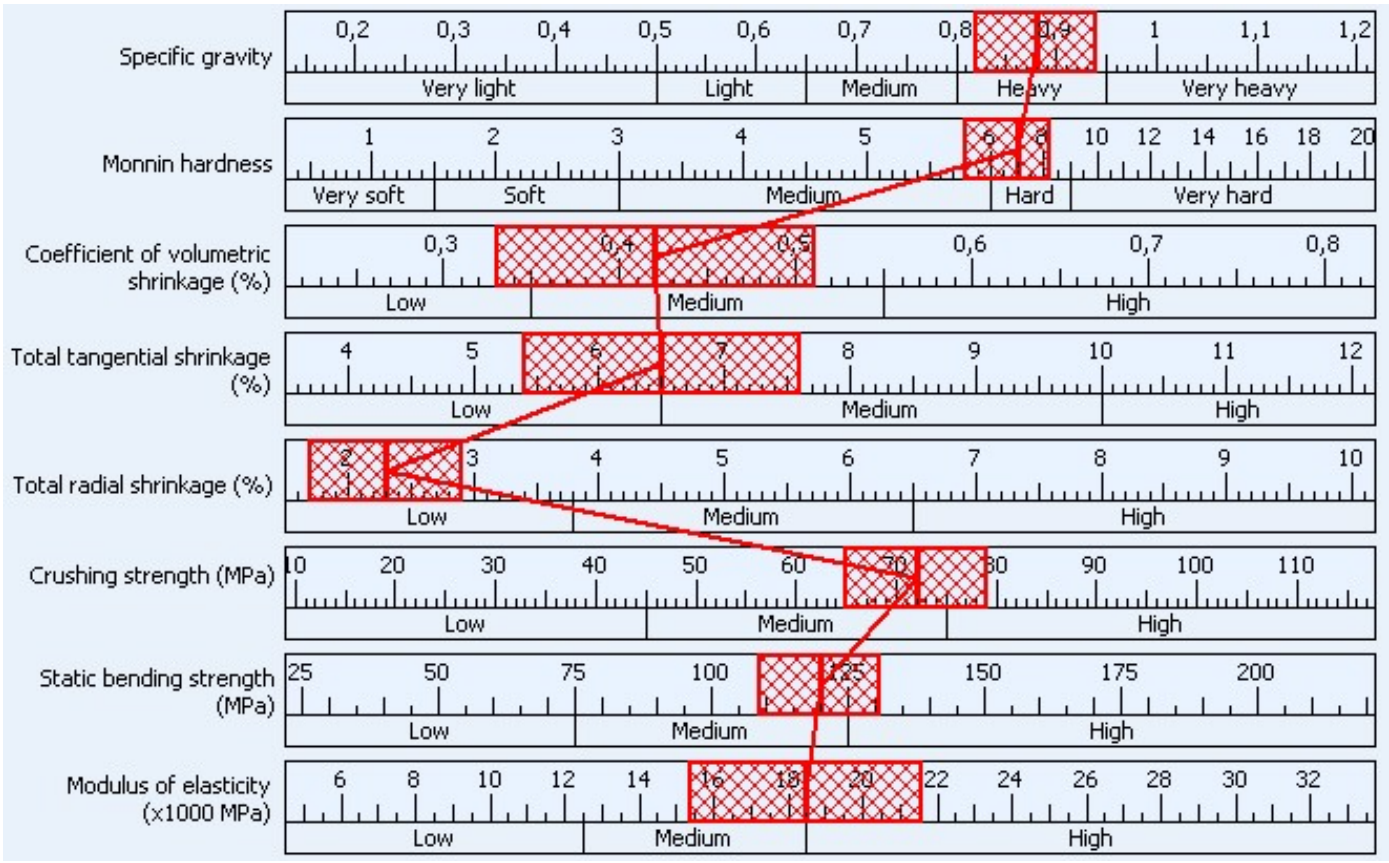
END-USES

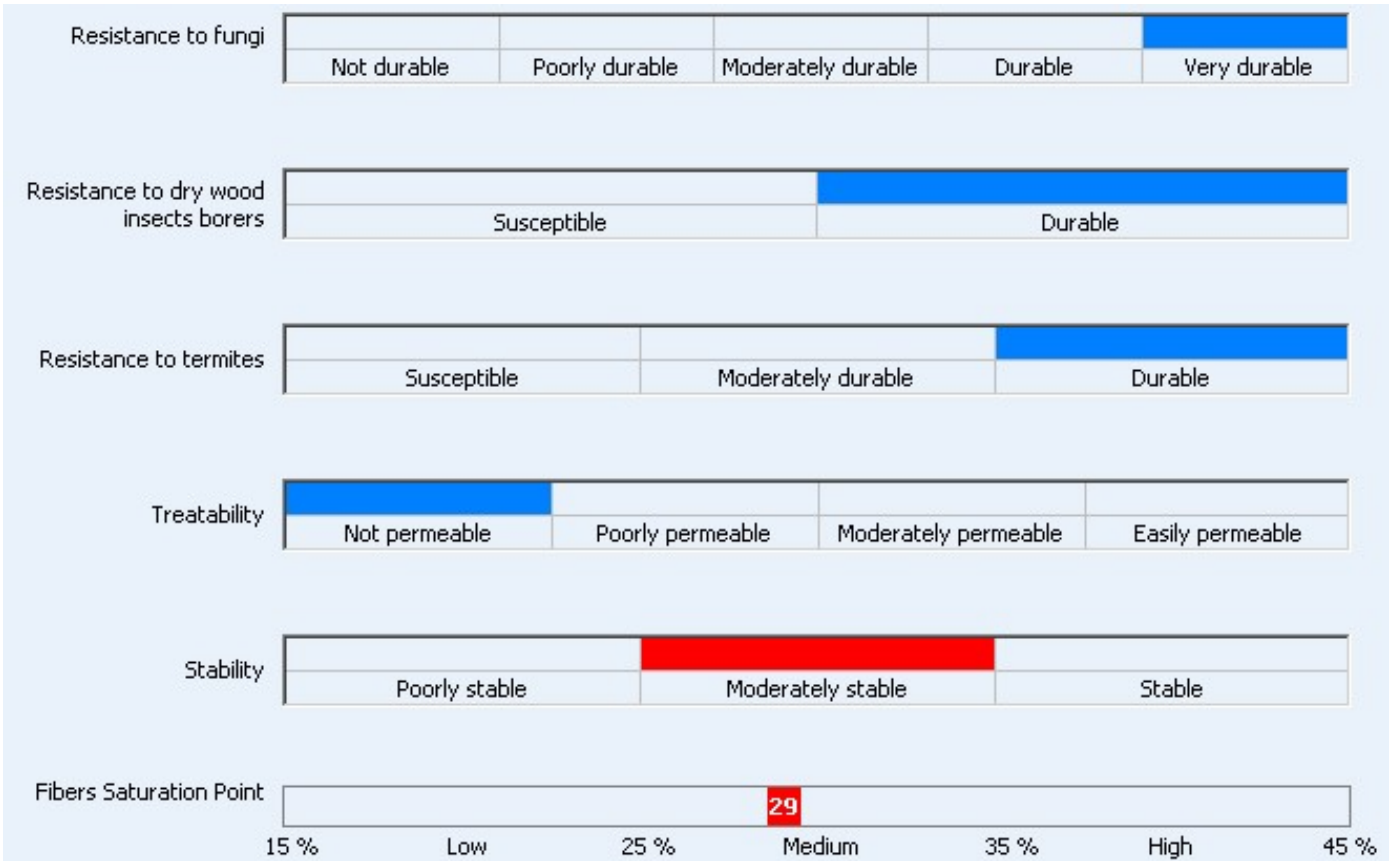
Hydraulic works (fresh water)
Poles
Bridges (parts in contact with water or ground)
Exterior panelling
Heavy carpentry
Current furniture or furniture components
Flooring
Cooperage
Sleepers
Stakes
Bridges (parts not in contact with water or ground)
Shingles
Exterior joinery
Industrial or heavy flooring
Wood frame house

Note: Internal stresses restrict the uses. Careful sanding and filling are recommended.

MAIN LOCAL NAMES

Country	Local name	Country	Local name
Brazil (Amazon)	APA	Brazil (Amazon)	APAZEIRO
Brazil (Amazon)	COPAIBARANA	Brazil (Amazon)	ESPADEIRA
Guyana	ITURI WALLABA	Guyana	WALLABA
French Guiana	BIOUDOU	French Guiana	WAPA
Suriname	BIJLHOUT	Suriname	WALABA
Venezuela	UAPA	Venezuela	PALO MACHETE


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
29
15 %
Low
25 %
Medium
35 %
High
45 %