

Family: VOCHYSIACEAE (angiosperm)

Scientific name(s): Qualea spp.

Ruizterania spp.

Commercial restriction: no commercial restriction

Note: Woods of genus Ruizterania may be commercialized under the name MANDIOQUEIRA; only their beige grey colour differentiate them from woods of genus Qualea.

WOOD DESCRIPTION

Color: pinkish brown
Sapwood: clearly demarcated
Texture: medium
Grain: straight or interlocked
Interlocked grain: slight

Note: Wood pinkish brown to red brown, sometimes olive brown. Grain sometimes wavy. Unpleasant odour when green.

LOG DESCRIPTION

Diameter: from 50 to 80 cm
Thickness of sapwood: from 3 to 6 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.

	<u>Mean</u>	<u>Std dev.</u>
Specific gravity *:	0,74	0,07
Monnin hardness *:	4,7	0,6
Coeff. of volumetric shrinkage:	0,60 %	0,13 %
Total tangential shrinkage (TS):	9,7 %	1,1 %
Total radial shrinkage (RS):	5,8 %	1,0 %
TS/RS ratio:	1,7	
Fiber saturation point:	31 %	
Stability: poorly stable		

MECHANICAL AND ACOUSTIC PROPERTIES

	<u>Mean</u>	<u>Std dev.</u>
Crushing strength *:	69 MPa	10 MPa
Static bending strength *:	103 MPa	19 MPa
Modulus of elasticity *:	19400 MPa	2957 MPa

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

Musical quality factor: 106,1 measured at 3028 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 S - susceptible

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

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: normal
 Risk of distortion: high risk
 Risk of casehardening: no
 Risk of checking: high risk
 Risk of collapse: no

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

Note: Variable risks of distortion according to the species.
 High humidity recommended during the first stages of drying in order to reduce defects.

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: normal
 Sawteeth recommended: ordinary or alloy steel
 Cutting tools: ordinary
 Peeling: good
 Slicing: good

Note: Some species can be siliceous and present an important blunting effect. In this case, it is necessary to use adequate tools.

ASSEMBLING

Nailing / screwing: good
 Gluing: correct

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 "GONFOLO". 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 s1 d0

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.
 Given according to procedures given by European standard NF EN 13501-1 (september 2007). European grading report done by CSTB with the following number : RA05-0238C.

END-USES

Wood frame house	Heavy carpentry
Flooring	Exterior joinery
Interior joinery	Interior panelling
Exterior panelling	Current furniture or furniture components
Sliced veneer	Ship building (planking and deck)
Moulding	Veneer for interior of plywood
Boxes and crates	Formwork
Glued laminated	Vehicle or container flooring
Seats	Open boats
Tool handles (resilient woods)	

MAIN LOCAL NAMES

<u>Country</u>	<u>Local name</u>	<u>Country</u>	<u>Local name</u>
Bolivia	ARENILLO	Brazil	MANDIOQUEIRA
Brazil	MANDIOQUEIRA ASPERA	Brazil	MANDIOQUEIRA ESCAMOSA
Brazil	MANDIOQUEIRA LISA	French Guiana	GONFOLO
French Guiana	GONFOLO KOUALI	French Guiana	GRONFOLO
Suriname	BERG GRONFOELOE	Suriname	GRONFOELOE
Venezuela	FLORECILLO		

