

## Mandioqueira

Family. Vochysiaceae

Botanical Name(s).

*Qualea coerulea*

*Qualea dinizii*

*Qualea paraensis*

*Qualea rosea*

*Qualea p.p.*

*Ruizterania albiflora*

*Qualea albiflora* (synonymous)

*Ruizterania retusa*

*Ruizterania p.p.*

Continent. Latin America

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

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

### Description of logs

Diameter. From 50 to 80 cm

Thickness of sapwood. From 3 to 6 cm

Floats. No

Log durability. Moderate (treatment recommended)

### Description of wood

Colour reference. Pinkish brown

Sapwood. Clearly demarcated

Texture. Medium

Grain. Straight or interlocked

Interlocked grain. Slight

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

### 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 <sup>1</sup>	0.74
Monnin hardness <sup>1</sup>	4.7
Coefficient of volumetric shrinkage	0.60 % per %
Total tangential shrinkage (St)	9.7 %
Total radial shrinkage (Sr)	5.8 %
Ratio St/Sr	1.7
Fibre saturation point	31 %



Half-quarter sawn



Quarter sawn

Thermal conductivity ( $\lambda$ )	0.24 W/(m.K)
Lower heating value	18,190 kJ/kg
Crushing strength <sup>1</sup>	69 MPa
Static bending strength <sup>1</sup>	103 MPa
Modulus of elasticity <sup>1</sup>	19,400 MPa

<sup>1</sup> At 12 % moisture content, with 1 MPa = 1 N/mm

## Natural durability and preservation

Resistance to fungi. Class 3 - moderately durable

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

Resistance to termites. Class S - susceptible

Treatability. Class 2 - moderately permeable

Use class ensured by natural durability.

Class 2 - inside or under cover (dampness possible)

Notes. This species is listed in the European standard NF EN 350 (2016).

## 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. Normal

Risk of distortion. High risk

Risk of casehardening. No known specific risk

Risk of checking. High risk

Risk of collapse. No known specific risk

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

Suggested drying program.

Phases	Duration (H)	MC (%) probes	T (°C)	Rh (%)	UGL (%)
Prewarm 1		> 50	50	87	17.0
Prewarm 2	4	> 50	50	86	16.5
Drying		> 50	53	85	15.7
		50 - 40	53	82.0	14.6
		40 - 35	54	78.0	13.4
		35 - 30	55	77.0	12.9
		30 - 27	57	73.0	11.9
		27 - 24	58	68.0	10.7
		24 - 21	60	61.0	9.3
		21 - 18	62	52.0	7.9
		18 - 15	64	43.0	6.6
		15 - 12	65	39.0	6.0
		12 - 9	65	31.0	5.0
		9 - 6	65	28.0	4.5
Conditioning	8		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. Normal

Sawteeth recommended. Ordinary or alloy steel

Cutting tools. Ordinary

Peeling. Good

Slicing. Good

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

## Assembling

Nailing and screwing. Good

## Commercial grading

Appearance grading for sawn timbers.

According to NHLA grading rules (2015) Possible grading: FAS, Select, Common 1, Common 2, Common 3 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

According to European standard EN 1912 (2012) and associated national standards, strength class D40 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-s1, d0

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.

Assigned according to procedures of the European standard EN 13501-1 (décembre 2018).

Relevant European grading report N°RA05-0238C prepared by CSTB.

### End-uses

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



Basralocus sheathing on a ceiling frame in Mandioqueira, Gontran Damas secondary school, Cayenne (French Guiana).

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### Main local names

Country	Local name
Bolivia	Arenillo
Brazil	Mandioqueira
Brazil	Mandioqueira aspera
Brazil	Mandioqueira escamosa
Brazil	Mandioqueira lisa
French Guiana	Gonfolo

<b>Country</b>	<b>Local name</b>
French Guiana	Gonfolo kouali
French Guiana	Gronfolo
Suriname	Berg gronfoeloe
Suriname	Gronfoeloe
Venezuela	Floretillo