Family: MORACEAE (angiosperm)
Scientific name(s): Brosimum rubescens
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: dark red
Sapwood: clearly demarcated
Texture: fine
Grain: straight or interlocked
Interlocked grain: slight
Note: Very important and perishable sapwood. Heartwood often presents darker veins.

LOG DESCRIPTION

Diameter: from 50 to 70 cm
Thickness of sapwood: from 4 to 20 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.

<table>
<thead>
<tr>
<th>Property</th>
<th>Mean</th>
<th>Std dev.</th>
<th>Property</th>
<th>Mean</th>
<th>Std dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific gravity *</td>
<td>1,10</td>
<td>0,11</td>
<td>Crushing strength *</td>
<td>106 MPa</td>
<td>16 MPa</td>
</tr>
<tr>
<td>Monnin hardness *</td>
<td>17,6</td>
<td>4,1</td>
<td>Static bending strength *</td>
<td>162 MPa</td>
<td>38 MPa</td>
</tr>
<tr>
<td>Coeff. of volumetric shrinkage</td>
<td>0,59 %</td>
<td>0,05 %</td>
<td>Modulus of elasticity *</td>
<td>28130 MPa</td>
<td>1860 MPa</td>
</tr>
<tr>
<td>Total tangential shrinkage (TS)</td>
<td>5,9 %</td>
<td>0,3 %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total radial shrinkage (RS)</td>
<td>4,1 %</td>
<td>0,3 %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS/RS ratio</td>
<td>1,4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber saturation point</td>
<td>21 %</td>
<td></td>
<td>Musical quality factor</td>
<td>152 measured at 2623 Hz</td>
<td></td>
</tr>
<tr>
<td>Stability</td>
<td>stable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MECHANICAL AND ACOUSTIC PROPERTIES

<table>
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<td></td>
</tr>
</tbody>
</table>

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 2 - 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 3 - not in ground contact, outside
Species covering the use class 5: No

Note: According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition.

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: use not recommended
DRYING

Drying rate: slow
Risk of distortion: slight risk
Risk of casehardening: no
Risk of checking: slight risk
Risk of collapse: no

Possible drying schedule: 6

<table>
<thead>
<tr>
<th>M.C. (%)</th>
<th>Temperature (°C) dry-bulb</th>
<th>Temperature (°C) wet-bulb</th>
<th>Air humidity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>42</td>
<td>41</td>
<td>94</td>
</tr>
<tr>
<td>50</td>
<td>48</td>
<td>43</td>
<td>74</td>
</tr>
<tr>
<td>30</td>
<td>54</td>
<td>46</td>
<td>63</td>
</tr>
<tr>
<td>20</td>
<td>60</td>
<td>51</td>
<td>62</td>
</tr>
<tr>
<td>15</td>
<td>60</td>
<td>51</td>
<td>62</td>
</tr>
</tbody>
</table>

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 tungsten carbide
Cutting tools: Peeling: bad Slicing: nood
Note: Requires power. Some difficulties due to hardness. Good finish and beautiful polish.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
Gluing: correct (for interior only)
Note: Gluing requires care (very dense wood).

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 "SATINE". 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

Cabinetwork (high class furniture) Sliced veneer
Turned goods Stairs (inside)
Interior panelling Flooring
Stringed instruments (bow) Sculpture
Heavy carpentry Wood-ware
Tool handles (resilient woods)

Note: Wood recommended for high class end-uses.
# MAIN LOCAL NAMES

<table>
<thead>
<tr>
<th>Country</th>
<th>Local name</th>
<th>Country</th>
<th>Local name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil (Amazon)</td>
<td>AMAPA RANA</td>
<td>Brazil (Amazon)</td>
<td>CONDURU</td>
</tr>
<tr>
<td>Brazil (Amazon)</td>
<td>FALSO PAO BRASIL</td>
<td>Brazil (Amazon)</td>
<td>MUJIRAPIRANGA</td>
</tr>
<tr>
<td>Brazil (Amazon)</td>
<td>PAU RAINHA</td>
<td>Guyana</td>
<td>SATINWOOD</td>
</tr>
<tr>
<td>French Guiana</td>
<td>SATINE</td>
<td>French Guiana</td>
<td>SATINE ROUGE</td>
</tr>
<tr>
<td>French Guiana</td>
<td>SATINE RUBANE</td>
<td>French Guiana</td>
<td>SITON PAYA</td>
</tr>
<tr>
<td>Suriname</td>
<td>DOEKALIBALLI</td>
<td>Suriname</td>
<td>SATINHOUT</td>
</tr>
<tr>
<td>Spain</td>
<td>PALO DE ORO</td>
<td>Italia</td>
<td>FEROLIA</td>
</tr>
<tr>
<td>Italia</td>
<td>LEGNO SATINO</td>
<td>United Kingdom</td>
<td>BLOODWOOD</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>SATINWOOD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Physical Properties

#### Specific Gravity

- 0.2: Very light
- 0.3: Light
- 0.4: Medium
- 0.5: Heavy
- 0.6: Very heavy

#### Monnin Hardness

- 1: Very soft
- 2: Soft
- 3: Medium
- 4: Hard
- 5: Very hard

#### Coefficient of Volumetric Shrinkage (%)

- 0.3: Low
- 0.4: Medium
- 0.5: High

#### Total Tangential Shrinkage (%)

- 4: Low
- 5: Medium
- 6: High

#### Total Radial Shrinkage (%)

- 2: Low
- 3: Medium
- 4: High

#### Crushing Strength (MPa)

- 10: Low
- 20: Medium
- 30: High

#### Static Bending Strength (MPa)

- 25: Low
- 50: Medium
- 75: High

#### Modulus of Elasticity (≤1000 MPa)

- 6: Low
- 8: Medium
- 10: High

### Biological Properties

#### Resistance to Fungi

- Not durable
- Poorly durable
- Moderately durable
- Durable
- Very durable

#### Resistance to Dry Wood Insects Borer

- Susceptible
- Durable

#### Resistance to Termites

- Susceptible
- Moderately durable
- Durable

### Other Properties

#### Treatability

- Not permeable
- Poorly permeable
- Moderately permeable
- Easily permeable

#### Stability

- Poorly stable
- Moderately stable
- Stable

#### Fibers Saturation Point

- 15%: Low
- 25%: Medium
- 35%: High
- 45%: High