### WOOD DESCRIPTION

- **Color:** creamy white
- **Sapwood:** not demarcated
- **Texture:** coarse
- **Grain:** straight
- **Interlocked grain:** absent

**LOG DESCRIPTION**

- **Diameter:** from 50 to 80 cm
- **Thickenss of sapwood:** yes
- **Floats:** yes
- **Log durability:** low (must be treated)

### 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>
</tr>
</thead>
<tbody>
<tr>
<td>Specific gravity <strong>:</strong></td>
<td>0,14</td>
<td></td>
</tr>
<tr>
<td>Monnin hardness <strong>:</strong></td>
<td>0,3</td>
<td></td>
</tr>
<tr>
<td>Coeff. of volumetric shrinkage</td>
<td>0,21 %</td>
<td></td>
</tr>
<tr>
<td>Total tangential shrinkage (TS)</td>
<td>5,2 %</td>
<td></td>
</tr>
<tr>
<td>Total radial shrinkage (RS)</td>
<td>2,2 %</td>
<td></td>
</tr>
<tr>
<td>TS/RS ratio</td>
<td>2,4</td>
<td></td>
</tr>
<tr>
<td>Fiber saturation point</td>
<td>34 %</td>
<td></td>
</tr>
</tbody>
</table>

Stability: moderately stable

### MECHANICAL AND ACOUSTIC PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Mean</th>
<th>Std dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crushing strength <strong>:</strong></td>
<td>11 MPa</td>
<td></td>
</tr>
<tr>
<td>Static bending strength <strong>:</strong></td>
<td>24 MPa</td>
<td></td>
</tr>
<tr>
<td>Modulus of elasticity <strong>:</strong></td>
<td>5140 MPa</td>
<td></td>
</tr>
</tbody>
</table>

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

### 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

- **Fungi (according to E.N. standards):** class 5 - not durable
  - Dry wood borers: susceptible - sapwood not or slightly demarcated (risk in all the wood)
  - Termites (according to E.N. standards): class 5 - susceptible

- **Treatability (according to E.N. standards):** class 1 - easily permeable
  - Use class ensured by natural durability: class 1 - inside (no dampness)
  - Species covering the use class 5: No

Note: Impregnation in autoclave is not recommended. Impregnation by soaking satisfactory.

### REQUIREMENT OF A PRESERVATIVE TREATMENT

- Against dry wood borer attacks: requires appropriate 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 to slow
Risk of distortion: high risk
Risk of casehardening: yes
Risk of checking: high risk
Risk of collapse: no

Note: Kiln drying is preferable to air drying to reduce the defects. Drying must be done slowly and carefully.

<table>
<thead>
<tr>
<th>M.C. (%)</th>
<th>Temperature (°C)</th>
<th>Air humidity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>dry-bulb</td>
<td>wet-bulb</td>
</tr>
<tr>
<td>30</td>
<td>60</td>
<td>56</td>
</tr>
<tr>
<td>20</td>
<td>74</td>
<td>60</td>
</tr>
<tr>
<td>15</td>
<td>80</td>
<td>61</td>
</tr>
</tbody>
</table>

Possible drying schedule: 3

- 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: not recommended or without interest
  - Slicing: not recommended or without interest
- Note: Sharp tools are necessary to avoid fuzzy surface.

**ASSEMBLING**

- Nailing / screwing: poor
- Gluing: correct

**COMMERCIAL GRADING**

Appearance grading for sawn timbers: Specific grading according to uses

**FIRE SAFETY**

- Conventional French grading: Thickness > 14 mm: M.3 (moderately inflammable)
  - Thickness < 14 mm: M.4 (easily inflammable)
- Euroclasses grading: -
  - Out of grading (low density)

**END-USES**

- Insulation
- Model building
- Filling

- Floats
- Wood-ware

Note: Filling is required to obtain a good finish.
## 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</td>
<td>PAU DE BALSA</td>
<td>Colombia</td>
<td>LANU</td>
</tr>
<tr>
<td>Ecuador</td>
<td>BALSA</td>
<td>Guatemala</td>
<td>LANI LLA</td>
</tr>
<tr>
<td>Honduras</td>
<td>BALSA</td>
<td>Honduras</td>
<td>GUANO</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>GATILLO</td>
<td>Peru</td>
<td>BALSA</td>
</tr>
<tr>
<td>Peru</td>
<td>PALO DE BALSA</td>
<td>Peru</td>
<td>TOPA</td>
</tr>
<tr>
<td>Salvador</td>
<td>ALGODON</td>
<td>Trinidad and Tobago</td>
<td>BOIS FLOT</td>
</tr>
<tr>
<td>Venezuela</td>
<td>BALSO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Scale</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-------------</td>
<td>-----</td>
<td>--------</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>(0.2-1.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounin hardness</td>
<td>(1-20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coefficient of volumetric shrinkage (%)</td>
<td>(0.3-0.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total tangential shrinkage (%)</td>
<td>(4-12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total radial shrinkage (%)</td>
<td>(2-10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crushing strength (MPa)</td>
<td>(10-110)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Static bending strength (MPa)</td>
<td>(5-200)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modulus of elasticity (&lt;1000 MPa)</td>
<td>(6-32)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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