**WOOD DESCRIPTION**

- **Family:** MALVACEAE (angiosperm)
- **Scientific name(s):** Ceiba pentandra
  
  Ceiba thonningii (synonymous)
- **Commercial restriction:** no commercial restriction

**LOG DESCRIPTION**

- **Color:** creamy white
- **Sapwood:** not demarcated
- **Texture:** coarse
- **Grain:** interlocked
- **Interlocked grain:** slight

**Note:** Logs must be treated, extracted, sawn and dried as soon as possible after felling. Some logs are not floatable.

Wood cream white to light yellow, often with greyish veins.

**PHYSICAL PROPERTIES**

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

- **Specific gravity:** 0.32
- **Monnin hardness:** 0.8
- **Coeff. of volumetric shrinkage:** 0.36 %
- **Total tangential shrinkage (TS):** 6.3 %
- **Total radial shrinkage (RS):** 3.0 %
- **Fiber saturation point:** 34 %

**MECHANICAL AND ACOUSTIC PROPERTIES**

- **Crushing strength:** 22 MPa
- **Static bending strength:** 36 MPa
- **Modulus of elasticity:** 5130 MPa
- **TS/RS ratio:** 2.1
- **Musical quality factor:** 102.7 measured at 2146 Hz

**Stability:** moderately stable to poorly stable

**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:** This species is listed in the European standard NF EN 350-2.

**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: slight risk
Risk of casehardening: no
Risk of checking: slight risk
Risk of collapse: no

Note: A rather slow drying is recommended due to the important moisture content when green.

Possible drying schedule: 3

<table>
<thead>
<tr>
<th>M.C. (%)</th>
<th>Temperature (°C)</th>
<th>Air humidity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>60</td>
<td>56</td>
</tr>
<tr>
<td>30</td>
<td>68</td>
<td>58</td>
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<td>60</td>
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<tr>
<td>15</td>
<td>80</td>
<td>61</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: normal
Sawteeth recommended: ordinary or alloy steel
Cutting tools: ordinary
Peeling: good
Slicing: not recommended or without interest

Note: Fuzzy surface. Keep sharp tools to obtain a better finish.

ASSEMBLING

Nailing / screwing: poor
Gluing: correct

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

Veneer for interior of plywood
Blockboard
Current furniture or furniture components

Boxes and crates
Moulding
Insulation
### MAIN LOCAL NAMES

<table>
<thead>
<tr>
<th>Country</th>
<th>Local name</th>
<th>Country</th>
<th>Local name</th>
</tr>
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<tbody>
<tr>
<td>Benin</td>
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<td>Benin</td>
<td>HUTIN</td>
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<td>Ivory Coast</td>
<td>ENIA</td>
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<td>Gabon</td>
<td>ODOUMA</td>
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<td>OKHA</td>
<td>Central African Republic</td>
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<tr>
<td>Democratic Republic of the Congo</td>
<td>FUMA</td>
<td>Sierra Leone</td>
<td>BANDA</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>NGWE</td>
<td>Germany</td>
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<tr>
<td>France</td>
<td>FROMAGER</td>
<td>Netherlands</td>
<td>KAKANTRIE</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>CEIBA</td>
<td>United States of America</td>
<td>SILK COTTON-TREE</td>
</tr>
</tbody>
</table>
### Specific Gravity

- **Very light**
- **Light**
- **Medium**
- **Heavy**
- **Very heavy**

### Monnin Hardness

- **Very soft**
- **Soft**
- **Medium**
- **Hard**
- **Very hard**

### Coefficient of Volumetric Shrinkage (%)

- **Low**
- **Medium**
- **High**

### Total Tangential Shrinkage (%)

- **Low**
- **Medium**
- **High**

### Total Radial Shrinkage (%)

- **Low**
- **Medium**
- **High**

### Crushing Strength (MPa)

- **Low**
- **Medium**
- **High**

### Static Bending Strength (MPa)

- **Low**
- **Medium**
- **High**

### Modulus of Elasticity (<1000 MPa)

- **Low**
- **Medium**
- **High**

### Resistance to Fungi

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

### Resistance to Dry Wood Insects Borners

- 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

- Low
- Medium
- High

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>Low</td>
</tr>
<tr>
<td>25%</td>
<td>Medium</td>
</tr>
</tbody>
</table>
| 35%        | High        | 34%