Family: **FABACEAE** (angiosperm)
Scientific name(s): *Millettia laurentii*  
*M. stuhlmannii*
Commercial restriction: no commercial restriction

### WOOD DESCRIPTION

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Color</strong>:</td>
<td>dark brown</td>
</tr>
<tr>
<td><strong>Sapwood</strong>:</td>
<td>clearly demarcated</td>
</tr>
<tr>
<td><strong>Texture</strong>:</td>
<td>coarse</td>
</tr>
<tr>
<td><strong>Grain</strong>:</td>
<td>straight</td>
</tr>
<tr>
<td><strong>Interlocked grain</strong>:</td>
<td>absent</td>
</tr>
</tbody>
</table>

**Note:** Sometimes, brittleheart and grub hole.
Wood yellow when fresh, becoming dark brown to black brown with light. Presence of alternate light and dark stripes.

### 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 *:</td>
<td>0.87</td>
<td>0.08</td>
</tr>
<tr>
<td>Monnin hardness *:</td>
<td>9.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Coeff. of volumetric shrinkage:</td>
<td>0.69%</td>
<td>0.04%</td>
</tr>
<tr>
<td>Total tangential shrinkage (TS):</td>
<td>9.1%</td>
<td></td>
</tr>
<tr>
<td>Total radial shrinkage (RS):</td>
<td>5.9%</td>
<td></td>
</tr>
<tr>
<td>TS/RS ratio:</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Fiber saturation point:</td>
<td>22%</td>
<td></td>
</tr>
</tbody>
</table>

**Stability:** moderately stable  
**Note:** Hardness varies from hard to very hard.

### MECHANICAL AND ACOUSTIC PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Mean</th>
<th>Std dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crushing strength *:</td>
<td>85 MPa</td>
<td>15 MPa</td>
</tr>
<tr>
<td>Static bending strength *:</td>
<td>144 MPa</td>
<td>43 MPa</td>
</tr>
<tr>
<td>Modulus of elasticity *:</td>
<td>21050 MPa</td>
<td>695 MPa</td>
</tr>
</tbody>
</table>

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

**Musical quality factor:** 135.1 measured at 2619 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

- **Fungi (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 4 - in ground or fresh water contact  
- **Species covering the use class 5:** No

**Note:** This species is listed in the European standard NF EN 350-2.
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: does not require any preservative treatment
DRYING

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

Note: Usually, few risks of distortion except with thick material.

Possible drying schedule: 4

<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>50</td>
<td>48</td>
<td>43</td>
</tr>
<tr>
<td>40</td>
<td>48</td>
<td>43</td>
</tr>
<tr>
<td>30</td>
<td>48</td>
<td>43</td>
</tr>
<tr>
<td>15</td>
<td>54</td>
<td>46</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
Cutting tools: tungsten carbide
Peeling: not recommended or without interest
Slicing: nood

Note: Requires power. Difficult to polish. Apply preferably a finishing wax.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
Gluing: poor

Note: Risks of splits when nailing. Gluing is difficult and the wood can be stained.

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to SATA grading rules (1996)
For the "General Purpose Market":
Possible grading for square edged timbers: choix I, choix II, choix III, choix IV
Possible grading for short length lumbers: choix I, choix II
Possible grading for short length rafters: choix I, choix II, choix III
For the "Special Market":
Possible grading for strips and small boards (ou battens): choix I, choix II, choix III
Possible grading for rafters: choix I, choix II, choix III

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

Flooring
Sliced veneer
Interior joinery
Interior panelling
Sculpture
Resistant to one or several acids
Cabinetetwork (high class furniture)
Current furniture or furniture components
Exterior joinery
Exterior panelling
Turned goods
## 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>Cameroon</td>
<td>AWOUNG</td>
<td>Congo</td>
<td>WENGE</td>
</tr>
<tr>
<td>Gabon</td>
<td>AWONG</td>
<td>Mozambique</td>
<td>JAMBI'RIÉ</td>
</tr>
<tr>
<td>Democratic Republic of the Congo</td>
<td>WENGE</td>
<td>Tanzania</td>
<td>MPANDE</td>
</tr>
<tr>
<td>Germany</td>
<td>PANGA-PANGA</td>
<td>Germany</td>
<td>WENGE</td>
</tr>
<tr>
<td>France</td>
<td>PANGA-PANGA</td>
<td>France</td>
<td>WENGE</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>PANGA-PANGA</td>
<td>United Kingdom</td>
<td>WENGE</td>
</tr>
</tbody>
</table>
### Specific Gravity

- **Very light**: 0.2
- **Light**: 0.3 - 0.4
- **Medium**: 0.5 - 0.6
- **Heavy**: 0.7 - 0.8
- **Very heavy**: 0.9 - 1.0
- **1.1 - 1.2**

### Monnin Hardness

- **Very soft**: 1
- **Soft**: 2 - 3
- **Medium**: 4 - 5
- **Hard**: 6 - 7
- **Very hard**: 8 - 9

### Coefficient of Volumetric Shrinkage (%)

- **Low**: 0.3 - 0.4
- **Medium**: 0.5 - 0.6
- **High**: 0.6 - 0.8

### Total Tangential Shrinkage (%)

- **Low**: 4 - 5
- **Medium**: 6 - 7
- **High**: 8 - 9

### Total Radial Shrinkage (%)

- **Low**: 2 - 3
- **Medium**: 4 - 5
- **High**: 6 - 7

### Crushing Strength (MPa)

- **Low**: 10 - 20
- **Medium**: 30 - 40
- **High**: 50 - 60

### Static Bending Strength (MPa)

- **Low**: 25 - 50
- **Medium**: 75 - 100
- **High**: 150 - 200

### Modulus of Elasticity (≤1000 MPa)

- **Low**: 6 - 8
- **Medium**: 10 - 12
- **High**: 14 - 16

### 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 %**
- **22 %**
- **25 %**
- **Medium**
- **35 %**
- **High**
- **45 %**