Family: APOCYNACEAE (angiosperm)
Scientific name(s):
Alstonia boonei
Alstonia congensis
Alstonia gilletii (synonymous)
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: creamy white
Sapwood: not demarcated
Texture: medium
Grain: straight
Interlocked grain: absent
Note: Frequent brittleheart. Grain sometimes wavy. Frequent latex canals. Unpleasant odour when green.

LOG DESCRIPTION

Diameter: from 70 to 100 cm
Thickness of sapwood:
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>
<th>Mean</th>
<th>Std dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific gravity *:</td>
<td>0.36</td>
<td>0.01</td>
<td>Crushing strength *:</td>
<td>27 MPa</td>
</tr>
<tr>
<td>Monnin hardness *:</td>
<td>0.7</td>
<td>0.1</td>
<td>Static bending strength *:</td>
<td>43 MPa</td>
</tr>
<tr>
<td>Coeff. of volumetric shrinkage:</td>
<td>0.37 %</td>
<td>0.05 %</td>
<td>Modulus of elasticity *:</td>
<td>8090 MPa</td>
</tr>
<tr>
<td>Total tangential shrinkage (TS):</td>
<td>5.2 %</td>
<td>0.8 %</td>
<td>(*: at 12% moisture content, with 1 MPa = 1 N/mm²)</td>
<td></td>
</tr>
<tr>
<td>Total radial shrinkage (RS):</td>
<td>3.8 %</td>
<td>0.6 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS/RS ratio:</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber saturation point:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stability: moderately stable to stable</td>
<td></td>
<td></td>
<td></td>
<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 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: Very prone to blue stain.

MECHANICAL AND ACOUSTIC PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Mean</th>
<th>Std dev.</th>
<th>Mean</th>
<th>Std dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crushing strength *:</td>
<td>27 MPa</td>
<td>3 MPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Static bending strength *:</td>
<td>43 MPa</td>
<td>6 MPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modulus of elasticity *:</td>
<td>8090 MPa</td>
<td>525 MPa</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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: rapid
Risk of distortion: slight risk
Risk of casehardening: no
Risk of checking: no risk or very slight risk
Risk of collapse: no

Possible drying schedule: 3

<table>
<thead>
<tr>
<th>M.C. (%)</th>
<th>Temperature (°C) dry-bulb</th>
<th>wet-bulb</th>
<th>Air humidity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>60</td>
<td>56</td>
<td>81</td>
</tr>
<tr>
<td>30</td>
<td>68</td>
<td>58</td>
<td>61</td>
</tr>
<tr>
<td>20</td>
<td>74</td>
<td>60</td>
<td>51</td>
</tr>
<tr>
<td>15</td>
<td>80</td>
<td>61</td>
<td>41</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: The presence of latex may cause the clogging of sawblades.

ASSEMBLING

Nailing / screwing: poor
Gluing: correct

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: -
Out of grading (low density).

END-USES

Veneer for interior of plywood: Blockboard
Boxes and crates: Matches
Open boats: Moulding
Current furniture or furniture components: Interior joinery
Pencils: Can be used as substitute for OBECHE (Triplochiton scleroxylon) but yield is often low due to latex canals.
## 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>Benin</td>
<td>AFATIN</td>
<td>Cameroon</td>
<td>EKOUK</td>
</tr>
<tr>
<td>Cameroon</td>
<td>EKUK</td>
<td>Ivory Coast</td>
<td>ABALE</td>
</tr>
<tr>
<td>Congo</td>
<td>TSONGOTI</td>
<td>Ivory Coast</td>
<td>EMIEN</td>
</tr>
<tr>
<td>Gabon</td>
<td>EKOUK</td>
<td>Gabon</td>
<td>EKUK</td>
</tr>
<tr>
<td>Ghana</td>
<td>SINDRU</td>
<td>Ghana</td>
<td>SINDURO</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>EKOUK</td>
<td>Equatorial Guinea</td>
<td>EKUK</td>
</tr>
<tr>
<td>Nigeria</td>
<td>AHUN</td>
<td>Nigeria</td>
<td>AWUN</td>
</tr>
<tr>
<td>Uganda</td>
<td>MUJWA</td>
<td>Central African Republic</td>
<td>MOGOUGA</td>
</tr>
<tr>
<td>Democratic Republic of the Congo</td>
<td>AKUKA</td>
<td>Sierra Leone</td>
<td>KAIWI</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>ALSTONIA</td>
<td>United Kingdom</td>
<td>PATTERN WOOD</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>STOOLWOOD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>Very light</td>
<td>Light</td>
<td>Medium</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>Monnin hardness</td>
<td>Very soft</td>
<td>Soft</td>
<td>Medium</td>
</tr>
<tr>
<td>Coefficient of volumetric shrinkage (%)</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Total tangential shrinkage (%)</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
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<td>Total radial shrinkage (%)</td>
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<td>High</td>
</tr>
<tr>
<td>Crushing strength (MPa)</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Static bending strength (MPa)</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Modulus of elasticity (&lt;1000 MPa)</td>
<td>Low</td>
<td>Medium</td>
<td>High</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%