Family: LECYTHIDACEAE (angiosperm)
Scientific name(s): Petersianthus macrocarpus
Combretodendron macrocarpum (synonymous)
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown
Sapwood: clearly demarcated
Texture: medium
Grain: interlocked
Interlocked grain: marked

LOG DESCRIPTION

Diameter: from 60 to 100 cm
Thickness of sapwood: from 8 to 10 cm
Floats: no
Log durability: low (must be treated)

Note: Unpleasant odour when green. Wood yellowish pink to red brown with variable aspect. Grain straight or wavy.

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>0,80</td>
<td>0,06</td>
<td>Crushing strength *</td>
<td>57 MPa</td>
<td>11 MPa</td>
</tr>
<tr>
<td>Monnin hardness *</td>
<td>4,0</td>
<td>1,0</td>
<td>Static bending strength *</td>
<td>103 MPa</td>
<td>19 MPa</td>
</tr>
<tr>
<td>Coeff. of volumetric shrinkage</td>
<td>0,53 %</td>
<td>0,17 %</td>
<td>Modulus of elasticity *</td>
<td>12870 MPa</td>
<td>2398 MPa</td>
</tr>
<tr>
<td>Total tangential shrinkage (TS)</td>
<td>9,2 %</td>
<td>1,2 %</td>
<td>(*: at 12% moisture content, with 1 MPa = 1 N/mm²)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total radial shrinkage (RS)</td>
<td>4,7 %</td>
<td>0,7 %</td>
<td>Stability: moderately stable to poorly stable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS/RS ratio</td>
<td>2,0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber saturation point</td>
<td>36 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MECHANICAL AND ACOUSTIC PROPERTIES

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 3 - moderately durable
Dry wood borers: durable - sapwood demarcated (risk limited to sapwood)
Termite (according to E.N. standards): class M - moderately durable
Treatability (according to E.N. standards): class 3 - poorly permeable
Use class ensured by natural durability: class 2 - inside or under cover (dampness possible)
Species covering the use class 5: No

Note: Wide sapwood sensible to insect attacks.

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: does not require any 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: slow
Risk of distortion: high risk
Risk of casehardening: no
Risk of checking: high risk
Risk of collapse: yes

Note: Quartersawn recommended especially for thick dimensions. Kiln drying very difficult. It is recommended to dry thin dimensions.

SAWING AND MACHINING

Blunting effect: normal
Sawteeth recommended: stellite-tipped
Cutting tools: tungsten carbide
Peeling: bad
Slicing: good

Note: Machining more or less easy according to interlocked grain, especially in planing (tearing).

ASSEMBLING

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

Note: Risks of splits with thin dimensions.

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

Thickness > 14 mm: M.3 (moderately inflammable)
Thickness < 14 mm: M.4 (easily inflammable)

FIRE SAFETY

Conventional French 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

Heavy carpentry
Vehicle or container flooring
Sliced veneer

Note: Mottled, striated, veined or moiré wood are in great demand for decorative sliced veneer.
## 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>ABING</td>
<td>Congo</td>
<td>MINZU</td>
</tr>
<tr>
<td>Gabon</td>
<td>ABIN</td>
<td>Gabon</td>
<td>ABING</td>
</tr>
<tr>
<td>Ghana</td>
<td>ESSIA</td>
<td>Ghana</td>
<td>ESSIA</td>
</tr>
<tr>
<td>Nigeria</td>
<td>OWEWE</td>
<td>Central African Republic</td>
<td>NOSSOBA</td>
</tr>
<tr>
<td>Democratic Republic of the Congo</td>
<td>BOSSOHO</td>
<td>Democratic Republic of the Congo</td>
<td>WULO</td>
</tr>
<tr>
<td>France</td>
<td>ABALE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1, 1.1, 1.2</td>
<td>Very light, Light, Medium, Heavy, Very heavy</td>
<td></td>
</tr>
<tr>
<td>Monnin hardness</td>
<td>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20</td>
<td>Very soft, Soft, Medium, Hard, Very hard</td>
<td></td>
</tr>
<tr>
<td>Coefficient of volumetric shrinkage (%)</td>
<td>0.3, 0.4, 0.5, 0.6, 0.7, 0.8</td>
<td>Low, Medium, High</td>
<td></td>
</tr>
<tr>
<td>Total tangential shrinkage (%)</td>
<td>4, 5, 6, 7, 8, 9, 10, 11, 12</td>
<td>Low, Medium, High</td>
<td></td>
</tr>
<tr>
<td>Total radial shrinkage (%)</td>
<td>2, 3, 4, 5, 6, 7, 8, 9, 10</td>
<td>Low, Medium, High</td>
<td></td>
</tr>
<tr>
<td>Crushing strength (MPa)</td>
<td>0, 20, 40, 60, 70, 80, 90, 100, 110</td>
<td>Low, Medium, High</td>
<td></td>
</tr>
<tr>
<td>Static bending strength (MPa)</td>
<td>25, 50, 75, 100, 125, 150, 175, 200</td>
<td>Low, Medium, High</td>
<td></td>
</tr>
<tr>
<td>Modulus of elasticity (&lt;1000 MPa)</td>
<td>6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32</td>
<td>Low, Medium, High</td>
<td></td>
</tr>
</tbody>
</table>

### Resistance to Fungi
- Not durable
- Poorly durable
- Moderately durable
- Durable
- Very durable

### Resistance to Dry Wood Insects Bokers
- 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 %