Family: COMBRETACEAE (angiosperm)
Scientific name(s): Buchenavia spp.
Terminalia spp.* (voir note)
Commercial restriction: no commercial restriction
Note: *: species of the genus Terminalia coming from Central or South America.

WOOD DESCRIPTION

Color: yellow brown
Sapwood: clearly demarcated
Texture: medium
Grain: straight
Interlocked grain: absent

LOG DESCRIPTION

Diameter: from 50 to 90 cm
Thickness of sapwood: from 3 to 8 cm
Floats: no
Log durability: moderate (treatment recommended)

Note: Light yellow to yellow brown, sometimes with reddish veins.

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>0.93</td>
<td>0.07</td>
<td>Crushing strength *</td>
<td>77 MPa</td>
<td>8 MPa</td>
</tr>
<tr>
<td>Monnin hardness *</td>
<td>9.6</td>
<td>1.3</td>
<td>Static bending strength *</td>
<td>151 MPa</td>
<td>16 MPa</td>
</tr>
<tr>
<td>Coeff. of volumetric shrinkage</td>
<td>0.57 %</td>
<td>0.02 %</td>
<td>Modulus of elasticity *</td>
<td>22380 MPa</td>
<td>860 MPa</td>
</tr>
<tr>
<td>Total tangential shrinkage (TS):</td>
<td>9.2 %</td>
<td>0.8 %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total radial shrinkage (RS):</td>
<td>5.9 %</td>
<td>1.1 %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS/RS ratio</td>
<td>1.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber saturation point</td>
<td>25 %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MECHANICAL AND ACOUSTIC PROPERTIES

<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>
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</tr>
<tr>
<td>Modulus of elasticity *</td>
<td>22380 MPa</td>
<td>860 MPa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(*: at 12% moisture content, with 1 MPa = 1 N/mm²)</td>
<td></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 3 - moderately durable
- Dry wood borers: durable - sapwood demarcated (risk limited to sapwood)
- Termites (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

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: no

Possible drying schedule:

<table>
<thead>
<tr>
<th>M.C. (%)</th>
<th>Temperature (°C)</th>
<th>Air humidity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dry-bulb</td>
<td>wet-bulb</td>
</tr>
<tr>
<td>Green</td>
<td>40</td>
<td>37</td>
</tr>
<tr>
<td>40</td>
<td>44</td>
<td>38</td>
</tr>
<tr>
<td>30</td>
<td>44</td>
<td>36</td>
</tr>
<tr>
<td>20</td>
<td>46</td>
<td>36</td>
</tr>
<tr>
<td>15</td>
<td>49</td>
<td>37</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: nod

ASSEMBLING

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

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to NHLA grading rules (January 2007)
Possible grading: FAS, Select, Common 1, Common 2, Common 4
In French Guiana, the local name of this species is "ANANGOSSI". Grading is done according to local rules "Bois guyanais classés".
Possible grading: Choix 1, choix 2, choix 3, choix 4

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

Sliced veneer
Flooring
Cabinetetwork (high class furniture)
Ship building (planking and deck)
Current furniture or furniture components
Interior joinery
Moulding

Turned goods
Industrial or heavy flooring
Heavy carpentry
Ship building (ribs)
Arched goods
Exterior joinery
Tool handles (resilient woods)
<table>
<thead>
<tr>
<th>Country</th>
<th>Local name</th>
<th>Country</th>
<th>Local name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolivia</td>
<td>VERDOLAGO AMARILLO</td>
<td>Brazil</td>
<td>CARARA</td>
</tr>
<tr>
<td>Brazil</td>
<td>CUIARANA</td>
<td>Brazil</td>
<td>GUARAJUBA</td>
</tr>
<tr>
<td>Brazil</td>
<td>JATAI-AMARELLO</td>
<td>Brazil</td>
<td>LOIRINHO</td>
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<td>Brazil</td>
<td>MIRINDI BA</td>
<td>Brazil</td>
<td>PAU MULATO BRANCO</td>
</tr>
<tr>
<td>Brazil</td>
<td>PERIQUITEIRA</td>
<td>Brazil</td>
<td>TANIMBUCA</td>
</tr>
<tr>
<td>Brazil</td>
<td>TIMBIRITA</td>
<td>Ecuador</td>
<td>GUAYABILLO</td>
</tr>
<tr>
<td>Ecuador</td>
<td>GUAYABON</td>
<td>Ecuador</td>
<td>YUYUN</td>
</tr>
<tr>
<td>Guyana</td>
<td>ALASOABO</td>
<td>Guyana</td>
<td>COFFEE MORTAR</td>
</tr>
<tr>
<td>Guyana</td>
<td>COKERWOOD</td>
<td>Guyana</td>
<td>FUKADI</td>
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<tr>
<td>Guyana</td>
<td>NAHARU</td>
<td>Guyana</td>
<td>SIMIA CHIMI</td>
</tr>
<tr>
<td>French Guiana</td>
<td>ANANGOSSI</td>
<td>French Guiana</td>
<td>ANANGOSSITI</td>
</tr>
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<td>French Guiana</td>
<td>ANGOUCHY</td>
<td>Honduras</td>
<td>NARGUSTA</td>
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<td>Panama</td>
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<td>Paraguay</td>
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</tr>
<tr>
<td>Paraguay</td>
<td>PALO AMARILLO</td>
<td>Peru</td>
<td>CHAMISA</td>
</tr>
<tr>
<td>Peru</td>
<td>RIFARI</td>
<td>Peru</td>
<td>YACUSHAPANA</td>
</tr>
<tr>
<td>Suriname</td>
<td>BOES'AMANDRA</td>
<td>Suriname</td>
<td>BOSAMANDEL</td>
</tr>
<tr>
<td>Suriname</td>
<td>KALEBASHOUT</td>
<td>Uruguay</td>
<td>GUYABI AMARILLO</td>
</tr>
<tr>
<td>Venezuela</td>
<td>GUAYABO</td>
<td>Venezuela</td>
<td>PATA DE DANDO AMARILLO</td>
</tr>
</tbody>
</table>
### Properties of Tanimbuca

#### Specific Gravity

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

#### Monnin Hardness

- **Values:** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
- **Classes:**
  - Very soft
  - Soft
  - Medium
  - Hard
  - Very hard

#### Coefficient of Volumetric Shrinkage (%)

- **Values:** 0.3, 0.4, 0.5, 0.6, 0.7, 0.8
- **Classes:**
  - Low
  - Medium
  - High

#### Total Tangential Shrinkage (%)

- **Values:** 4, 5, 6, 7, 8, 9, 10, 11, 12
- **Classes:**
  - Low
  - Medium
  - High

#### Total Radial Shrinkage (%)

- **Values:** 2, 3, 4, 5, 6, 7, 8, 9, 10
- **Classes:**
  - Low
  - Medium
  - High

#### Crushing Strength (MPa)

- **Values:** 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200
- **Classes:**
  - Low
  - Medium
  - High

#### Static Bending Strength (MPa)

- **Values:** 25, 50, 75, 100, 125, 150, 175, 200
- **Classes:**
  - Low
  - Medium
  - High

#### Modulus of Elasticity (≤1000 MPa)

- **Values:** 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32
- **Classes:**
  - Low
  - Medium
  - High

#### Resistance to Fungi

- **Classes:**
  - Not durable
  - Poorly durable
  - Moderately durable
  - Durable
  - Very durable

#### Resistance to Dry Wood Insects and Borer

- **Classes:**
  - Susceptible
  - Durable

#### Resistance to Termites

- **Classes:**
  - Susceptible
  - Moderately durable
  - Durable

#### Treatability

- **Classes:**
  - Not permeable
  - Poorly permeable
  - Moderately permeable
  - Easily permeable

#### Stability

- **Classes:**
  - Poorly stable
  - Moderately stable
  - Stable

#### Fibers Saturation Point

- **Values:** 15%, 25%, 35%, 45%
- **Classes:**
  - Low
  - Medium
  - High

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26/03/2012