BERLINIA | EBIARA | RED ZEBRAWOOD

Family: FABACEAE-CAESALPINIOIDEAE (angiosperm)
Scientific name(s): Berlinia bracteosa
Berlinia confusa
Berlinia grandiflora
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: pinkish brown
Sapwood: clearly demarcated
Texture: medium
Grain: straight or interlocked
Interlocked grain: slight
Floats: no

Diameter: from 60 to 90 cm
Thickness of sapwood: from 10 to 15 cm
Log durability: moderate (treatment recommended)

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>0,70</td>
<td>0,06</td>
<td>Crushing strength *:</td>
<td>57 MPa</td>
<td>9 MPa</td>
</tr>
<tr>
<td>Monnin hardness *:</td>
<td>4,0</td>
<td>1,2</td>
<td>Static bending strength *:</td>
<td>93 MPa</td>
<td>17 MPa</td>
</tr>
<tr>
<td>Coeff. of volumetric shrinkage:</td>
<td>0,53 %</td>
<td>0,11 %</td>
<td>Modulus of elasticity *:</td>
<td>12870 MPa</td>
<td>2356 MPa</td>
</tr>
<tr>
<td>Total tangential shrinkage (TS):</td>
<td>7,8 %</td>
<td>1,3 %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total radial shrinkage (RS):</td>
<td>3,8 %</td>
<td>1,3 %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS/RS ratio:</td>
<td>2,1</td>
<td></td>
<td>(*: at 12% moisture content, with 1 MPa = 1 N/mm²)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber saturation point:</td>
<td>28 %</td>
<td></td>
<td>Musical quality factor:</td>
<td>86,6 measured at 2289 Hz</td>
<td></td>
</tr>
</tbody>
</table>

Stability: moderately stable to poorly stable

Note: Physical and mechanical properties are very variable according to the different EBIARA species.

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: normal to slow
Risk of distortion: slight risk
Risk of casehardening: no
Risk of checking: no risk or very slight risk
Risk of collapse: no

Note: In order to reduce the risks of distortion, quartersawn drying is recommended.

Possible drying schedule: 2

<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></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>50</td>
<td>45</td>
</tr>
<tr>
<td>30</td>
<td>55</td>
<td>47</td>
</tr>
<tr>
<td>20</td>
<td>70</td>
<td>55</td>
</tr>
<tr>
<td>15</td>
<td>75</td>
<td>58</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.

SAWING AND MACHINING

Blunting effect: normal
Sawteeth recommended: ordinary or alloy steel
Cutting tools: ordinary
Peeling: good
Slicing: nod

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
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 batters): 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

Sliced veneer
Interior joinery
Current furniture or furniture components
Turned goods
Stairs (inside)
Exterior panelling
Wood-ware

Veneer for back or face of plywood
Interior panelling
Cabinetwork (high class furniture)
Flooring
Exterior joinery
Formwork
Light carpentry
**MAIN LOCAL NAMES**

<table>
<thead>
<tr>
<th>Country</th>
<th>Local name</th>
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<th>Local name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>M’POSSA</td>
<td>Benin</td>
<td>BAGBE</td>
</tr>
<tr>
<td>Cameroon</td>
<td>ABEM</td>
<td>Cameroon</td>
<td>ESSABEM</td>
</tr>
<tr>
<td>Congo</td>
<td>M’POSSA</td>
<td>Ivory Coast</td>
<td>MELEGBA</td>
</tr>
<tr>
<td>Ivory Coast</td>
<td>POCOULI</td>
<td>Gabon</td>
<td>EBIARA</td>
</tr>
<tr>
<td>Ghana</td>
<td>BERLINIA</td>
<td>Nigeria</td>
<td>EXPOGOI</td>
</tr>
<tr>
<td>Democratic Republic of the Congo</td>
<td>M’POSSA</td>
<td>Sierra Leone</td>
<td>SARKPEI</td>
</tr>
<tr>
<td>Germany</td>
<td>BERLINIA</td>
<td>United Kingdom</td>
<td>BERLINIA</td>
</tr>
</tbody>
</table>