Family: DIPTEROCARPACEAE (angiosperm)
Scientific name(s): Anisoptera spp.
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: orange - yellow
Sapwood: not clearly demarcated
Texture: coarse
Grain: straight or interlocked
Interlocked grain: slight
Note: Heartwood orangey yellow darkening to golden brown. Presence of whitish resin veins.

LOG DESCRIPTION

Diameter: from 60 to 150 cm
Thickness of sapwood: from 5 to 8 cm
Diameter: from 60 to 150 cm
Floats: yes
Log durability: moderate (treatment recommended)

PHYSICAL PROPERTIES

Specific gravity *: 0.63 Mean
Monnin hardness *: 2.6 Mean
Coeff. of volumetric shrinkage: 0.52 % Std dev.
Total tangential shrinkage (TS): 8.8 % Std dev.
Total radial shrinkage (RS): 3.7 % Std dev.
TS/RS ratio: 2.4 Mean
Fiber saturation point: 32 % Std dev.
Stability: moderately stable to stable

MECHANICAL AND ACOUSTIC PROPERTIES

Crushing strength *: 46 MPa Mean
Static bending strength *: 83 MPa Std dev.
Modulus of elasticity *: 12930 MPa Mean
Musical quality factor: 113.4 measured at 2665 Hz Std dev.

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 4 - poorly durable
Dry wood borers: susceptible - sapwood not or slightly demarcated (risk in all the wood)
Termites (according to E.N. standards): class M - moderately durable
Treatability (according to E.N. standards): class 3-4 - poorly or not permeable
Use class ensured by natural durability: class 1 - inside (no dampness)
Species covering the use class 5: No
Note: This species is listed in the European standard NF EN 350-2.

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: requires appropriate preservative treatment
In case of risk of temporary humidification: use not recommended
In case of risk of permanent humidification: use not recommended
**DRYING**

<table>
<thead>
<tr>
<th>Drying rate: slow</th>
<th>Possible drying schedule: 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of distortion: slight risk</td>
<td>Temperature (°C)</td>
</tr>
<tr>
<td>Risk of casehardening: no</td>
<td>dry-bulb</td>
</tr>
<tr>
<td>Risk of checking: slight risk</td>
<td>Green</td>
</tr>
<tr>
<td>Risk of collapse: no</td>
<td>40</td>
</tr>
<tr>
<td>Note: Drying requires care in order to avoid pocket moisture.</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>15</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: high
- Sawteeth recommended: stellite-tipped
- Cutting tools: tungsten carbide
- Peeling: good
- Slicing: nood

Note: Resin exudation in steaming. Tendency to tearing on quartersawn.

**ASSEMBLING**

- Nailing / screwing: good
- Gluing: correct

**COMMERCIAL GRADING**

Appearance grading for sawn timbers: According to MGR grading rules (2009)

Possible grading: Prime, Select, Standard, Serviceable, Utility

**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**

- Glued laminated
- Veneer for interior of plywood
- Boxes and crates
- Interior joinery
- Moulding
- Turned goods

Note: Filling is recommended to obtain a good finish.
## 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>Cambodia</td>
<td>PHDIEK</td>
<td>Indonesia</td>
<td>MERSAWA</td>
</tr>
<tr>
<td>Laos</td>
<td>MAI BAK</td>
<td>Peninsular Malaysia</td>
<td>PENGIRAN</td>
</tr>
<tr>
<td>Malaysia (islands)</td>
<td>MERSAWA</td>
<td>Myanmar</td>
<td>KAUNGHMU</td>
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<tr>
<td>Papua New Guinea</td>
<td>MERSAWA</td>
<td>Philippines</td>
<td>PALOSAPI</td>
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<td>Thailand</td>
<td>KRABAK</td>
<td>Thailand</td>
<td>PIK</td>
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<td>VEN-VEN</td>
<td>France</td>
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<tr>
<td>United Kingdom</td>
<td>KRABAK</td>
<td>United States of America</td>
<td>BELLA ROSA</td>
</tr>
</tbody>
</table>
### Specific Gravity

- 0.2: Very light
- 0.3: Light
- 0.4: Medium
- 0.5: Heavy
- 0.6: Very heavy

### Mohr hardness

- 1: Very soft
- 2: Soft
- 3: Medium
- 4: Hard
- 5: Very hard

### Coefficient of Volumetric Shrinkage (%)

- 0.3: Low
- 0.4: Medium
- 0.5: High

### Total Tangential Shrinkage (%)

- 4: Low
- 5: Medium
- 6: High

### Total Radial Shrinkage (%)

- 2: Low
- 5: Medium
- 8: High

### Crushing Strength (MPa)

- 10: Low
- 20: Medium
- 30: High

### Static Bending Strength (MPa)

- 25: Low
- 50: Medium
- 75: High

### Modulus of Elasticity (≤1000 MPa)

- 6: Low
- 8: Medium
- 10: High

### Resistance to Fungi

- Not durable
- Poorly durable
- Moderately durable
- Durable
- Very durable

### Resistance to Dry Wood Insects and 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
- 32%: High
- 45%: High