Family: GONYSTYLACEAE (angiosperm)
Scientific name(s): Gonystylus spp.
Commercial restriction: species mentioned in Appendix II (see note)
Note: The Gonystylus bancanus species is the most commonly marketed.
All RMIN species are listed in CITES (Convention on International Trade in Endangered Species of wild fauna and flora), appendix 2 and in the European Union Regulation, appendix B. Parts of wood and wood-made products which are regulated are defined by a note: all parts and products. To trade these parts and products, the exporting or re-exporting country must emit a CITES permit or certificate and an importation permit is compulsory to import within the EU.

WOOD DESCRIPTION

| Color: | light yellow |
| Sapwood: | not demarcated |
| Texture: | fine |
| Grain: | straight or interlocked |
| Interlocked grain: | slight |

Note: Heart shakes in some logs. Wood cream white to light yellow. Unpleasant odour when green. Presence of tension wood.

LOG DESCRIPTION

| Diameter: | from 50 to 70 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.

| Mean | Std dev. |
| Specific gravity *: | 0,66 | 0,04 |
| Monnin hardness *: | 3,2 | 0,2 |
| Coeff. of volumetric shrinkage: | 0,60 % | 0,06 % |
| Total tangential shrinkage (TS): | 9,1 % | 0,8 % |
| Total radial shrinkage (RS): | 4,9 % | 0,6 % |
| TS/RS ratio: | 1,9 |
| Fiber saturation point: | 28 % |
| Stability: | moderately stable to poorly stable |

MECHANICAL AND ACOUSTIC PROPERTIES

| Mean | Std dev. |
| Crushing strength *: | 67 MPa | 6 MPa |
| Static bending strength *: | 112 MPa | 6 MPa |
| Modulus of elasticity *: | 19020 MPa | 2200 MPa |
| (*: at 12% moisture content, with 1 MPa = 1 N/mm²) |
| Musical quality factor: | 108,5 measured at 3052 Hz |

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: This species is listed in the European standard NF EN 350-2. Very prone to blue stain.

REQUIREMENT OF A PERSERVATIVE 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: normal to slow
Risk of distortion: slight risk
Risk of casehardening: no
Risk of checking: high risk
Risk of collapse: no
Note: Risks of checks, end checks and blue stain with thick material.

Possible drying schedule: 3

<table>
<thead>
<tr>
<th>M.C. (%)</th>
<th>Temperature (°C)</th>
<th>Air humidity (%)</th>
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<tbody>
<tr>
<td></td>
<td>dry-bulb</td>
<td>wet-bulb</td>
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<tr>
<td>Green</td>
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<td>30</td>
<td>68</td>
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<tr>
<td>15</td>
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</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: nood
Note: Risks of splinters in cross cutting.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
Gluing: correct
Note: Tends to split when nailing.

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

Moulding  | Cabinetwork (high class furniture)
Current furniture or furniture components  | Veneer for interior of plywood
Veneer for back or face of plywood  | Sliced veneer
Flooring  | Interior joinery
Exterior panelling  | Turned goods
Rolling shutters

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<thead>
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<th>Country</th>
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<td>Ramin</td>
</tr>
</tbody>
</table>
### Properties of Wood

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

**Monnin 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
- 3: Medium
- 4: 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 Properties
- **Resistance to Fungi**:
  - Not durable
  - Poorly durable
  - Moderately durable
  - Durable
  - Very durable

- **Resistance to Dry Wood Insects Borer**:
  - 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%