# DUABANGA



Family: LYTHRACEAE (angiosperm)
Scientific name(s): Duabanga grandiflora
Duabanga moluccana
Commercial restriction: no commercial restriction

## WOOD DESCRIPTION

Color: light brown
Sapwood: not demarcated
Texture: coarse
Grain: straight or interlocked
Interlocked grain: slight
Note: Wood light yellow to light brown.

## LOG DESCRIPTION

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

## PHYSICAL PROPERTIES

## MECHANICAL AND ACOUSTIC 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 *: | 0,50 | |
| Monnin hardness *: | 1,6 | |
| Coeff. of volumetric shrinkage: | 0,44 % | |
| Total tangential shrinkage (TS): | 6,7 % | |
| Total radial shrinkage (RS): | 3,5 % | |
| TS/RS ratio: | 1,9 | |
| Fiber saturation point: | 27 % | |
| Stability: | moderately stable | |

| | Mean | Std dev. |
|---|---|---|
| Crushing strength *: | 39 MPa | |
| Static bending strength *: | 64 MPa | |
| Modulus of elasticity *: | 9120 MPa | |

(*: at 12% moisture content, with 1 MPa = 1 N/mm²)

Musical quality factor: 104,3 measured at 2403 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 S - susceptible
Treatability (according to E.N. standards): class 2 - moderately permeable
Use class ensured by natural durability: class 1 - inside (no dampness)
Species covering the use class 5: No

## REQUIREMENT OF A PRESERVATIVE 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: rapid
Risk of distortion: slight risk
Risk of casehardening: no
Risk of checking: slight risk
Risk of collapse: no
Note: Sometimes, moderate risks of cracks and distortions.

Possible drying schedule: 6

| M.C. (%) | Temperature (°C) dry-bulb | wet-bulb | Air humidity (%) |
|---|---|---|---|
| Green | 42 | 41 | 94 |
| 50 | 48 | 43 | 74 |
| 30 | 54 | 46 | 63 |
| 20 | 60 | 51 | 62 |
| 15 | 60 | 51 | 62 |

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: Surface sometimes fuzzy. Keep sharp tools. Filling is necessary to obtain a good finish.

## ASSEMBLING

Nailing / screwing: poor
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)

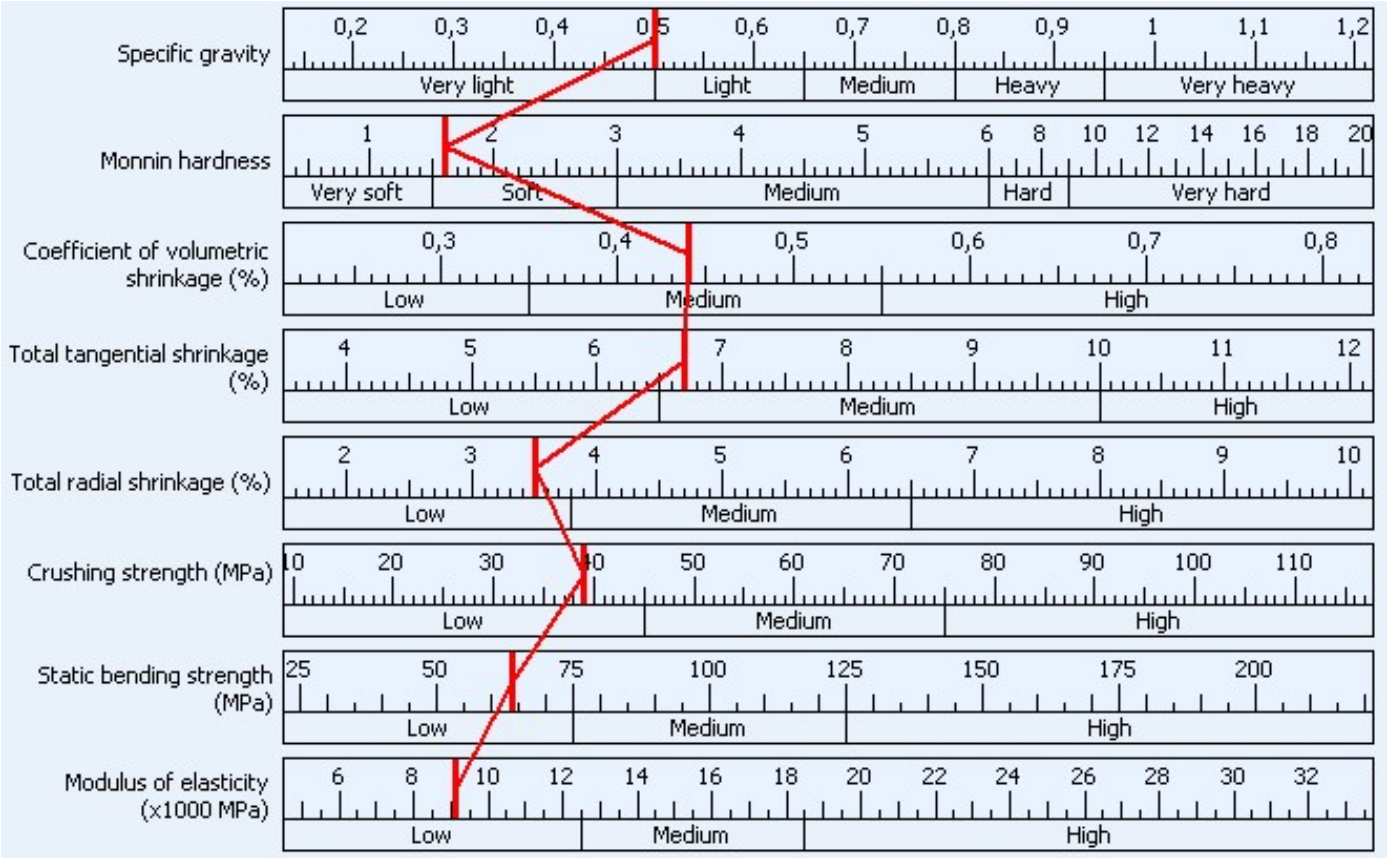
Euroclasses grading: D s2 d0
Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

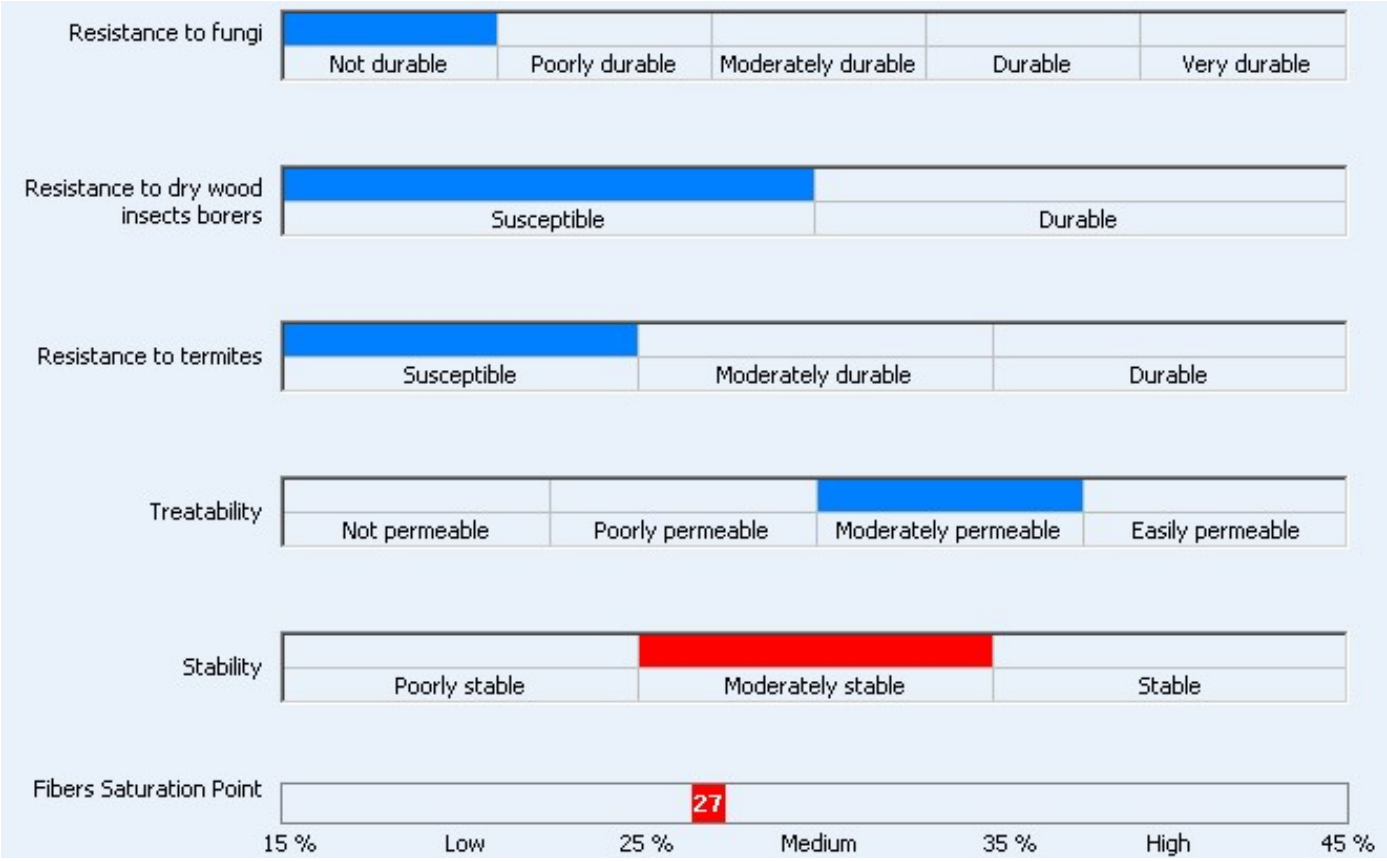
## END-USES

Moulding
Interior panelling
Veneer for back or face of plywood
Current furniture or furniture components
Fiber or particle boards
Pulp
Floats
Interior joinery
Veneer for interior of plywood
Boxes and crates
Sliced veneer
Blockboard
Matches
Turned goods

## MAIN LOCAL NAMES

| Country | Local name | Country | Local name |
|---|---|---|---|
| India | LAMPATI RAMDALA | Indonesia | KALAM |
| Peninsular Malaysia | MAGAS | Peninsular Malaysia | TAGAHAS |
| Malaysia (islands) | MAGASAWITH | Malaysia (islands) | PHAY-SUNG |
| Myanmar | MYAUKNGO | Papua New Guinea | DUABANGA |
| Philippines | LOKTOB | Thailand | LINKWAI |
| Thailand | PHAY | Vietnam | PHAY |


Specific gravity
0,2 0,3 0,4 0,5 0,6 0,7 0,8 0,9 1 1,1 1,2
Very light Light Medium Heavy Very heavy
Monnin hardness
1 2 3 4 5 6 8 10 12 14 16 18 20
Very soft Soft Medium Hard Very hard
Coefficient of volumetric shrinkage (%)
0,3 0,4 0,5 0,6 0,7 0,8
Low Medium High
Total tangential shrinkage (%)
4 5 6 7 8 9 10 11 12
Low Medium High
Total radial shrinkage (%)
2 3 4 5 6 7 8 9 10
Low Medium High
Crushing strength (MPa)
10 20 30 40 50 60 70 80 90 100 110
Low Medium High
Static bending strength (MPa)
25 50 75 100 125 150 175 200
Low Medium High
Modulus of elasticity (x1000 MPa)
6 8 10 12 14 16 18 20 22 24 26 28 30 32
Low Medium High


Resistance to fungi
Not durable Poorly durable Moderately durable Durable Very durable
Resistance to dry wood insects 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
27
15 % Low 25 % Medium 35 % High 45 %