

**Family:** SIMAROUBACEAE (angiosperm)  
**Scientific name(s):** *Simarouba amara*  
Quassia simarouba (synonymous)  
**Commercial restriction:** no commercial restriction

## WOOD DESCRIPTION

**Color:** Creamy white  
**Sapwood:** not demarcated  
**Texture:** coarse  
**Grain:** straight  
**Interlocked Grain:** absent  
**Note:**

Creamy white to light yellow. Sometimes has oily veins.

## LOG DESCRIPTION

**Diameter:** 19.7 – 35.4 inches  
**Thickness of Sapwood:**  
**Floats:** yes  
**Log Durability:** low

## PHYSICAL PROPERTIES

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

|   | <u>Mean</u>                        | <u>Std. Dev.</u> |
|---|------------------------------------|------------------|
| <b>Specific Gravity*:</b>               | 0.41                               | 0.04             |
| <b>Janka Hardness (lbs):</b>            | 440                                |                  |
| <b>Volumetric Shrinkage:</b>            | 0.36%                              | 0.08%            |
| <b>Total Tangential Shrinkage (TS):</b> | 6.3%                               | 0.6%             |
| <b>Total Radial Shrinkage (RS):</b>     | 2.8%                               | 0.5%             |
| <b>TS/RS Ratio:</b>                     | 2.3                                |                  |
| <b>Fiber Saturation Point:</b>          | 32%                                |                  |
| <b>Stability:</b>                       | Moderately stable to poorly stable |                  |

## MECHANICAL/ACOUSTIC

|                                  | <u>Mean</u>              |
|----------------------------------|--------------------------|
| <b>Crushing Strength*:</b>       | 4,931 lbf                |
| <b>Static Bending Strength*:</b> | 8,557 lbf                |
| <b>Modulus of Elasticity*:</b>   | 1,460,530 lbf            |
| <b>Musical Quality Factor:</b>   | 86.3 measured at 2747 Hz |

*\*At 12% moisture content.*

## 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

|  |   |
|--|---|
| <b>Funghi (According to E.N. standards):</b>       | class 5 – not durable   |
| <b>Dry Wood Borers:</b>                            | susceptible - sapwood not or slightly demarcated (risk in all the wood) |
| <b>Termites (According to E.N. standards):</b>     | class 5 - susceptible   |
| <b>Treatability (according to E.N. standards):</b> | class 1 - easily permeable  |
| <b>Use class ensured by natural durability:</b>    | class 1 – inside (no dampness)  |
| <b>Species covering the use class 5:</b>           | 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:** no risk or very slight risk  
**Risk of Casehardening:** no  
**Risk of Checking:** no risk or very slight risk  
**Risk of Collapse:** no  
**Note:** Prone to blue stain before and during drying.

| M.C. (%) | Temperature (°F) |          | Air Humidity (%) |
|----------|------------------|----------|------------------|
|          | Dry-Bulb         | Wet-Bulb |                  |
| Green    | 140              | 132.8    | 81               |
| 30       | 154.4            | 136.4    | 61               |
| 20       | 165.2            | 140      | 51               |
| 15       | 176              | 141.8    | 41               |

**Possible Drying Schedule:** 3

This schedule is given for information only and is applicable to thickness lower or equal to 1.5 in. It must be used in compliance with the code of practice. For thickness from 1.5 to 3 in, the air relative humidity should be increased by 5% at each step. For thickness over 3 in, a 10% increase should be considered.

## SAWING AND MACHINING

**Blunting Effect:** normal  
**Sawteeth Recommended:** ordinary or alloy steel  
**Cutting Tools:** ordinary  
**Peeling:** good  
**Slicing:** good

## ASSEMBLING

**Nailing / screwing:** poor  
**Gluing:** correct

## END-USES

Veneer for interior of plywood  
 Boxes and crates  
 Current furniture or furniture components  
 Stringed instruments (sounding board)  
 Matches  
 Interior paneling  
 Fiber or particle boards  
 Veneer for back or face of plywood  
 Blockboard  
 Sliced veneer  
 Moulding  
 Turned goods  
 Interior joinery  
 Wood-ware

## MAIN LOCAL NAMES

| Country                | Local Name                     |
|------------------------|--------------------------------|
| <b>Bolivia</b>         | Chiriuana                      |
| <b>Brazil (Amazon)</b> | Marupauba                      |
| <b>Brazil</b>          | Paraiba, Parahyba, Tamanqueira |
| <b>Colombia</b>        | Simaruba                       |
| <b>Ecuador</b>         | Cuna, Cedro Amargo, Guitarro   |
| <b>Guyana</b>          | Simarupa                       |
| <b>Peru</b>            | Marupa                         |
| <b>Venezuela</b>       | Cedro Blanco, Simarouba        |
| <b>United Kingdom</b>  | Bitterwood                     |

### Works Cited:

CIRAD'S *Biomass, Wood, Energy, Bioproducts Research Unit (BioWooEB)*