

## Ipê

Scientific name: *Tabebuia* spp., Bignoniaceae.

Note: Ipe Wood belongs to the group of *Tabebuia* species that produce heavy, hard, brownish-brown Wood, with its vessels blocked by ipein (greenish-yellow substance). Among these species, we can mention *Tabebuia ochraceae* (Cham.) Bureau, *Tabebuia impetiginosa* (Mart. Ex DC.) Standl., *Tabebuia longifolia* (Bureau) Standl. and *Tabebuia serratifolia* (Vahl.) Nichols.

These Woods receive common names typical in their regions of occurrence, such as pau-d'arco, from the Amazon to southern Bahia; ipe, ipe-yellow and ipe-purple in the South and Southeast; and piúna, yellow piuna and purple piúna, in Mato Grosso and Goiás.

As these Woods are similar in their characteristics and in trade have the same value; in this sheet are treated together and the species mentioned, where relevant.

Other popular names: ipe-yellow, ipe-of-savannah, ipe-brown, ipe-black, ipe-purple, ipe-tobacco, ipe-una, ipeúva, pau-d'arco, pau-d'arco-yellow, dove, piúna, yellow piúna, purple piúna, piúva, sawnwood.

International names: bethabara, ipe (ATIBT, 1982), ipe (BSI, 1991), lapacho, lapacho ararillo.

### Occurrence:

- Brazil: Amazon, Atlantic Forest, Acre, Amapá, Amazonas, Bahia, Espírito Santo, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Paraná, Rio Grande do Sul, Rondônia, São Paulo.
- Other countries: Central America, Argentina, Bolivia, Colombia, Guyana, French Guiana, Paraguay, Peru, Suriname.

### GENERAL FEATURES

Sensory characteristics: heartwood and sapwood distinguished by color, brown or brown heartwood with yellowish or greenish reflections, yellowish-white sapwood; dull surface; imperceptible smell and taste; high density; hard to cut; irregular grain the reverse; Fine texture. Macroscopic Anatomical Description: • Axial parenchyma: visible only under the lens, vasicentric to aliform paratracheal, confluent, forming small oblique and still marginally thin arrangements. • Rays: visible only under lens at the top, on the tangential face its stratification is visible (4 to 5 per mm); few. • Vessels: visible only under lens; small; very numerous; diffuse porosity; solitary and multiple;

obstructed by yellowish substance (ipein). • Growth layers: slightly distinct, individualized by darker tangential fibrous zones and thin lines of marginal parenchyma. Source: (IPT, 1983; IPT, 1989a) Note: Information for *Tabebuia ochraceae* (Cham.) Rizz species. DURABILITY / TREATMENT Natural durability: Ipe wood, in laboratory tests, has been shown to be highly resistant to attack by xylophagous organisms (fungi and termites) (Berni et al., 1979; Brazolin & Tomazello, 1999). attacked by drilling organisms (Lopez, 1982) In a field trial, with cuttings in contact with the ground had an average life of 8 to 9 years (Lopez, 1982). In practical observations, it is considered very resistant to rotting (IPT, 1989a). Treatability: under pressure treatment has been shown to be impervious to preservative solutions (IPT, 1989a)

### PROCESSING CHARACTERISTICS

Workability: ipe wood is moderately difficult to work with, especially with hand tools that quickly lose their sharpness. Receives good workmanship. Bonding problems are reported (Jankowsky, 1990) Flattening is regular, easy to sand and excellent for nailing and screwing (IBAMA, 1997a).

Drying: Air drying is medium to fast and presents minor cracking and warping problems. Artificial (kiln) drying can aggravate the incidence of defects (Jankowsky, 1990)

Drying program can be obtained from (Jankowsky, 1990)

### PHYSICAL PROPERTIES

Mass Density (r):

- Apparent at 15% humidity (rap, 15): 1010 kg / m<sup>3</sup>
- Basic (basic): 840 kg / m<sup>3</sup>

Contraction:

- Radial: 4.0%
- Tangential: 5.9%
- Volumetric: 10.9%

Results were obtained according to ABNT Standard MB26 / 53 (NBR 6230/85).

Note: Information for *Tabebuia ochraceae* (Cham.) Rizz species.

Source: (IPT, 1989a)

## MECHANICAL PROPERTIES

### Flexion:

- Resistance (fM):
  - Green wood: 148.5 MPa
  - Wood at 15% humidity: 160.5 MPa
- Proportionality Limit - Green Wood: 60.3 MPa
- Elasticity Module - Green Wood: 15298 MPa

Results were obtained according to ABNT Standard MB26 / 53 (NBR 6230/85).

Note: Information for *Tabebuia ochraceae* (Cham.) Rizz species.

Source: (IPT, 1989a)

### Parallel Fiber Compression:

- Resistance (fc0):
  - Green wood: 73.4 MPa
  - Wood at 15% humidity: 82.9 MPa
- Moisture influence coefficient: 1.6%
- Proportionality Limit - Green Wood: 50.4 MPa
- Elasticity Module - Green Wood: 18054 MPa

Results were obtained according to ABNT Standard MB26 / 53 (NBR 6230/85).

Note: Information for *Tabebuia ochraceae* (Cham.) Rizz species.

Source: (IPT, 1989a)

### Other properties:

- Flexural impact strength - 15% wood (shock):
  - Work absorbed: 42.5
- Shear - Green Wood: 15.4 MPa
- Parallel janka hardness - Green wood: 10807 N
- Normal fiber traction - Green wood: 11.1 MPa
- Cracking - Green Wood: 1.2 MPa

Results were obtained according to ABNT Standard MB26 / 53 (NBR 6230/85).

Note: Information for *Tabebuia ochraceae* (Cham.) Rizz species.

Source: (IPT, 1989a)

## USES

### Construction:

- External heavy:
  - bridges
  - railway sleepers
  - crosspieces
  - fenders
- Internal Heavy:
  - rafters
  - rafters
- Lightweight:
  - doors
  - windows
  - jamb
- Light internal, decorative:
  - garnishes
  - baseboards
  - liners
  - wainscoting

### Floors:

- boards
- treads
- parquet
- stair steps

### Furniture:

- High quality:
  - decorative pieces of furniture

### Other Uses:

- sporting goods and toys
- tool handles
- agricultural implements
- turned parts
- transport
- musical instruments or parts of