Wood Technical Fact Sheet

Qualea spp.

Mandioqueira

Gronfoeloe

Family: Vochysiaceae

Other Common Names: Florecillo (Venezuela), Kouali, Grignon fou (French Guiana), Gronfoeloe (Surinam), Mandio, Mandioqueira, Quaruba (Brazil).

Distribution: The genus is represented throughout tropical America from southern Mexico to Peru, but most abundantly in the Guianas and Brazil.

The Tree: Trees to heights of 100 ft, sometimes attaining 200 ft; with diameters to 25 in., reaching 40 in. occasionally. Clear stems extend to 60 or 70 ft. Light to heavily buttressed.

The Wood:

General Characteristics: Heartwood pinkish brown to reddish brown, occasionally olive brown; sometimes sharply demarcated from the grayish or yellowish sapwood. Luster golden in some species, medium in others; texture medium to decidedly coarse; grain straight to interlocked; without distinctive odor or taste.

Weight: Basic specific gravity (ovendry weight/green volume) varies with species from 0.49 to 0.60; air-dry density 37 to 46 pcf.

Mechanical Properties: (First and third sets of data based on the 2-in. standard; second set on the 2-cm standard.)
Moisture content | Bending strength | Modulus of elasticity | Maximum crushing strength
---|---|---|---
| (%) | (Psi) | (1,000 psi) | (Psi) |
Green (75) | 10,510 | 2,030 | 5,200 |
12% | 14,610 | 2,200 | 7,570 |
Green (42) | 11,700 | 1,850 | 6,250 |
12% | 20,000 | 2,560 | 11,800 |
12% (44) | 18,000 | 2,580 | NA |

Janka side hardness for air-dry material ranges from 900 to 1,730 lb. Forest Products Laboratory toughness average for green and dry material is 156 in.-lb (5/8 in. specimen).

**Drying and Shrinkage:** The wood is reported to be moderately difficult to air-season and kiln-dry. It seasons rapidly but with some warping and slight checking. Care in stacking and mild drying conditions are suggested. Kiln schedule T3-D2 may be used for 4/4 stock and T3-D1 for 8/4. Shrinkage green to ovendry: radial 4.4%; tangential 8.4%; volumetric 11.4%.

**Working Properties:** The wood is generally rated as moderately difficult to work particularly when roey grain is present; saws and other cutting edges dull rather quickly because of silica accumulations, 0.10% is reported. Glues satisfactorily.

**Durability:** Heartwood somewhat variable in decay resistance, generally is rated as moderately durable and is not suitable for continuously damp conditions. Also prone to staining during drying. Weathering characteristics are rated as only fair and severe surface checking develops when unpainted wood is exposed. *Q. albiflora* is rated as moderately resistant to dry-wood termites.

**Preservation:** The wood is rated as moderately difficult to rather easy to preserve, varying with species.

**Uses:** Joinery, millwork, furniture, veneer and plywood, general construction, and flooring.

**Additional Reading:** (42), (44), (75)