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ND/MD

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PIQUIA

Bot. Name : Caryocar Villosum (Aubl.) (Piquia).

Family : Caryocaraceae

Com. Names : PIQUIA, Pequia, Piquia Roxo, Sawarie, Amendao

Growing in : Northern States of Brazil, the whole Amazon basin, Guyanas, Columbia,
: Costa Rica, North-Eastern Bolivia.

Trees : often to be 36-45m. tall, and usually with diameters of 150-250cm in the
: Amazon basin, but still 90-130cm in Columbia, Costa Rica and Bolivia.
: Nice well formed and straight trees, with boules of about 21 meters without
: defects or branches. Although the Caryocar-family includes about 17 diffe-
: rent species, we will only refer to the "real Piquia" or C.Villosum.

Description : Heartwood green is pale yellow to grey-white with a pink hue and often a
: greasy-looking surface, darkening upon exposure to yellow-brown.
: Can be slightly stripy, due to the variation of thick and thinner vascular walls.
: It's sapwood is often difficult to distinct from the heartwood, being almost the
: same colour.

Attention: : The Piquiaranas are lighter in colour, less greasy with a softer, woolly surface!

Texture : Medium coarse texture, often cross-grained, giving the surface a harsh touch.
: Hardly any gloss so a fairly dull surface. The structure is very firm and
: is practically without any design.

Grain : Often cross-grained and coarse.

Odor + Taste : When green, it has a slight vinegar-smell, which disappears when drying.
: Piquia is tasteless.

Properties : Is fairly easy to work, saw and cut, but surfacing is more difficult with dulling
: effect, when fresh. To get a good and smooth finish, it should be air-dried
: before surfacing. Moreover, due to the cross-grain and coarse texture
: machines should have enough power and tools to be sharp.
: Good results, so smooth instead of "hairy" surfaces can easily be obtained,
: when surfacing air-dried (min. 6 weeks), with sharp knives.
: In comparison to it's specific weight, Piquia is very tough, strong and of natu-
: ral durability "Class I", being even resistant to the Teredo (Marine-borer!

Gluing : Delicate/bad, due to gelatinous vascular walls, hence oily-like surface.
: Nickname for Piquia is "Soapwood".



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Drying : Air-drying is slow, easy and without any serious problems.
: due to it's cross-grain it hardly ever splits. Tendency to deformation is
: low, the structure being tough. Kilndrying is hardly ever practiced, but
: we know it should be done very slow and carefully to avoid deformations
: and there is a risk of fine surface-checking and eventual case-hardening
: due to the gelatinous vascular walls. Shrinkage from green to oven-dry
: is fairly high.

Fixation : Keeps nails and screws very well, but pre-drilling is advisable.

Availability : Frequently occurring in the Amazon Bassin and Northern Brazil.

Remark : Always specify C. Villosum" to avoid any other Caryocar-specie, such as
: Piquiarana C. Glabrum, to be mixed into Piquia-parcels, especially as
: the latter specie is less durable, with a much softer 'woolly' surface!

Durability :

	Caryocar Villosum Hout- Vademecum	Caryocar Villosum IBAMA	Caryocar Villosum IBDF	Caryocar Glabrum IBAMA	Caryocar spp. ATIBT
Fungi	Medium high	Highly resistant	Very High	Medium resistance	Medium high
termites	Durable	Highly resistant	Very High	Unknown	Good
Drywood borers	Durable	Durable	Durable	Unknown	Good
marine- borers	Medium	Durable	Very High	Unknown	Unknown
Impregnation	Difficult	Difficult	Difficult	Fairly Difficult	Unknown

According to all tropical tests Piquia is rated Durability Class I, especially the real Piquia-specie, which normally is fairly oily, and has a high resistance against marine-borers, dry-wood-insects and fungi.

Technical Datas PIQUIA + PIQUIARANA

	Texeira D.E. C. Villosum	IBAMA C.Villosum	IBDF C.Villosum	IBAMA C.Glabrum	ATIBT Caryocar spp.
Impregnation	Difficult	Bad	Bad	Fairly Bad	Bad
Specific Weight : Green	1120kg/m3	1170kg/m3	1120-1150kg/m3	Unknown	1120kg/m3
KD 12% MC	780-980kg/m3	780 kg/m3	810-850kg/m3	800kg/m3	810kg/m3
Shrinkage (R%) To oven-dry	5 - 5,5%	4,3%	5,0%	3,9%	5,1%



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Tang. (T%) <i>To oven-dry</i>	8 – 9,7%	8,5%	8,0%	8,0%	9,7%
Volume in percentage	Unknown	12,6	13%	14,3%	Unknown
Ratio	Unknown	Unknown	1,6%	Unknown	Unknown

Mechanical Properties.

	Texeira D.E. C. Villosum <i>12-15% MC</i>	IBAMA C.Villosum <i>12% MC</i>	IBAMA C.Glabrum <i>15% MC</i>	ATIBT C. spp. <i>12% MC</i>
Static bending: Modulus of rupture	117-146 n/mm ²	1018kgf/cm ²	1147kgf/cm ²	123 n/mm ²
Static bending: Modulus of elasticity	14300- 14800 n/mm ²	114kgf/cm ²	Unknown	14300 n/mm ²
Compression max. Parallel to the grain		474 1000kgf/cm ²	610 1000kgf/cm ²	66 n/mm ²
Compression stress at proportional limit Perpendicular to the grain	58-87n/mm ²	95kgf/cm ²	Unknown	Unknown
Tension: max. compression Perpendicular to the grain	geen info	56kgf/cm ²	Unknown	Unknown
Shear: max. compression	13,6 n/mm ²	124kgf/cm ²	Unknown	Unknown
Janka Hardness Parallel	7700 N	496kgf	Unknown	Unknown
Janka Hardness End	7200 N	514kgf	Unknown	Unknown

Uses : Ship-building, Heavy Exterior constructions, Sleepers-Cross-ties, Industrial
: Flooring, Truckflooring, Waterworks, sluice-gates, especially in seawaters,
: Posts and Beams,

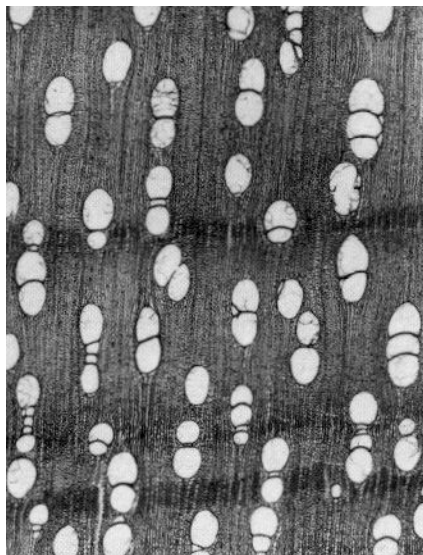
Sources : 'Timbers of the New World', Yale University Press., Instituto Brasileiro de
: Desenvolvimento Florestal. CTFT Atlas de Mad. Trop. Am. do Sul. Arvores e
: Plantas Uteis. Madeiras da Amazonia Biblioteca Bras. de Madeiras, U.S. Forest
: Service and Forest Products Lab., IBAMA, Texeira D.E., HoutVademecum
: Atibt.



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PIQUIA PICTURES



Coupe transversale (× 14)