

PURPLEHEART (AMARANTH)



Family: FABACEAE-CAESALPINIOIDEAE (angiosperm)
Scientific name(s): *Peltogyne spp.*
Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: purple
Sapwood: clearly demarcated
Texture: medium
Grain: straight
Interlocked Grain: absent
Note: Purple wood turns to dark brown with light. Possible presence of internal stresses.

LOG DESCRIPTION

Diameter: 19.7 – 35.4 inches
Thickness of Sapwood: 2– 4 inches
Floats: no
Log Durability: moderate (treatment recommended)

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>
Specific Gravity*:	0.87	0.08
Janka Hardness (lbs):	2,520	
Volumetric Shrinkage:	0.58%	0.07%
Total Tangential Shrinkage (TS):	6.7%	0.9%
Total Radial Shrinkage (RS):	4.4%	0.8%
TS/RS Ratio:	1.5	
Fiber Saturation Point:	23%	
Stability:	Moderately stable	

MECHANICAL/ACOUSTIC

	<u>Mean</u>
Crushing Strength*:	11,603 lbf
Static Bending Strength*:	20,450 lbf
Modulus of Elasticity*:	3,082,051 lbf

Musical Quality Factor: 168.4 measured at 2890 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

Funghi (According to E.N. standards):	class 2-3 – durable to moderately durable
Dry Wood Borers:	class D - durable (sapwood demarcated, risk limited to sapwood)
Termites (According to E.N. standards):	class D - durable
Treatability (according to E.N. standards):	class 4 - not permeable
Use class ensured by natural durability:	class 3 – not in ground contact, outside
Species covering the use class 5:	no

Note: This species is listed in the European standard NF EN 350-2. Resistance to decay: moderate to good. According to the European standard NF EN 335, performance length might be modified by the intensity of end-use exposition.

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks:	does not require any preservative treatment
In case of risk of temporary humidification:	does not require appropriate preservative treatment
In case of risk of permanent humidification:	use not recommended

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DRYING

Drying Rate: normal to slow
Risk of Distortion: slight risk
Risk of Casehardening: no
Risk of Checking: slight risk
Risk of Collapse: no
Note: Risks of distortion may increase in presence of tension wood and interlocked grain is occasionally high.

Possible Drying Schedule: 4

M.C. (%)	Temperature (°F)		
	Dry-Bulb	Wet-Bulb	Air Humidity (%)
Green	107.6	102.2	82
50	118.4	109.4	74
40	118.4	109.4	74
30	118.4	109.4	74
15	129.2	114.8	63

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: fairly high
Sawteeth Recommended: stellite-tipped
Cutting Tools: tungsten carbide
Peeling: not recommended or without interest
Slicing: good
Note: Requires power.

ASSEMBLING

Nailing / screwing: good but pre-boring necessary
Gluing: correct
Note: Tends to split when nailing.

END-USES

Cabinetwork (high class furniture)
Sliced veneer
Sculpture
Ship building (ribs)
Exterior/Interior joinery
Stairs (interior)
Glued laminate
Musical instruments
Tool handles (resilient wood)
Current furniture or furniture components
Interior/Exterior paneling
Flooring
Ship building (planking and deck)
Heavy carpentry
Vehicle or container flooring
Turned goods
Wood ware
Note: In the USA, Purpleheart is used to make high class coffins.

MAIN LOCAL NAMES

<u>Country</u>	<u>Local Name</u>
Brazil	Guarabu, Pau Roxo, Ipe Roxo, Roxinho
Colombia	Tananeo
French Guiana	Bois Violet
Venezuela	Zapatero, Morado
USA	Purpleheart, Amaranth
Germany	Violettholz

Works Cited:

CIRAD'S *Biomass, Wood, Energy, Bioproducts Research Unit (BioWooEB)*
Meier, E. (2015), Wood, United States of America