Massaranduba

The Massaranduba deck board has a reddish-brown color. It is an excellent alternative to Ipè, above all for installations requiring boards with visible screws or with pre-assembled modules.

It can be used for medium to large floors, subjected to high levels of foot traffic, for private, public, commercial and maritime uses alike.

physical properties

botanical name	Manilkara bidentata
average mass density	1,045 Kg/m³
dimensional stability (UNI 11538-1) *average cumulative value*	class D *recommended minimum slenderness coefficient 1/5*
average Monnin hardness (*) *tests carried out with 12% humidity*	12.90

	type deformation	values detected	reference values (UNI 11538-1)	out-come
damp climate deformations	bow	0.13%	< 1% on width	
	spring	0.48 mm/m	< 2 mm/m	
	twist	0.96 mm/m	< 2 mm/m	
dry climate deformations	**type deformation**	**values detected**	**reference values** (UNI 11538-1)	**out-come**
	bow	0.18%	< 1% on width	
	spring	0.32 mm/m	< 2 mm/m	
	twist	1.64 mm/m	< 2 mm/m	
moisture	**type of climate**	**values detected**	**reference values** (UNI 11538-1)	**out-come**
	ambient climate	13.4%	< 18%	
	damp climate	16.20%	< 18%	
	dry climate	8.10%	< 18%	

mechanical properties

average bending strength	158 MPa
average bending strength after freeze/thaw cycles	168 MPa
average bending strength after freeze-icing cycles	198 MPa
average bending strength after heat-rain and heat-cold cycles	173 MPa
average modulus of elasticity	17,891 MPa
average crushing strength (*)	89 MPa

	value	out-come
stiletto heel impression (UNI 4712)	- 0.02 mm	

Massaranduba technical datasheet

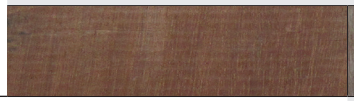
natural durability (UNI EN 335, UNI EN 350)

fungi (*)	very durable - class 1
dry wood borers (*)	durable - class D
termites (*)	durable - class D
treatability (*)	not permeable - class 4
use class (*)	outside in contact with the ground and/or fresh water - class 4
use in marine environments - class 5 (*)	yes

properties by conditions of use

	conditions	direction	values detected		reference values	out-come
			smooth	ribbed		
BCRA slipperiness (Min.Decree 236/89, Pres. Decree 503/96)	rubber pad wet surface	parallel	0.69	0.66	> 0.40	
		perpendicular	0.79	0.81		
	rubber pad dry surface	parallel	0.65	0.57		
		perpendicular	0.67	0.72		
	leather pad dry surface	parallel	0.36	0.33		
		perpendicular	0.40	0.40		

grade R slipperiness (DIN 51130)	R10
grade A+B+C slipperiness (DIN 51097)	A+B+C

	untreated wood photo	photo at 1,000 hours
UVA exposure (^)		

	value	out-come
solar reflective index (DM 11/10/2017)	>29	

average solar reflectance	0.30
average thermal emissivity	0.91

Data source: Ravaioli Legnami, except for items marked with an asterisk (*). Values obtained from technical laboratory tests carried out directly on samples.

(*) Data source: Cirad, a French research centre that responds to international requests in the fields of agricultural and sustainable development (https://tropix.cirad.fr). Measurements made in accordance with ISO standards on small samples without a conditioning cycle; the shrinkage relates to the anatomical directions of the wood and not to the geometric directions as required by the EN standard.

Tolerance: the dimensions of the boards indicated by Ravaioli Legnami are nominal, with variations greater than those envisaged by standard UNI 11538-1 only in the case of milling, up to a maximum of 5%.

The quality criteria respect what is being established by the Italian norm UNI 11538-1 on the use of wood for decking.

Color changes and the greying process are natural effects on wood when it is exposed to atmospheric agents: in order to avoid this, a regular maintenance with specific products is recommended.

(^) Images provided for illustration purposes only. Prolonged exposure to artificial UVA rays can be demonstrative of how the product will tend to turn grey, but wood oxidation is a natural process influenced by various factors such as exposure to sunlight and atmospheric agents and frequency of maintenance.