



MASSARANDUBA

Botanical name:

Manilkara bidentata

Trade names:

Aparaiú, Marapajuba-da-várzea, Maçaranduba, Maçaranduba de leite e maçarandubinha, Marapajuba, Maçaranduba e paraju, Aparaiú, Balata-verdadeira, Paraju, Balata, Bullet wood, Balata rouge, Bullet tree, Bolletrie, Paardevleeshout, Massa randu, Manilkara, Boroni, Sapatia oudou, Matiopaou, Boiti, Bois boulet, Borowe, Abeille, Balata gomme, Balata franc, Quinilla, Pamashto, Nispero, Quinila colorada

Location:

Primary forest in mainland Amazonia. It is found throughout Central America, the northern region of South America (*up to Peru*) and the southern regions of North America (*Florida, Costa Rica, Panama, Venezuela, eastern Peru, Brazil*). In Brazil it is found in the states of Pará, Amapá, Amazonas, Rondônia and Roraima.

General description of wood:

From pink to yellowish beige, the white gradually turns into a strongly coloured core. Fresh heartwood turns flesh red to a dark reddish-brown colour. Sometimes streaked in the radial section due to the alternating twist of the fibres, or variegated texture due to irregular growth. Mostly fine uniform texture with low natural lustre. When machined, it exhibits an above-average numbing effect.

NATURAL DURABILITY INDEX						
1	2	3	4	5	6	7
1 = VERY HIGH LIFESPAN			7 = LOW LIFESPAN			

Heartwood has a high resistance to biotical agents.

Wood properties:

Density (at W = 12 %)	900-1100 kg/m ³
very heavy board	
Shrinkage in radial direction	6,6 %

Shrinkage in tangential direction	10,1 %
Total volume shrinkage	16,1 %
Medium shape changes, significant difference between tangential and radial shrinkage	

Wood properties:

JANKA hardness (at W = 12%, radial direction)	141,80 MPa
Group	MPa
Soft	<40
Medium hard	≥40
Hard	≥80
Flexural strength (perpendicular to the fibres of the tng. and rad.)	188,09 MPa
Compressive strength (in fibre direction)	80,21 MPa

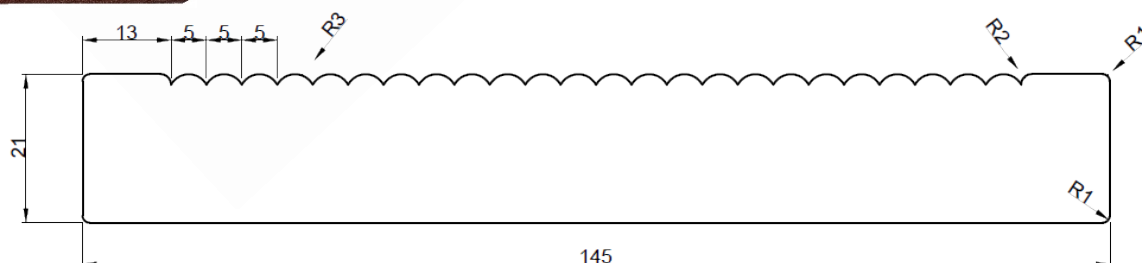
Terrace boards made of wood MASSARANDUBA

DIMENSIONS (mm)	LENGTHS (m)	GRADE	DRYING	VIEW SIDE
21 x 145	2,1 – 5,7 *	A/B	16–18 %	fine groove
25 x 145	2,1 – 6 *	A/B	16–18 %	fine groove

*stock lengths are multiples of 30 cm = 2.1 m, 2.4 m, 2.7 m, 3 m, 3.3 m, 3.6 m, 3.9 m, 4.2 m, 4.5 m, 4.8 m, 5.1 m, 5.4 m, 5.7 m, 6.0 m

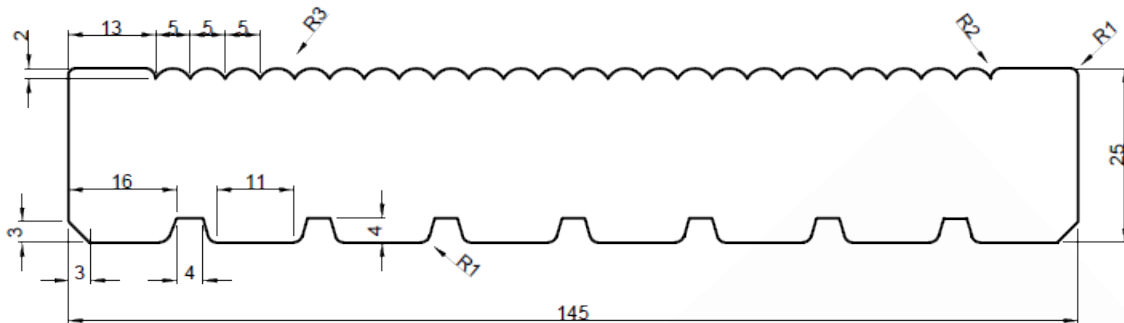


MASSARANDUBA 21 x 145 mm – profile detail



MASSARANDUBA 25 x 145 mm – profile detail

TECHNICAL INFORMATION



GRADE

Terrace boards made of Massaranduba wood are supplied in A/B grading in a 60:40 ratio. In practice, this means that sixty percent of the delivered material has no defects on the face of the terrace boards at the time of delivery and, in general, the part can be divided into a maximum of two usable parts during assembly. The remaining forty percent of the supply may show fine surface cracks and end cracks, but these must not run through the entire thickness of the board, but up to a maximum of 1/3 of the length of the board. An end crack is permitted for a maximum length of one terrace boardwidth. Healthy overgrown knots without restrictions, possibility of localised insect holes without restrictions (*insects did not survive artificial drying and insecticidal treatment before transport*). 5% of the total quantity delivered may show lower grading.

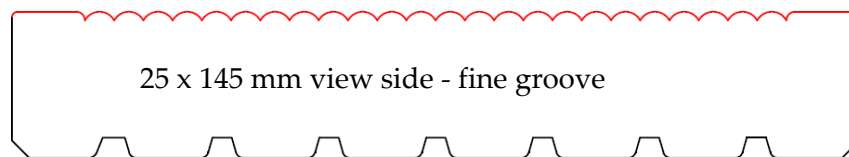
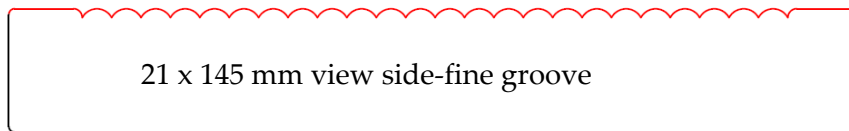
DRYING

Wood is a hygroscopic material that changes its moisture content according to its surroundings through absorption, in an attempt to reach a state of moisture equilibrium. Terrace boards made of Massaranduba wood are kiln dried to a moisture content of 16-18%, which minimizes the risk of undesirable shape changes, significantly increases its mechanical properties with greatly improved resistance to bio attack. Shape changes caused by slumping and swelling can never be completely prevented. As a result of the anisotropic nature of slumping and swelling with simultaneous internal stresses in the wood, transverse and longitudinal buckling and the formation of drying cracks can occur.

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VIEW SIDE

Each terrace board profile has a predefined face to which the grading applies. Quality claims using any other side as a view side will not be taken to consideration. The view side must be specified when ordering.



Board contractions and expansion joints:

Due to the hygroscopicity and anisotropy of the wood, there can always be a slight deformation of the terrace boards in the longitudinal direction (curvature). These shape changes are not a defect in the material and do not prevent the installation of the terrace boards. To minimize the formation of shape changes, it is necessary to store the material tightly jointed until the time of installation. For easier assembly of curved boards, it is possible to use clamps designed for this purpose. Due to swelling and shrinking of wood due to weathering, it is necessary to leave a minimum of 8 mm of expansion between the individual terrace boards. The dimension of the expansion joint will change throughout the year as the dimensions of the terrace boards change due to weather changes. The main function of the expansion joint is the free movement of the terrace boards without the risk of damage.

Spectrum of colours:

Terrace boards made of Massaranduba wood are not subject to colour grading. The colour spectrum ranges from pink to yellowish beige, gradually changing to a deep red core. Over time, the wood gradually darkens to a dark brown. Striped in the radial direction due to the twist of the fibres.

Contains:

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Contains:

Exotic Massaranduba wood is very rich in tannins (*extractives*). These substances can be leached from the wood during exposure to the weather and cause colour stains on the surface of the wood and surrounding structures. During installation, care must be taken to ensure rainwater drainage and structural protection.

The greying of the wood:

As soon as the terrace boards are exposed to the weather, they are degraded by the action of so-called inanimate nature. Several interacting influences (water, radiation, flow, temperature changes, smog, emissions, etc.) cause the lignin to decompose by photochemical reactions in the first phase. This decomposition does not cause any observable darkening of the wood under outdoor conditions, because the disturbed lignin is subsequently washed away by rainwater, producing a lighter shade due to the light colour of the unremoved cellulose. In practice, however, the light shade is disturbed by the deposition of dust particles and impurities from the air into the porous structure of the wood surface, or by the co-growth of microscopic fungi, resulting in the well-known greying of the wood.

Choice of fasteners:

Terrace boards made of Massaranduba wood are moderately stable to unstable and can only be installed by visible connection with stainless steel screws. It must always be used material that does not cause a chemical reaction with the wood to prevent deterioration. This involves the use of a minimum A4 grade steel for visible screw connections.

Recommended fasteners:

TERRACE BOARD	STEEL GRADE	DIMENSION OF THE ROLL	INVISIBLE ANCHORING
MASSAR. 21 x 145 mm	A4	5 x 55 mm	NO
MASSAR. 25 x 145 mm	A4	5 x 60 mm	NO

Substructure:

Installation of terrace boards can only be done on a solid wood substructure in one piece in available lengths of 2 - 5 m of the same or higher bio-resistance with a minimum profile of 45 x 70 mm (*exotic wood Jarana, Bangkirai*). Substructures made of laminated and glued together slats of the same or higher bio-resistance wood species can be used exclusively for the construction of covered terraces without permanent weathering. The aluminium profile substructure is shape stable, weatherproof, UV-resistant, insect and mould resistant and suitable for the construction of any terrace, regardless of the type of wood. The minimum axial spacing of the substructure for individual thicknesses of terrace boards is given in the following table:

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TERRACE BOARD	MAXIMUM AXIAL SPACING OF THE UNDERLYING PRISMS
MASSARANDUBA 21 x 145 mm	420 mm
MASSARANDUBA 25 x 145 mm	500 mm

Surface treatment

To increase protection against biotic and abiotic degradation, a terrace made of Massaranduba wood should be coated with one of OSMO's pigmented terrace oils (*colourless coating is not recommended*). The application is carried out at the earliest three months after exposure to the weather in order to allow the leaching of the contained substances and the penetration of the paint into the pores of the wood. In order to maintain the best possible hydrophobic properties, it is advisable to carry out the renovation coating at an interval of about six months. To reduce the risk of end cracks, it is recommended that all transverse cuts are coated with OSMO 5735 cutting edge wax.

Remark:

The Technical Data Sheet serves as a supplement to the "Technical and Warranty Conditions of Real DECK"

Please note that our recommendations for the processing of boards for terraces are not binding installation guidelines, but recommendations. Each terrace is characterised by different parameters and the correct installation method and use of materials is always the responsibility of the installation company.

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