TECHNICAL INFORMATION

MERBAU

Botanical name:
Intsia spp. (I. bijuga, I. palembanica, I. amboinensis)

Trade names:
Ipil, Ipil laut, Mirabow, Lum-Paw, Gonuo, Kalabau, Kwila, Komu, Hintsy, Makamong, Gonuoc

Location:
Individually in evergreen and dry tropical forest. Common in lowland coastal forests (mangroves and river valleys) in the India-Malaya region of Southeast Asia. (Burma, Vietnam, Thailand, Cambodia, Malaysia, Indonesia, Philippines, Western Pacific islands - especially New Guinea, Australia).

General description of wood:
The orange-brown colour of the heartwood gradually darkens from brownish grey to a darker red-brown (zoned). With its light yellow colour, sapwood is clearly distinguishable from heartwood. The coarser texture is usually straight-fibred, sometimes slightly striped due to the twist of the fibres in the radial section. Very decorative wood with a slight natural sheen. The longitudinal sections show vessels in the form of rhizoids with yellow-brown content (water-soluble mineral deposits).

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

Heartwood is very resistant to biotic agents.

Wood properties:

Density *(at W = 12 %)*	**750-850 kg/m³**
heavy wood	
Shrinkage in radial direction	**2,9 %**
Shrinkage in tangential direction	**4,9 %**
Total volume shrinkage	**8 %**
Very stable wood, minimally subject to moisture changes	
JANKA hardness *(at W = 12%, radial direction)*	**78,15 MPa**
Group	**MPa**
Soft	<40

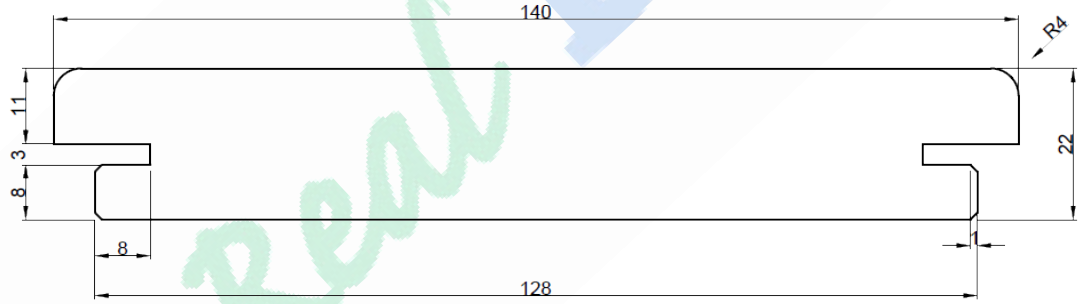
Medium hard	≥40
Hard	≥80
Flexural strength *(perpendicular to the fibres of the tng. and rad.)*	146,4 MPa
Compressive strength *(in fibre direction)*	76,98 MPa

Terrace boards made of MERBAU wood

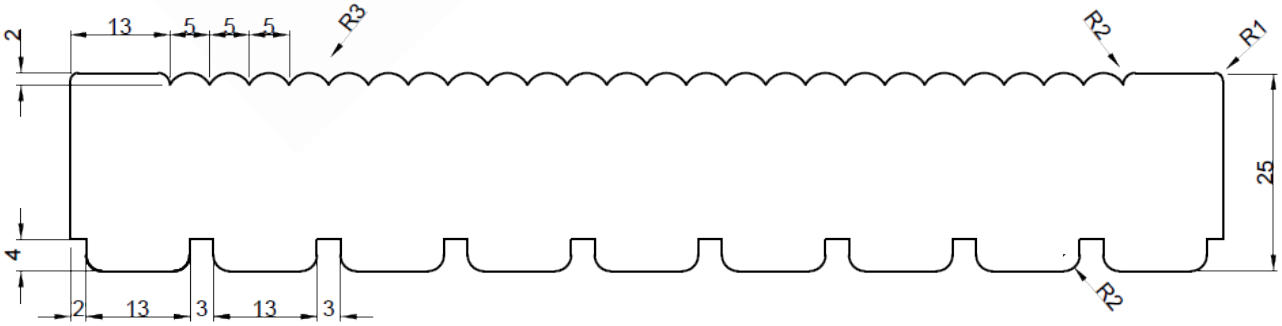
DIMENSIONS (mm)	LENGTHS (m)	GRADE	DRYING	VIEW SIDE
22 x 140	1,2 – 4,8 *	A/B	16–18 %	smooth
25 x 145	2,1 – 4,8 *	A/B	16–18 %	fine groove

****stock lengths are multiples of 30 cm = 1.2 m, 1.5 m, 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***

MERBAU 22 x 140 mm – profile detail



MERBAU 22 x 140 mm – profile detail



GRADE

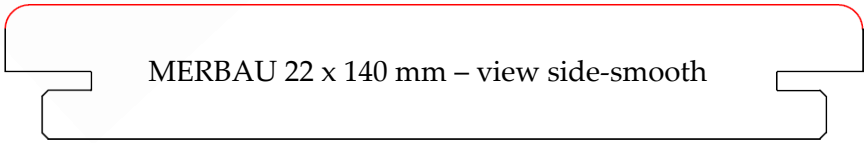
Terrace boards made of Merbau wood are supplied in A/B grading in a 60:40 ratio. In practice, this means that sixty percent of the delivered material has no defects on the face of the terrace boards at the time of delivery and, in general, the part can be divided into a maximum of two usable parts during 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 local insect holes *(only larval passages Ø 1-2 mm, insects did not survive artificial drying and insecticidal treatment before transport.* Permitted occurrence of pitcherworms.

DRYING

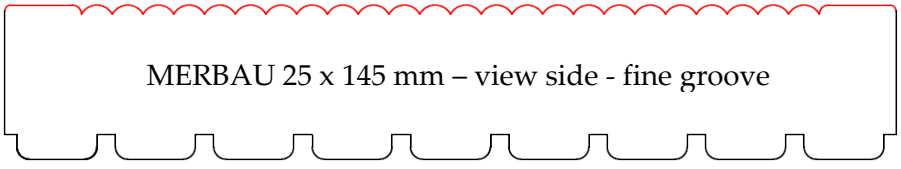
Wood is a hygroscopic material that changes its moisture content according to its surroundings through absorption, in an attempt to reach a state of moisture equilibrium. Terrace boards made of Merbau wood are kiln dried to a moisture content of 16-18%, which minimizes the risk of undesirable shape changes, 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.

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.



MERBAU 22 x 140 mm – view side-smooth



MERBAU 25 x 145 mm – view side - fine groove

Board contraction 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 Merbau wood are not subject to colour grading. The colour spectrum ranges from light yellow in sapwood, to brownish grey, to bronze, to dark brown in heartwood. Over time, the wood gradually darkens. The colour between the boards can be quite different.

Contains:

Exotic Merbau wood is very rich in 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 *(yellow rusts on the surface of wood are water-soluble mineral deposits that can cause staining)*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:

Merbau wood terrace boards are one of the most stable and can be installed with both a visible connection and an invisible anchoring system. Only material that does not cause a chemical reaction with the wood must always be used to prevent deterioration. This involves the use of steel grade at least A4 for visible bolted connections, or composite materials meeting the strength requirements for EURO Tec invisible anchoring.

Recommended fasteners:

TERRACE BOARD	STEEL GRADE	DIMENSION OF THE ROLL	INVISIBLE ANCHORING
MERBAU 22 x 140 mm	A4	5 x 55 mm	YES
MERBAU 25 x 145 mm	A4	5 x 60 mm	YES

Recommended fasteners for invisible connections:

TERRACE BOARD	NAME	DIMENSION OF THE ROLL	PRODUCT PICTURE
MERBAU 22 x 140 mm	CLIP for MERBAU	4,5 x 50 mm	

Merbau 22 x 140 mm

Terrace boards Merbau 22 x 140 mm are factory fitted with a profile allowing easy anchoring from above with the original metal clip.

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:

TERRACE BOARD	MAXIMUM AXIAL SPACING OF THE UNDERLYING PRISMS
MERBAU 22 x 140 mm	440 mm
MERBAU 25 x 145 mm	500 mm

Surface treatment

To increase protection against biotic and abiotic degradation, it is advisable to coat the Merbau wood terrace 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 and use of materials is always the responsibility of the installation company

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