

MERBAU

Botanical name: *Intsia* spp., family CAESALPINIACEAE (FABACEAE CAESALPINIOIDEAE)

Other important species: *Intsia bijuga*, *I. palembanica*

Distribution: Burma, Thailand, Laos, Vietnam, Cambodia, Pacific Islands, Australia, Madagascar, and other islands

Other important trade names: Merbau (MAL), malacca teak, mirabow, Moluccan ironwood (GB)

Abbreviation as per DIN EN 13556: INXX

Notice: 2006 proposed for CITES protection status, currently under observation

Colour and structure of the wood:

Heartwood brown to red (sap light yellowish; fresh heartwood yellowish to orange brown, darkening to copper brown), no colour stripes. Clear colour contrast between sapwood and heartwood, medium width. Cross grain present (usually only slightly pronounced, no regular or only slightly marked glossy stripes).

Properties:

Weight fresh [kg/m ³]		1050 – 1300
Bulk density air-dry (12-15 % u) [g/cm ³]		0.80 – 0.90
Compression strength u ₁₂₋₁₅ [N/mm ²]		59 – 70 – 82
Bending strength u ₁₂₋₁₅ [N/mm ²]		105 – 130 – 142
Modulus of elasticity (bending) u ₁₂₋₁₅ [N/mm ²]		12700 – 16000 – 17900
Toughness [kJ/m ²]		75
Hardness (BRINELL) ⊥ to the grain u ₁₂₋₁₅ [N/mm ²]		37 – 43
Drying shrinkage (fresh up to u ₁₂₋₁₅)	radial [%]	1.0
	tangential [%]	1.5
Differential shrinkage [%/%]	radial	0.13 – 0.23
	tangential	0.26 – 0.34
pH value (suspension)		4.0 – 4.8
pH value (surface)		4.0
Durability class (EN 350:2016)		DC 1 – 2

Workability:

Despite being very hard Merbau is generally easy to process, preferably with carbide tipped tools. Pre-drilling is essential for nailing and screwing. Ensure a good extraction unit is in place because the formation of dust can lead to irritation. Bonding good.

Drying:

The wood dries relatively slowly; however, it is free to a great extent from crack formation and deformation.

Use:

Outdoor or indoor use. Especially suitable for: Frame structure (windows, house doors, conservatories), floors (parquet, boards, etc.), stairs, wall and ceiling coverings (internal), furniture.



Macroscopic cross-section of Merbau
(10 times magnification lens)



Wood surface of Merbau (radial section)

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Surface treatment:

Washing out water-soluble substances can lead to staining and discolouring. Discolouring possible in contact with iron ions (iron/tannin reaction).

Coating systems:

The coating systems illustrated here are examples developed to ensure utmost durability and lasting quality.

Alternative systems are also available; however, these must be confirmed by Teknos. Please contact your local Teknos representative for further details.

Details on application can be found in the technical data sheets for each product.

Windows, doors, conservatories, and folding shutters:

System coating	Translucent
Primer	AQUAPRIMER 2900-43
Intermediate	ANTISTAIN AQUA 2901-63
Intermediate	ANTISTAIN AQUA 2901-63
Topcoat	AQUATOP 2600 translucent topcoat

System coating	Opaque
Primer	ANTISTAIN AQUA 2901-52
Intermediate	ANTISTAIN AQUA 2901-52
Topcoat	AQUATOP 2600-2X

System coating	Colourless
Primer	ANTISTAIN AQUA 2901-63
Intermediate	ANTISTAIN AQUA 2901-63
Topcoat	AQUATOP 2600-6X
Topcoat	AQUATOP 2600-6X

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Wood is a unique, beautiful, and very versatile material

The features and properties of wood vary greatly and therefore individual attention is required in processing and surface finishing.

With this Teknos wood data sheet we would like to go into detail on the features and range of applications in the coating of important wood species.

The data sheet originated from a collaboration with the Johann Heinrich von Thünen-Institute in Hamburg.

The pH values of wood have been determined as important chemical variables for the first time.

The concentration dependence of extracts such as tannic acids or tannins to the pH value is important.

A good surface coating and targeted selection of system structures shall be safer based on these variables determined by Thünen-Institute and demonstrate wood-related problem solving.

All system structures named in the data sheet are selected according to utmost durability and quality and are considered to be relevant systems. However, a practical test is always necessary.

Due to different application possibilities and stresses of parts to be coated, variations are required.

To select individual systems easily, the Teknos technical department will be happy to assist you.

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