

## SIPO, UTILE

<b>Botanical name:</b>	<i>Entandrophragma utile</i> , Syn.: <i>E. macrocarpa</i> , family: MELIACEAE
<b>Distribution:</b>	Tropical Africa
<b>Other important trade names:</b>	Sipo (D, CI, F), assié (F, CAM), utile (D, GH, GB), bada, mébrou, zuri (CI), assi, ombolobolo, mouragalamando, kos-kosi (G), efou-konkonti (GH)

**Abbreviation as per DIN EN 13556:** ENUT

### Colour and structure of the wood:

Heartwood brown and red, no colour stripes. Clear colour contrast between sapwood and heartwood, medium width. Sap light pinkish grey, heartwood initially pinkish brown to reddish brown, after drying often darkens to violet brown. Growth zone boundaries marked with narrow marginal parenchyma bands usually visible to the naked eye. Cross grain present (causing a clear glossy stripe).

### Properties:

Weight fresh [kg/m <sup>3</sup> ]		750 – 850
Bulk density air-dry (12-15 % u) [g/cm <sup>3</sup> ]		0.56 – 0.67
Compression strength $u_{12-15}$ [N/mm <sup>2</sup> ]		51 – 60
Bending strength $u_{12-15}$ [N/mm <sup>2</sup> ]		90 – 104
Modulus of elasticity (bending) $u_{12-15}$ [N/mm <sup>2</sup> ]		8800 – 11800
Toughness [kJ/m <sup>2</sup> ]		30 – 50
Hardness (BRINELL) $\perp$ to the grain $u_{12-15}$ [N/mm <sup>2</sup> ]		15 – 21
Drying shrinkage (fresh up to $u_{12-15}$ )	radial [%]	3.0
	tangential [%]	3.5
Differential shrinkage [%/%]	radial	0.18 – 0.22
	tangential	0.23 – 0.26
pH value (suspension)		4.5
pH value (surface)		4.7
Natural durability (DIN-EN 350-2)		Category 2 – 3

**Workability:**

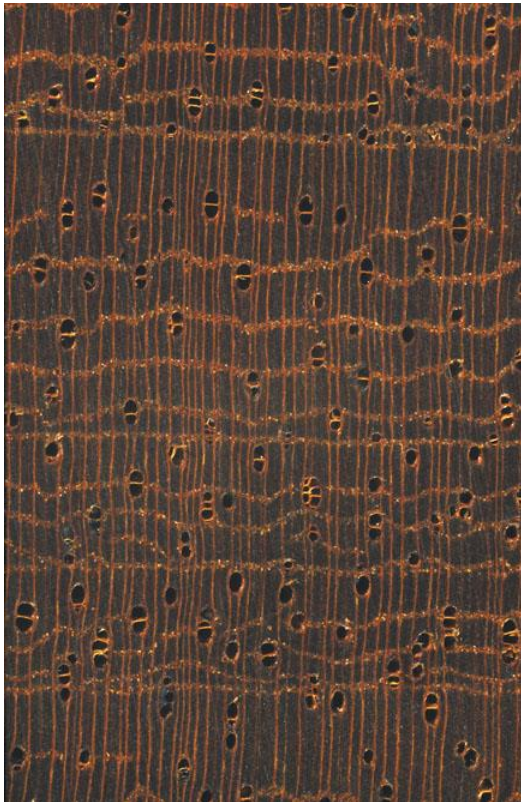
Sipo with straight grain qualities in any form can be machined excellently, similar to Sapelli. When stemming, planing and cutting across the grain the tendency to tear out and chip fibres only exists with strong cross grain. Nails and screws hold well, heavier qualities should be pre-drilled. Bonding good.

**Drying:**

Drying should be a gentle process because cracks can enlarge and wood is prone to deforming. Generally, this tendency is less pronounced with stronger dimensions than with weak woods.

**Use:**

Outdoor or indoor use. Especially suitable for: Outdoor construction with no ground contact (balconies, terraces), decorative veneer, rotary cut veneer (for plywood), frame structure (windows, house doors, conservatories), floors (parquet, boards, etc.), stairs, wall and ceiling coverings (internal), furniture.



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



Wood surface of Sipo (radial section)

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### Surface treatment:

Sipo can be treated easily with all the usual means both for indoor and outdoor applications. With light opaque topcoats water-soluble substances lead to discolouring. Treatability very poor (sapwood moderate; EN 350–2, 1994). Discolouring possible in contact with iron ions (iron/tannin reaction).

### Coating systems:

The coating systems selected here are variants which ensure utmost durability and lasting quality.

Other coating systems are basically possible; however, they must be coordinated with Teknos.

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

### Windows, doors, conservatories and folding shutters:

System coating	Translucent
Wood preservative	GORI 356 / TEKNOL AQUA 1410-01
Primer	AQUAPRIMER 2900-22
Intermediate	AQUAFILLER 6500-01
Topcoat	AQUATOP 2600-9X

System coating	Opaque
Wood preservative	GORI 356 / TEKNOL AQUA 1410-01
Primer	ANTISTAIN AQUA 2901-52
Intermediate	ANTISTAIN AQUA 2901-52
Topcoat	AQUATOP 2600-2X

System coating	Colourless
Wood preservative	GORI 356 / TEKNOL AQUA 1410-01
Intermediate	AQUAFILLER 6500-01
Topcoat	AQUATOP 2600-6X

Further information:

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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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