

EUCALYPTUS (PLANTATION)

Botanical name:	<i>Eucalyptus grandis</i> , <i>E. saligna</i> , family MYRTACEAE
Other important species:	<i>Eucalyptus uro-grandis</i> , a hybrid from <i>E. grandis</i> and <i>E. urophylla</i>
Distribution:	Australia, South Brazil (globally cultivated)
Other important trade names:	"Grandis" or "Saligna"; wood of hybrid <i>E. uro-grandis</i> is also treated under the copyrighted trademark LYPTUS®

Abbreviation as per DIN EN 13556: EUSL

Colour and structure of the wood:

Heartwood in fresh condition light reddish to red, often darkening to reddish brown; sapwood clearly contrasting in colour from heartwood. Growth zone boundaries clearly recognisable (dark bands due to lower pore density). The plain surface has very visible pore grooves. Cross grain present (the radial surfaces have fine stripes).

Properties:

Weight fresh [kg/m ³]		
Bulk density air-dry (12-15 % u) [g/cm ³]		0.46 – 0.80
Compression strength u ₁₂₋₁₅ [N/mm ²]		46 – 66
Bending strength u ₁₂₋₁₅ [N/mm ²]		77 – 108
Modulus of elasticity (bending) u ₁₂₋₁₅ [N/mm ²]		11700 – 15700
Toughness [kJ/m ²]		-
Hardness (BRINELL) ⊥ to the grain u ₁₂₋₁₅ [N/mm ²]		*
Drying shrinkage (fresh up to u ₁₂₋₁₅)	radial [%]	4.1
	tangential [%]	8.7
Differential shrinkage [%/%]	radial	-
	tangential	-
pH-value (suspension)		3.7
pH-value (surface)		4.4
Natural durability (DIN-EN 350-2)		category (3 -) 4

Workability:

Skin irritations can be caused by the oils and resins (terpenoids) contained in the wood *Eucalyptus grandis*, *E. saligna* has medium to high swelling and shrinking values and requires careful drying guidance to avoid warping and crack formations. The durability (= dimension stability) is rated as medium = satisfying.

Drying:

In contrast to the drying problems that occur with many eucalyptus woods, the species named here (plantation woods) are comparably easy to dry based on past experience.

Use:

Outdoor or indoor use, supporting or non-supporting. Especially suitable for: Frame structure (windows, house doors, conservatories), (bonded edging), floors (parquet, boards, etc.), stairs, furniture (edge-glued panels).



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



Wood surface of Eucalyptus (radial section)

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Surface treatment:

It should be noted in the selection of coating agents that the pH value of wood is in the acidic range. Water-soluble substances (tannins) can be washed out and lead to discolouring. Treatability moderate. Blue stain protection required. Discolouring occurs 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 2900-42
Intermediate	ANTISTAIN AQUA 2901-62
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	ANTISTAIN AQUA 2901-62
Topcoat	AQUATOP 2600-6X

Further information:

Teknos A/S
 Industrivej 19
 DK-6580 Vamdrup
 Tel: +45 76 93 94 00
www.teknos.com

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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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