EUCALYPTUS (PLANTATION)

Botanical name: *Eucalyptus grandis, E. saligna,* family MYRTACEAE

Other important species: *Eucalyptus uro-grandis, a hybrid from E. grandis* and *E. urophylla*

Distribution: Australia, South Brazil (globally cultivated)

Other important trade names: "Grandis" or. "Saligna"; wood of hybrid E. uro-grandis 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/m³]		
Bulk density air-dry (12-15 % u) [g/cm³]		0.46 – 0.80
Compression strength $u_{12\text{-}15}$ [N/mm²]		46 – 66
Bending strength $u_{12\text{-}15}$ [N/mm²]		77 – 108
Modulus of elasticity (bending) $u_{12\text{-}15}$ [N/mm²]		11700 – 15700
Toughness [kJ/m²]		-
Hardness (BRINELL) ⊥ to the grain $u_{12\text{-}15}$ [N/mm²]		*
Drying shrinkage (fresh up to $u_{12\text{-}15}$)	radial [%]	4.1
	tangential [%]	8.7
Differential shrinkage [%/%]	radial	-
	tangential	-
pH-value (suspension)		3.7
pH-value (surface)		4.4
Durability class (EN 350:2016)		DC 3

Workability:

Skin irritations can be caused by the oils and resins (terpenois) 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)

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. Blue stain protection required. Discolouring occurs 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
Wood preservative*	TEKNOL AQUA 1412-01 / TEKNOL AQUA 1410-01 / TEKNOL AQUA 1415-01
Primer	AQUAPRIMER 2900-43
Intermediate	ANTISTAIN AQUA 2901-63
Topcoat	AQUATOP 2600 translucent topcoat

System coating	Opaque
Wood preservative*	TEKNOL AQUA 1412-01 / TEKNOL AQUA 1410-01 / TEKNOL AQUA 1415-01
Primer	ANTISTAIN AQUA 2901-52
Intermediate	ANTISTAIN AQUA 2901-52
Topcoat	AQUATOP 2600-2X

System coating	Colourless
Wood preservative*	TEKNOL AQUA 1412-01 / TEKNOL AQUA 1410-01 / TEKNOL AQUA 1415-01
Intermediate	ANTISTAIN AQUA 2901-63
Topcoat	AQUATOP 2600-6X
Topcoat	AQUATOP 2600-6X

*The use of biocidal products within EU is only allowed if the product has been authorized according to BPR for the country in question. Use biocides safely. Always read the label and product information before use.

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.