# Teknos Technical Library



Preparation Guide

Version 1: December 2022



## GRAIN

Grain definition in timber arises from the boundaries between summer and winter growth. It is the rings that are visible in the cross section of a felled tree trunk.

The grain pattern seen in joinery components varies, dependant on:

- Timber species
- Region in which it grew
- Angle at which the board was cut from the original tree

Grain profiling (the height variations sometimes seen across the timber surface) is caused by differential swelling of the summer and winter growth regions. The faster summer growth areas are less dense, more absorbant, and swell at a faster rate, as the seasonal moisture content of the joinery varies.

#### **Grain Profiling**



Generally, grain definition and profiling are seen as appealing and natural features of a joinery product, though occasionally concerns arise where adjacent components have markedly different grain configurations or on laminated sections when dissimilar grain patterns are apparent on either side of a finger joint.

### **Dissimilar Grain Patterns in Finger Joints**





#### Effect on performance

Grain profiling has no impact on the performance or expected service life of exterior joinery and modern waterbased coating systems are designed to cope with the natural flexing and movement of timber as its moisture content varies.

# WE MAKE THE WORLD LAST LONGER

## **Teknos Technical Library**

With a natural product like timber it is almost impossible to exactly match the grain configuration of individual components. however, steps can be taken to minimise the visual variations which occur:

- Sharp cutters and routers will give a smooth profile after machining. Blunt cutters tear rather than shear the timber, exaggerating the swelling differences beween winter and summer growth regions.
- The moisture content of the timber prior to machining should be in the range of 10% - 18%. The average moisture content of exterior joinery will vary between 12% - 18% over the year, so if machining is carried out on timber at close to the mid point of the recommended range swelling between grain boundaries will be reduced.

Further information on wood moisture can be found in Technical Library Guide 'Wood Moisture Content for Machining and Painting' at teknos.com.



 Avoid excessive sanding. Sanding may appear to reduce profiling in the workshop, but it will tear the surface, increase surface porosity, and increase profiling when the joinery is subsequently exposed to moisture during the coating process.

Further information on sanding can be found in Technical Library Guide 'Surface Preparation in Factory' at teknos.com.



Always refer to the Technical Datasheet for full instructions on how to use Teknos products.

For further support, contact your local Teknos coating expert or visit **teknos.com** 

TEKNOS GROUP OY TAKKATIE 3, P.O.BOX 107 FI-00371 HELSINKI TEL. +358 9 506 091 SALES@TEKNOS.FI

Teknos Group Oy © Copyright 2022 Teknos Group Oy. All rights reserved.

WE MAKE THE WORLD



087\_V1