

SURFACE PREPARATION

IN THE FACTORY - EXTERIOR JOINERY

SURFACE PREPARATION

A good machined finish is usually the best surface preparation for joinery coatings applied on softwoods, most hardwoods (standard species) and modified wood.

Sharp cutters shear the timber fibres cleanly, leaving a uniform absorbent surface which provides a good key for priming or a base stain.

If the cutter is blunt it will compress and polish surface fibres, producing an inconsistent surface which may cause grain raising/enhancement or appear patchy when stained.

Conventional sanding can open the surface fibres, increasing surface absorbency and grain fibre raising, particularly with waterbased coatings, while high speed sanders, with a fine grade of abrasive paper, tend to polish the surface, giving a result similar to a blunt cutter.



These comments about sanding may seem counter intuitive, but the following simple test will illustrate the effect:

1. Take a section of machined softwood and cut into two pieces.
2. Using an orbital or belt sander with a coarse grade of abrasive paper, sand one face of the first section.
3. On the second piece of timber draw a sharp cabinet scraper, plane blade or chisel across one face of the section.
4. Dip both pieces into a basecoat stain or dipping primer.

The sheared surface produces a far superior result to the sanded surface.

Some hardwoods are fibrous by nature, and grain raising will occur, regardless of how these standard species are machined and sanded. Common hardwood timbers should be coated before attempting to achieve a good surface.

With translucent finishes, the penetrating stain coat does not completely close the surface and so the first build coat must be applied before the surface finish can be significantly improved.

Having closed the surface it can be denibbed to remove any raised fibres, before the final topcoat is applied. Timber density variation (even within the species) can also contribute to how the substrate reacts.

Teknos Technical Library

SANDING

Sanding is commonly used for small scale, purpose-made joinery. Finishing results can be greatly improved by limiting sanding and denibbing processes and selecting the appropriate grade of abrasive paper.

Automatic belt sanders

This is very important where automatic drum sanders are used:

1. The grit of the belt on the first drum should be as fine as possible to prevent the substrate being ripped open, ideally 150
2. Subsequent belt grades should be coordinated to close the surface e.g. 180
3. The finishing belt should be 240 grit.



Three belt sander

Belt machines

There are three-belt machines available that include one belt rotating at 90° to the other two. Tests show an improved surface and closing of the substrate is achieved with this system especially when the reduction of raised grain profile is a priority.

Denibbing machine

Brush type denibbing machines also provide a good level of surface when used correctly within the finishing process.

Mechanical disc sanders

Bespoke UK joinery manufacturers – use a hard based disc to help produce a smooth surface finish – 220 / 240 grit

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

Wire wool

Wire wool has traditionally been used for finishing in the cabinet making and french polishing trades. However **this should not be used for external work** as small particles of wire can become trapped in the surface and rust when exposed to weather, which degrades the finish.



Finishing pads

Nylon and foam filled denibbing pads are very useful for denibbing, particularly on mouldings, and profiled sections. The fine grit efficiently removes protruding fibres while discouraging over-sanding and the removal of the coating from sharp edges.



For further support, contact your local Teknos representative or visit teknos.com