

Recommendations for processing

Materials to which descriptions apply:

Special products, furniture panels, flooring, building panels and raw boards

The information below uses terms including “panels”, “boards” and “stacks”, but these also refer to items such as our flooring and special products.

When undertaking machining work that involves sawing, milling, grooving or drilling, please ensure that you select appropriate tools and machining parameters. Selecting incorrect tools or using them in unsuitable environments may cause materials to warp, heat up to levels that are not permitted, or become damaged.

This machining guideline contains general recommendations for ensuring that machining can take place under optimum conditions. It does not claim to be complete.

General information

When machining our products, please pay attention to the guide values that apply to the method being used. These can be found in the tables for selecting the cutting velocity (v_c) and tooth feed (f_z). The specified parameters relate to the tool diameter (D), number of teeth (Z), speed (n) and feed velocity (v_f) being applied to the machinery. The selections made for these factors must be correct in order for the machining work to achieve a good result.

To achieve the best possible level of machining quality, we recommend using tools with cutting edges that are new or have been refurbished to an as-new condition. Tools with carbide cutting edges or polycrystalline diamond (DP) cutting edges may be used, but to extend the tool life in industrial production environments involving a lot of cutting, we recommend using tools with diamond cutting edges.

Cutting with circular saw blades

- Turn the tool so that the exposed side is facing up.
- Make sure that the saw blade is projecting by the right amount.
- Adjust the speed and the number of teeth to the feed velocity.
- To ensure clean cuts on the underside of the panel, we recommend using a circular saw with a scoring blade.
- Make sure to select the correct saw blade/teeth.

The entry and exit angle will change according to the saw blade projection, which in turn will affect the quality of the cut edge. If the upper edge is not cut cleanly, raise the height of the saw blade. If the lower edge is not cut cleanly, lower the height of the saw blade. Use this approach to identify the best height setting for the work. As a general rule, we recommend using saw blades with a high number of teeth to achieve a good standard of machining quality. The following are the main saw tooth shapes used in these applications:

- Flat tooth/trapezoidal tooth (FT/TT)
- Trapezoidal tooth/trapezoidal tooth (TT/TT)
- Hollow tooth/roof tooth (HT/RT)
- Alternate tooth with bevel (AT/BE)

Saws

Dimensional saws

HT/RT and FT/TT deliver excellent cutting results.

Panel-sizing saws

We recommend FT/TT and TT/TT combinations in this case.

Scoring saw blades

During work involving coated workpieces, we recommend using a scoring unit to achieve a good-quality edge cut at the tooth exit side. The cutting width of the scoring saw blade must be set so that it is slightly wider than that of the main circular saw blade. This prevents the exiting tooth on the main saw from coming into contact with the cut edge. As pressure equipment is required to achieve a firm, flat contact area on workpieces, divided scoring saw blades are used on table saw and panel saw machines.

Joining

Spindle moulders or flow-through systems

Cutter heads with replaceable carbide blade inserts or diamond-tipped milling cutters are generally suitable for machining our products. Joining tools with alternating axial angles must be used to create nick-free edges on the top layers of panels. Dimensional machining tools with a higher number of teeth than standard tools tend to produce a better standard of cutting quality.

Dimensioning

Hoggers for flow-through machines

We recommend compact diamond hoggers as they generate very little friction and cutting pressure.

Stationary CNC machines

Solid carbide spiral milling cutters or – even better – diamond-tipped shaft router bits are ideal for work on routing machines and machining centres. The workpiece must be securely clamped on the machine. Additional mechanical clamps may be required to support the vacuum suction unit. We recommend using stable, rigid shrink chucks.

Drilling

The nature of the surface coating makes it difficult to drill holes on the exposed side: it is only possible to drill them without tearing on the opposite side. We recommend carbide-tipped or solid carbide drills. If the drill is used incorrectly or the feed setting is wrong, this will have a significant effect on the quality of the panel surface (causing tears, for instance).

Sealing edges, cut-outs and drill holes

The melamine coating on our laminated furniture panels delivers reliable protection against penetration from moisture. It is only possible for moisture to get into cores via edges that are not protected, such as those found on cut-outs, butt joints, drill holes, corner joints, trailing edges, screw holes and fastenings. Any sealing work that is required must be performed during final assembly. We recommend ABS edging for sealing cut edges.

Flooring and laminated panels

Our flooring and laminated panels are checked to ensure they can withstand the strain they will be exposed to in the future. They undergo several rounds of testing and are labelled to indicate their durability. Any markings that are made during assembly must be easy to identify later on, or applied to the non-exposed side. Some products and surfaces must not be exposed to high levels of friction (caused by erasers, for example).

Always observe the manufacturer's specifications and recommendations when handling the materials and tools referred to in this document.

Please note: This document is based on the latest developments in technology and has been compiled with due care. To the best of our knowledge, the information it contains is accurate. However, we cannot assume any liability for mistakes or printing errors. Technical changes made be required as our products develop and amendments are made to standards and legislation.