

## Processing instruction

### EGGER PP Edge Banding



EGGER PP Edge Banding is a thermoplastic edge banding product with protective and aesthetic properties for finishing narrow areas on wood-based materials. EGGER Safety Edge Banding is made of PP (polypropylene) and is homogeneously coloured. A universal bonding agent (primer) is applied to the underside.

### Uses / Areas of Application

EGGER PP Edge Banding is used to finish narrow areas of laminated wood-based materials such as chipboard, MDF, HDF, and lightweight boards and provides the perfect finishing touch for all decorative surfaces. It can be used in a wide variety of areas: furniture for kitchens, bathrooms, offices and bedrooms and living rooms. In addition to regular use on edge banding machines, EGGER PP Edge Banding is suitable for finishing individually shaped components. Due to the chemical properties of coloured PP, the effect of pressure and heat on dark and intense shades of colour can have an influence on possible discolorations in the milled radius.



### Processing

EGGER PP Edge Banding can be machined on commercial edge banding machines using hot-melt adhesive and on machining centres. The individual production steps such as gluing, cutting, milling, machining with a scraper and buffing wheel are all fairly straightforward. EGGER PP Edge Banding is not suitable for cold glue activation processes using white PVA glue.

### Adhesive / Adhesive application

EGGER PP Edge Banding is coated with bonding agent that is designed for use with EVA, PA, APAO and PUR hot-melt adhesives as well as special PO adhesives. A highly heat-resistant glue should be used if the product is likely to be exposed to high temperatures, e.g. in the kitchen or in shipping containers. Polyurethane hot-melt adhesives are particularly suitable for use in humid areas. Please observe any information provided by your respective adhesives supplier. We also recommend

conducting a prior suitability check of the selected adhesive with EGGER Edge Banding. The exact quantity to apply varies according to the type of adhesive (see manufacturer's specifications), chipboard thickness, edge banding material and feed speed. The layer of adhesive should be even and sufficient for small droplets to be squeezed out from under the edge banding and for the spaces between the chips to be filled. Ensure that there is sufficient adhesive in the pre-melt container so that both the quantity applied and the temperature remain constant. The precise tensioning and parallelism of EGGER Edge Banding gives a sealed, visually perfect joint. The tensioning also ensures optimum adhesion by collecting excess glue in the centre of the rear of the edge banding and anchoring the glue in the chipboard.

### Processing temperature

Processing should be carried out at room temperature. The edge bandings and core boards that are to be machined should be conditioned at normal room temperature (18 - 24 °C). If the edge bandings or boards are too cold (e.g. due to storage in unheated places), then the hot-melt adhesive that is applied will come off before the edge banding is attached. Therefore, conditioning is required and draughts should be avoided. The processing temperature for the adhesive varies between 90 and 230° C depending on adhesive type. The required processing temperature should be taken from the relevant manufacturer's specifications. When the adhesive temperature is being measured, display errors may occur, in which case the measured temperature may differ from the actual temperature on the coating roller. It is advisable to measure the temperature on the coating roller.

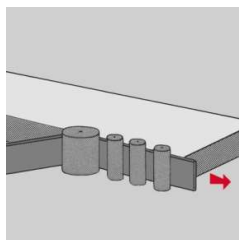
### Wood moisture

The optimum wood moisture for processing board material is between 7 and 10%.

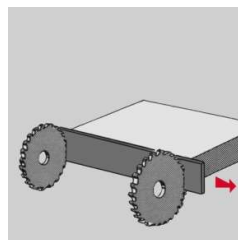
### Feed rate

The feed speed is dictated by the processing characteristics of the hot-melt adhesive and how it is applied (jet or roller). Please follow the adhesive manufacturer's instructions. If the feed speed is too high, then the hot-melt adhesive may pull fibres out and prevent wetting of the entire surface of the board material. Furthermore, the coating roller may jump. During edge banding milling, which is the next process, milling ripples may be produced. If the feed speed is too low, then the interval between application of the adhesive and presentation of the edge banding is too long. In this case, the temperature falls below the necessary processing temperature and the adhesive will harden before the two surfaces are joined.

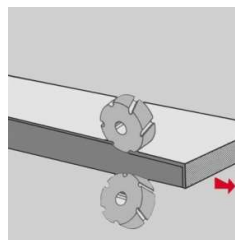
### Edgebander processing sequence



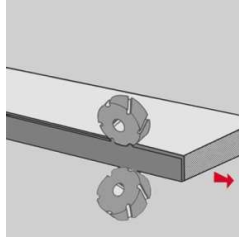
Gluing



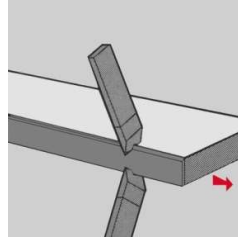
End trimming



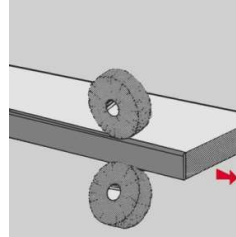
Pre-milling: Pre-mill head at 15 - 20° angle



Radii / bevel milling



Scraper Finishing



Buffing

## Pressure rollers

Whilst taking into account the specification of the machine, to achieve an optimum seam appearance there must be an adequate number of pressure rollers, which are adjusted to the correct setting.

## End trimming

Chop saw blades with one-sided pointed teeth are used for the chop cutting. Use of chop saw blades with teeth on both sides is limited as they can cause splinters, especially when the edge bandings are thin.

## Milling

Four- to six-blade cutters with a diameter of approx. 70 mm and a rotational speed of between 12,000 and 18,000 rpm should be used. The exact choice depends on the characteristics of the cutter and the machine. Blunt tools running at inappropriate speeds can damage the edge bandings. If any smears occur, reduce the speed of the milling cutter or increase the feed. Fine-milling should always be performed against the feed.

## Scraper processing

As the PP material tends to fade in colour after scraping, the scraper blade should not exceed 0.1 - 0.2 mm. Milling tools with a high true running accuracy will produce the required milling accuracy ("without blade marks"). Diamond-tipped milling tools have proved to be particularly effective. A hot-air unit can be used to further optimise the scraper processing, particularly with critical colours.

## Buffing

EGGER PP Edge Banding is highly suitable for processing in a radius with buffing wheels. Any lightening of colour caused by scraper machining can simply be polished away using the buffing wheels. In the case of downcut machining, they should be set at a speed of rotation that is diminished by approx. 50% to reach about 1400 rotations/min. In order to avoid too high heat generation and the resulting lubrication, we recommend selecting a contact pressure that is not too high. Furthermore, the buffing wheel removes any dirt (adhesive residue) from the surface and/or the edge banding angle. Any adhesive remnants can be easily removed using electronically controlled separating agent spray units; this also reduces blade wear.

## Extraction

PP chips may become charged with static during milling, and thus attach themselves to material and to machine components. An extraction capacity of approx. 2.5 m<sup>3</sup>/s is thus required and the use of tools with optimized chip removal is recommended.

## Edge banding with protective foil

The use of commercially available release agents, coolants and cleaning agents is recommended for the processing of edge bandings which are provided with a peel-clean foil to protect the surface. The release agent can be sprayed onto the first pressure roller or directly onto the board and edge banding surface after application of the edge banding. Should the protective foil peel off when processing on a continuous edgebander, it is recommended to check and clean the copy shoes, as well as to consider the use of a lubricant to minimise friction between the protective foil and the copy shoe. If a lubricant is used on films with imprint, the suitability should be checked in advance.

To protect the edge banding tape from external influences for as long as possible, it is recommended to remove the protective foil not until after the furniture has been assembled.

To protect and maintain the UV resistance of the protective foil, the original packing should be used when storing the edge banding tape over a period of several months.

The selected protective foil coating can be recycled and disposed of under observation of official rules and regulations.

## Cleaning

EGGER PP Edge Banding is easy to clean using commercial cleaning agents designed for plastic surfaces. The use of petrol, thinners, acetic acid, nail polish remover or similar solvent-based or alcohol-based fluids may dissolve the surface and should therefore be avoided.

## Handling with waste

Waste from EGGER PP Edge Banding may be disposed of as residual waste. If the wood leftovers obtained are picked up by a disposal company for purposes of further utilization, only a small share is usually allowed to be wood-based materials with PP edge banding. It should be agreed with the disposal company how high the share of PP and other so-called impurities may be. The thermal recycling of PP edge banding is also possible as a rule, and reasonable on the basis of the high heating potential of the leftovers. EGGER PP Edge Banding may be recycled thermally together with chip leftover in approved facilities. As a rule, wood-based materials with PP edge banding resulting from production may also be thermally recycled.

## Health risk due to dust formation

Dust may be generated during processing. There is a risk of sensitization of the skin and respiratory tract. Depending on the processing and the particle size, especially when inhaling dust, there may be further health risks.

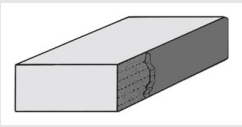
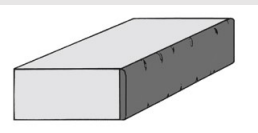
The formation of dust must be taken into account when assessing risks in the workplace.

In particular in the case of machining processes (e.g. sawing, planing, milling), an effective extraction system must be used in accordance with the applicable health and safety regulations. If there is no adequate suction, suitable respiratory protection must be worn.

## Fire and explosion hazard

Dust generated during processing can lead to fire and explosion hazards. Safety and fire protection regulations must be observed.

## Processing problems

Error	Cause	Measures
1. Edge banding can easily be removed by hand. Hot-melt adhesive remains on the chipboard. The grid structure of the adhesive application roller is visible.	<ul style="list-style-type: none"> <li>Ambient temperature too low, or draught in the area between the coating of thermoplastic glue and the pressure roller</li> <li>Edge banding material is too cold (outdoor storage) or lack of conditioning</li> <li>Hot-melt adhesive temperature too low</li> <li>Feed rate too low</li> <li>Contact pressure of application rollers too low</li> <li>Not enough adhesive applied</li> </ul>	<ul style="list-style-type: none"> <li>Increase room temperature, avoid draught</li> <li>Warm up edge banding material</li> <li>Increase hot-melt adhesive temperature</li> <li>Increase feed rate</li> <li>Increase contact pressure of application rollers</li> <li>Increase amount of adhesive applied</li> </ul>
2. Edge banding can easily be removed by hand. Residue of hot-melt adhesive on the chipboard. The hot-melt adhesive surface is completely smooth (edge banding slips off).	<ul style="list-style-type: none"> <li>Surface and/or edge banding too cold</li> <li>Unsuitable hot-melt adhesive used</li> </ul>	<ul style="list-style-type: none"> <li>Warm up surface and/or edge banding</li> <li>Use another hot-melt adhesive</li> </ul>
3. Edge banding can easily be removed by hand. Most of the hot-melt adhesive is left behind on the edge banding.	<ul style="list-style-type: none"> <li>Board material is still storing excessive heat energy (e.g. after earlier veneering or laminating of the board surfaces)</li> </ul>	<ul style="list-style-type: none"> <li>Cool down board material</li> </ul>
4. The front edge of the board has had no adhesive applied, or a few millimetres of the edge have splintered.	<ul style="list-style-type: none"> <li>The adhesive application roller protrudes too far into the line of the board. No adhesive has been applied to the first part of the edge because the roller has been restrained strongly at the board's front edge.</li> </ul> 	<ul style="list-style-type: none"> <li>Adjust the setting of the adhesive application roller</li> </ul>
5. Milling ripples are visible	<ul style="list-style-type: none"> <li>Feed rate is too high and/or rotational speed is too low</li> </ul> 	<ul style="list-style-type: none"> <li>Lower feed rate</li> <li>Use upmilling-mode</li> <li>Increase number of cutters on milling tool</li> <li>Increase rotational speed</li> <li>Post-process with scrapers and finishing wheel</li> </ul>

Error	Cause	Measures
6. On thick edge banding, colour has slightly faded in the milled area.	<ul style="list-style-type: none"> <li>▪ Rotational speed is too low</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increase rotational speed</li> <li>▪ Adjust the scraper station max. 0.1 - 0.2 mm</li> <li>▪ Rework with finishing station</li> <li>▪ Warm up the milled area in the hot air station (rework)</li> </ul>
7. Stress whitening in the radius during machine centre processing.	<ul style="list-style-type: none"> <li>▪ Edge banding too cold to process</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increase heater power or reduce feed rate</li> <li>▪ Increase geometry or use a thinner edge banding material</li> </ul>

Further information about EGGER PP edge banding can be found in our technical data sheet.

**Provisional note:**

These processing instructions have been carefully drawn up to the best of our knowledge. The information provided is based on practical experience, in-house testing and reflects our current level of knowledge. It is intended for information only and does not constitute a guarantee in terms of product properties or its suitability for specific applications. We accept no liability for any mistakes, errors in standards, or printing errors. In addition, technical modifications may result from the continuous development of EGGER edge banding, as well as from changes to standards and public law documents. The contents of these processing instructions should therefore not be considered as instructions for use or as legally binding. Our General Terms and Conditions apply.