

Processing instructions

EGGER PMMA Edging



EGGER PMMA Edging is a thermoplastic edging product with protective and aesthetic properties for finishing narrow areas on wood-based materials. EGGER Edging PMMA is made of **PMMA** (polymethylmethacrylate). A universal bonding agent (primer) is applied to the reverse.

Applications / Application Areas

EGGER PMMA Edging 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, living rooms, exhibition builds, and shopfitting systems. In addition to regular use, EGGER PMMA Edging is suitable for finishing individually designed furniture components.



Processing

EGGER PMMA edging can be processed on conventional edge banding machines using hot-melt glue systems. The individual processing steps such as gluing, trimming, milling, scraping and buffing are all quite straightforward. EGGER PMMA edging is not suitable for cold glue activation processes using white PVA glue.

Adhesive / Adhesive application

The primer coating on EGGER PMMA edging is configured for use with EVA, PA, APAO and PUR hot-melt adhesives. Contact adhesives containing solvents must not be used. 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 damp conditions.

Always follow the instructions of the respective adhesive supplier. The amount of glue required varies depending on the type of adhesive (see manufacturer's specifications), the board density, the edging material and the feed rate.

The adhesive should be applied evenly and in sufficient quantity so that small beads can be pressed out under the edging tape and any gaps in between the wood chips are filled. It is essential that the premelter contains a sufficient amount of adhesive to ensure that both, the glue spread and the temperature remains constant. Due to the precise pretensioning and plane-parallelism of EGGER PMMA edging, a tight, almost invisible seam is achieved. Pretensioning also ensures optimum bonding by taking up any excess glue at midpoint on the back of the edging and the anchor points of the glue to the chipboard.

Processing temperature

The work should be carried out at room temperature. Prior to processing, the edge banding tapes and substrates should be conditioned at normal room temperature (18 – 24°C). If the edging or boards are too cold (e.g. due to storage in unheated areas), the hot-melt adhesive applied will set before the edge band is attached. Therefore, conditioning is essential and draughts should also be avoided. The processing temperature for the adhesive varies between 90 and 230°C depending on the type of adhesive. Please refer to the individual manufacturer's specifications for the relevant processing temperatures. When measuring the adhesive temperature, display errors can occur and the temperature measured may differ from the actual temperature on the application roller. It is recommended that the temperature be taken on the application roller.

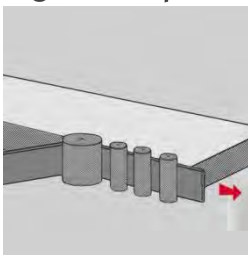
Wood moisture

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

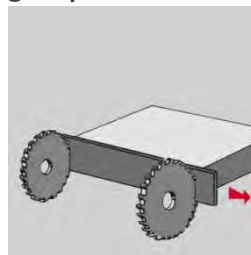
Feed rate

The feed rate is defined by the processing characteristics of the hot-melt adhesive and the method of application (spray nozzle or roller). Please follow the adhesive supplier's instructions. If the feed rate is too high, the hot-melt adhesive may become stringy in consistency, preventing full saturation of the board material. Furthermore, this can cause the application roller to jump and may lead to chatter marks during the subsequent edge milling process. If the feed rate is too low, the interval between adhesive glue application and affixing of the edge banding tape 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.

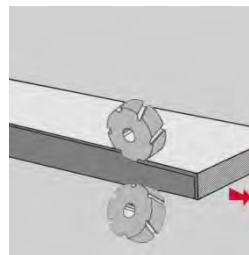
Edgebander processing sequence



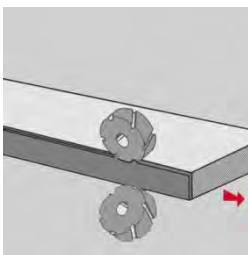
Gluing



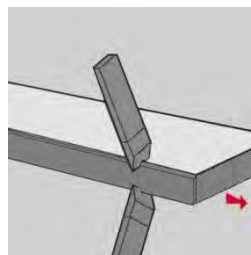
End trimming



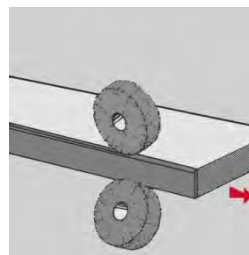
Pre-milling:
Pre-mill head at 15–20° angle



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

The end trim cut is performed using standard set saw blades with pointed teeth. Saw blades with alternate tooth sets are only of limited use as they can cause splintering, particularly when working with thin edge banding.

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 edging. If any smears occur, reduce the speed of the milling cutter or increase the feed rate. To facilitate waste extraction, pre-milling can be carried out in up-milling mode. Precision milling can be performed in down-milling mode.

Scraper processing

As the PMMA 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 PMMA Edging can easily be polished in a radius with buffing wheels. Any colour fading resulting from the scraper finishing can simply be polished away using buffing wheels. Furthermore, buffing wheels remove possible contamination (adhesive residue) from the surfaces and/or deburr the edges. Adhesive glue remnants can easily be removed using electronically controlled separating agent spray units; this also reduces scraper blade wear.

Extraction

Thermoplastic remnants can build-up static charge and become attracted to material and machine components. Compared to other thermoplastic raw materials, the static charge of ABS is very low. A suction power of approx. 2.5 m³/s is therefore required.

Machine centre processing

EGGER PMMA edging is also suitable for radii processing in a machine centre. A thorough heat penetration of the material is essential during processing. This can be achieved via an outside infrared heater or an inside hot air "shower". During the stationary process, many machine manufacturers use steel adhesive application rollers. Unlike in the continuous process, the glue is usually applied on the edge band (exception: Biesse, SCM). PMMA edges are characterised by their backprinted decor image and the resulting depth effect. When the adhesive is applied using a steel adhesive application roller, there is a risk of scratching the decor image of the edge on the back side. It is therefore recommended to use a rubberised adhesive application roller as well as edging feed rolls. For additional information please contact your machine manufacturer.

Manual processing

Manual processing of EGGER PMMA Edging can easily be carried out using a glue press clamps or edge press. However, this process requires the use of special adhesives, such as two component dispersion adhesives, contact adhesives, glues suitable for lacquered or varnished surfaces, or PU adhesives. Here, the relevant types and guideline values should be obtained from the respective manufacturer of the adhesive concerned. Alternatively, edges can be processed using small edge banding units or manual hand-held edge banding devices.

Edging with protective foil

It is recommended to use regular release, cooling, and cleaning agents when processing edges that are equipped with protective peel-clean foil. These may not contain solvents or alcoholic substances. The release agent may be sprayed onto the first pressure roll or directly onto the boards and edging surface after covering the edge. 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 peel-clean foil can be recycled and disposed of under observation of official rules and regulations.

Rectifying 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"> ▪ Ambient temperature too low, or draught in the area between the coating of thermoplastic glue and the pressure roller ▪ Edging material too cold (outdoor storage) or lack of conditioning ▪ Hot-melt adhesive temperature too low ▪ Feed rate too low ▪ Contact pressure of application rollers too low ▪ Not enough adhesive applied 	<ul style="list-style-type: none"> ▪ Increase room temperature, avoid draught ▪ Warm up edging material ▪ Increase hot-melt adhesive temperature ▪ Increase feed rate ▪ Increase contact pressure of application rollers ▪ Increase amount of adhesive applied
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 slips off).	<ul style="list-style-type: none"> ▪ Surface and/or edge too cold ▪ Unsuitable hot-melt adhesive used 	<ul style="list-style-type: none"> ▪ Warm up surface and/or edge ▪ Use another hot-melt adhesive
3. Edge banding can easily be removed by hand. Most of the hot-melt adhesive is left behind on the edge.	<ul style="list-style-type: none"> ▪ Board material is still storing excessive heat energy (e.g. after earlier veneering or laminating of the board surfaces) 	<ul style="list-style-type: none"> ▪ Cool down board material
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"> ▪ 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. 	<ul style="list-style-type: none"> ▪ Adjust the setting of the adhesive application roller



<p>5. Milling ripples are visible</p> 	<ul style="list-style-type: none"> ▪ Feed rate is too high and/or cutting speed is too low 	<ul style="list-style-type: none"> ▪ Lower feed rate ▪ Increase cutting speed ▪ Use upmilling-mode ▪ Increase number of cutters on milling tool ▪ Increase rotational speed ▪ Post-process with scrapers and finishing wheel
<p>6. On thick edge banding, colour has slightly faded in the milled area.</p>	<ul style="list-style-type: none"> ▪ Cutting speed too low 	<ul style="list-style-type: none"> ▪ Increase cutting speed ▪ Adjust the scraper station (max. 0.1 - 0.2 mm) ▪ Rework with finishing station ▪ Warm up the milled area in the hot air station (re-work)
<p>7. Stress whitening in the radius during machine centre processing.</p>	<ul style="list-style-type: none"> ▪ Edging tape too cold to process 	<ul style="list-style-type: none"> ▪ Increase heater power or reduce feed rate
<p>8. Scratched decor image during machine centre processing</p>	<ul style="list-style-type: none"> ▪ Steel adhesive application roller used 	<ul style="list-style-type: none"> ▪ Request rubberised adhesive application roller from machine manufacturer ▪ Use rubberised edging feed rolls
<p>9. Step joint across the corner for Doppia, Trio, or Acrimarc edging</p>	<ul style="list-style-type: none"> ▪ Edges are not fed cleanly 	<ul style="list-style-type: none"> ▪ Diminish edging clearance in the guide channel ▪ Monitor projections
<p>10. Low to no projection of the narrow base of the Doppia edging</p>	<ul style="list-style-type: none"> ▪ Monitor board thickness ▪ “Lower” edging projection too low 	<ul style="list-style-type: none"> ▪ Increase “lower” edging projection ▪ If applicable, turn board and edge (wrapping of the edging necessary)

Cleaning

EGGER PMMA edging is easy to clean using cleaning agents designed for plastic surfaces. The use of solvents or alcoholic substances (e.g., release, antistatic, cooling or cleaning agents) is not recommended, as they may damage the surface and lead to stress cracks in the material.

Handling waste

Waste from EGGER PMMA Edging may be disposed of as residual waste. If the wood leftovers obtained are picked up by a disposal company for purposes of further utilisation, only a small share is usually allowed to be wood-based materials with edging. It should be agreed with the disposal company how high the share of plastic edging and other so-called impurities may be. The thermal recycling of plastic edging is also possible as a rule, and reasonable on the basis of the high heating potential of the leftovers. The process produces no chlorine compounds. EGGER PMMA Edging may be recycled thermally together with chip leftovers in approved facilities. As a rule, wood-based materials with plastic edging resulting from production may also be thermally recycled. There is no need for time-consuming leftovers separation and/or edge removal.

Further information on EGGER PMMA Edging can be found in our technical data sheet.

Provisional note:

These processing instructions were prepared based on the best available information and with due diligence. 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 Edging, as well as from changes to standards and public law documents. These processing instructions are not an instruction for use and not a legally binding document. Our General Terms and Conditions apply.