

Processing instruction

EGGER ABS Edge Banding



EGGER ABS Edge Banding tape is a thermoplastic edge banding product with protective and decorative properties for finishing narrow areas on wood-based panels. EGGER ABS Edge Banding is made of ABS (Acrylnitril-Butadien-Styrol) and is uniformly colored through. A universal bonding agent (primer) is applied to the reverse.

Uses / Areas of Application

EGGER ABS Edge Banding is used to finish open 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 range of applications: furniture for kitchens, bathrooms, offices and bedrooms, living rooms and teenager rooms, exhibition builds and shopfitting systems. EGGER ABS Edge Banding is also suitable for finishing individually shaped freeform components. Due to the chemical properties of colored ABS, the effect of pressure and heat on dark and intense shades of color can have an influence on possible discolorations in the milled radius.



Processing

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

Adhesive / Adhesive application

The primer coating on EGGER ABS Edge Banding is configured for use with EVA, PA, APAO and PUR hot-melt adhesives. Adhesives that are highly heat resistant should be used where the product is likely to be exposed to critically high temperatures, e.g. in the kitchen or when exporting furniture 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 edge banding 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 edge banding and any gaps in between the wood chips are filled. It is essential that the pre-melter contains a sufficient amount of adhesive to ensure that both, the glue spread and the temperature remains constant. Due to the precise pre-tensioning and plane-parallelism of EGGER ABS Edge Banding, a tight, almost invisible seam is achieved. Pre-tensioning also ensures optimum bonding by taking up any excess glue at midpoint on the back of the edge banding 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 64°F-75°F (18 - 24°C). If the edge banding or boards are too cold (e.g. due to storage in unheated areas), the hot-melt adhesive applied will set before the edge banding is attached. Therefore, conditioning is essential and draughts should also be avoided. The processing temperature for the adhesive varies between 194°F (90°C) and 446°F (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.

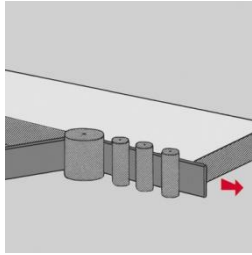
Wood moisture

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

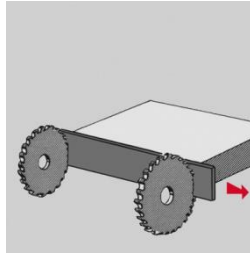
Feed rate

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 banding 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.

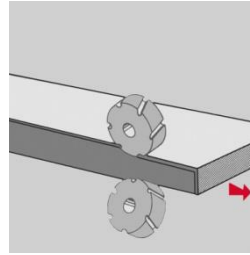
Edgebander processing sequence



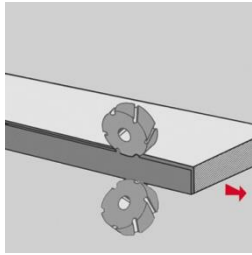
Gluing



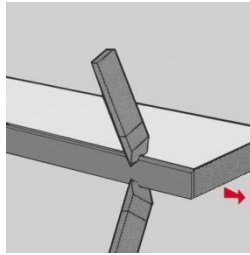
End trimming



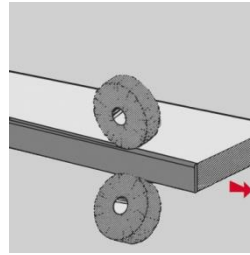
Pre-milling: Pre-mill head at 15–20° angle



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. 2.75 inch (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 incorrect speeds can damage the edge banding. If any smears should occur, the speed of the milling cutter should be reduced or the feed rate increased as necessary. To facilitate waste extraction, pre-milling can be carried out in up-milling mode. Precision milling should always be performed in down-milling mode.

Scraper processing

As ABS as a material tends to slightly fade in color after scraping, the scraper blade should not exceed 0.004 - 0.008 inch (0.1 - 0.2 mm). The process requires an almost precise milling accuracy ("without chatter marks") which can be achieved with milling tools of high concentricity. DIA (diamond tipped) milling tools have proved to be particularly effective. Hot-air units can be used to further optimize scraper processing, particularly where the color is critical.

Buffing

EGGER ABS Edge Banding can easily be polished in a radius with buffing wheels. Any color 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 edge banding. 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.

Manual processing

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

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 minimize 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 ABS Edge Banding is easy to clean using conventional cleaning agents suitable for plastic surfaces. The use of petrol, thinners, acetic acid, nail polish remover or similar solvent-based or alcohol-based substances may partially dissolve the surface and should therefore be avoided.

Handling with waste

Waste from EGGER ABS 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 ABS edge banding. It should be agreed with the disposal company how high the share of ABS and other so-called impurities may be.

The thermal recycling of ABS edge banding 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 ABS Edge Banding may be recycled thermally together with chip leftover in approved facilities. As a rule, wood-based materials with ABS edge banding resulting from production may also be thermally recycled. There is no need for time-consuming leftovers separation and/or edge banding removal.

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.

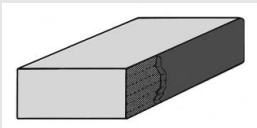
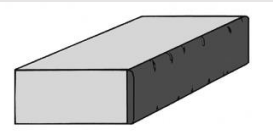
The formation of dust must be taken into account when assessing risks in the workplace.

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
<p>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.</p>	<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 ▪ Edge banding material is 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 edge banding material ▪ Increase hot-melt adhesive temperature ▪ Increase feed rate ▪ Increase contact pressure of application rollers ▪ Increase amount of adhesive applied
<p>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).</p>	<ul style="list-style-type: none"> ▪ Surface and/or edge banding too cold ▪ Unsuitable hot-melt adhesive used 	<ul style="list-style-type: none"> ▪ Warm up surface and/or edge banding ▪ Use another hot-melt adhesive
<p>3. Edge banding can easily be removed by hand. Most of the hot-melt adhesive is left behind on the edge banding.</p>	<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
<p>4. The front edge of the board has had no adhesive applied, or a few millimetres of the edge have splintered.</p> 	<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 rotational speed is too low 	<ul style="list-style-type: none"> ▪ Lower feed rate ▪ Use up milling-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"> ▪ Rotational speed is too low 	<ul style="list-style-type: none"> ▪ Increase rotational speed ▪ Adjust the scraper station max. 0.004 - 0.008 inch (0.1 - 0.2 mm) ▪ Rework with finishing station ▪ Warm up the milled area in the hot air station (rework)

Error	Cause	Measures
7. Stress whitening in the radius during machine centre processing.	<ul style="list-style-type: none"> ▪ Edge banding too cold to process 	<ul style="list-style-type: none"> ▪ Increase heater power or reduce feed rate ▪ Increase geometry or use a thinner edge banding material

Further information about EGGER ABS Edge Banding can be found in our technical datasheet.

Provisional note:

This processing instruction has 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 ABS Edge Banding, as well as from changes to standards and public law documents. The contents of this processing instruction should therefore not be considered as instructions for use or as legally binding. Our General Terms and Conditions apply.