

## Processing instruction

### EGGER ABS edgeband Seamless



EGGER ABS edgeband Seamless is a thermoplastic edging with protective and decorative properties for finishing the narrow sides of wood-based panels. The colored functional layer on the back creates a gapless connection between edgeband and board.

### Uses / Areas of Application

EGGER ABS edgeband Seamless offers advantages compared to the conventional edgeband primarily in terms of component appearance. They 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. ABS Seamless edgebands are also suitable for finishing individually shaped freeform components.

### Processing

EGGER ABS edge bandings Seamless are specially developed for activation by using Laser-, HotAir-, or NIR- technology and can be used on all zero-joint systems available on the market. The Seamless edgeband is not suitable for bonding with a classic hot melt adhesive. In this case, please use the proven EGGER ABS edgebands.

### Processing conditions

The edges and boards should be conditioned at normal room temperature (18 - 24°C) before processing. The optimum wood moisture content of wood based material is between 7 and 10%. Processing should also be carried out at a constant room temperature between 18 and 24°C. Draughts should be avoided. Dust and smoke particles can negatively affect the activation energy, therefore the system, especially the laser unit with optics, should be checked and cleaned regularly. It is advisable to make a test piece before real processing to avoid possible defects in the process.

### Edgebander processing sequence

1. Milling of the board → 2. Activation → 3. Pressure roller → 4. End trimming → 5. Premilling → 6. Radius milling → 7. Scraper finishing → 8. Buffing

#### 1. Milling of the board

For an optical zero joint, the milling process has a significant influence, so you should always pay attention to sharp tool blades and smooth, angular millers. Always follow the instructions of your tool manufacturer.

## 2. Activation

Laser technology: For activation using laser technology, it is recommended to use the laser power <sup>(1)</sup> (J/cm<sup>2</sup>) printed on the label as the default value. This value can vary by +/- 2 J/cm<sup>2</sup> depending on the manufacturer and age of the machine.

Hot-air technology: For activation by using hot-air technology, Egger offers its customers a separate document <sup>(1)</sup> for download on its homepage with empirically achieved parameters, matched to a large number of hot-air systems available on the market.

NIR technology: For activation using the Near-Infra-Red system, a conversion tool is provided by the machine manufacturer. With this tool, the laser power on the label can be converted into the required unit (kW).

Thanks to the defined pretension and plane parallelism, as well as coordinated functional layer thickness, a closed, visually perfect pattern of gaps is achieved. Care must be taken to ensure that the correct energy input is selected. If the energy input is too high, the functional layer may burn and the adhesion force is reduced. The same applies if the energy input is too low, as the functional layer cannot be fully activated.

Seamless edges cannot be processed with a conventional adhesive system.

<sup>(1)</sup> The specified power setting is based on test series carried out. It is recommended to carry out your own tests to determine the optimum power.

## 3. Pressure roller

Optimal positioned pressure rollers ensures a uniform, closed gap. The contact pressure is a decisive factor. The pressure zone should be set to - 0.2 mm and 2.5 - 3.0 bar.

## 4. 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. Excessive edge overhang shortens the service life of the following unit and can lead to open gaps during the crosscut process.

## 5. Pre-milling / 6. Radius milling

Four- to six-flute cutters with a speed of 12,000 to 18,000 rpm should be used. The exact choice depends on the cutter and machine properties. Incorrect speed or blunt tools can damage the edging. If smearing effects occur, reduce the speed of the cutter, reduce the number of teeth at the trimmer or increase the feed rate if possible. It is recommended to mill in up-cutting direction with diamond tools.

## 7. Scraper processing

Since the ABS material tends in general to lighten slightly after scraper machining, the scraper chip should not exceed a thickness of ~ 0.15 mm to counteract this. A blade impact-free pre-treatment helps with the exact setting. For further optimization of the surface quality, the use of duo-drawing blades or anti-whitening blades has proven successful. Optionally, reworking can be carried out by means of a hot air unit.

## 8. Buffing

EGGER ABS Seamless can be machined very well with buffing wheels in radius. Any stress whitening that may occur during scraper machining can be eliminated with the aid of buffing wheels.

## Extraction

Thermoplastic chips can become statically charged and thus "stick" to the material and the machine aggregates. Compared to other thermoplastic raw materials, the static charge of ABS is low. An extraction rate of approx. 2.5 m<sup>3</sup>/s is therefore sufficient. The extraction of the chips must take place as close as possible to the mold. Antistatic spray systems can also be used for support.

## Edgebanding with protection foil

The use of commercially available release agents, coolants and cleaning agents is recommended for the processing of edges 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 surface after application of the edgeband. Should the protective foil peel off when processing on a continuous edgebanding machine, 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. To protect the edgeband from external influences for as long as possible, it is recommended to remove the protective foil not before the furniture has been assembled.

If the edgebands need to be stored for several months, this should be done in the packaging in order to positively influence the UV resistance of the protective film. The protective film used is recyclable and can be disposed in accordance with official regulations.

## Cleaning

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

## Storage

EGGER ABS edgeband Seamless are resistant to rotting and can therefore be stored for an almost unlimited period at room temperature (18 - 24°C) and in a weather-protected atmosphere. For edges older than 12 months, a test should nevertheless be carried out before processing.

## Dealing with rests

Remnants of EGGER ABS edgeband Seamless can be disposed of as residual waste. If the wood residues are collected by a disposal company for further recycling, they may usually contain a small amount of wood-based materials with ABS edges. How high the proportion of ABS and other so-called impurities may be should be agreed with the disposal company. The thermal recycling of ABS edges is also possible in principle and makes sense due to the high calorific value of the residues. Various expert opinions prove that no relevant increase in pollutants is to be expected. No chlorine compounds are formed. Edgeband residues can be thermally recycled together with chip residues in approved plants. As a rule, wood-based materials with ABS edgeband that accumulate during production can also be used for thermal recycling. This eliminates the need for tedious sorting of the residues or separation of the edges.

## 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. Further information about EGGER ABS edgeband Seamless can be find 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 edgeband Seamless, 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.