



REHAU LASEREDGE™

PROCESSING INSTRUCTIONS

1. Overview

The facts about REHAU LaserEdge™

- Creates a stunning high-end look using the latest technology
- Allows for a monolithic panel at a much lower price than solid or painted
- Enhancing leading industry trends (high gloss and textured panels) with no framing effect
- No glue joint to collect dirt, chip away or yellow over time
- Creates a bond equal to or greater than PUR (no delamination)
- Extremely heat and moisture resistant bond
- ABS and PP (advanced green polymers) are the most common materials used by REHAU globally

2. Zero-Joint Technologies

REHAU LaserEdge is designed for use on all zero-joint technology edgebanders including the CO2 and diode laser, hot-air, plasma and NIR process. Due to the numerous variables involved during edgebanding (board quality, machine setup, etc.), REHAU recommends conducting processing trials on initial use.



Laser technology

A laser activates the functional layer during laser processing.



Hot air technology

Hot, compressed air melts the functional layer during the hot air process.



NIR technology

Thermal energy can be quickly and precisely transferred with the near infrared technology.



Plasma technology

If a customer uses the plasma process, air plasma emerging from a nozzle melts the functional layer.

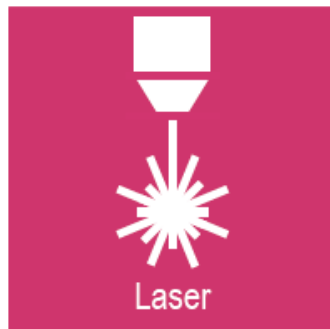
3. General Processing Instructions

The edgeband to be processed must be acclimated at normal air temperature ($>18^{\circ}\text{C}$). It is recommended to open the boxes. In practice for processing, appropriate fume extraction must be ensured. Subject to the technical instructions on air quality, the air vacuumed off can be discharged into the surroundings – local conditions and regulations must be checked in each case. In the case of clean air recirculation, dust particles and gaseous components must be filtered appropriately. The specifications from the machine and filter manufacturer must be observed. For further instructions and tips on optimal processing of REHAU edgeband, separate processing instructions specific to the material are available from REHAU.

4. Storage

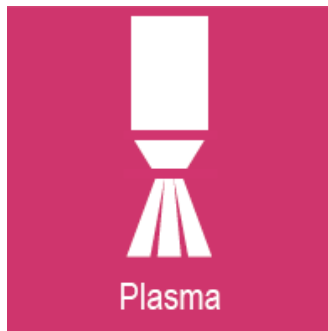
REHAU Edgeband may be stored for up to one year at room temperature (approx. $18 - 25^{\circ}\text{C}$). For edgeband older than 6 months, a processing trial should be conducted before series processing.

5. Processing Parameters for the Laser Process



The specific energy recommended by REHAU should be used for processing REHAU LaserEdge with diode lasers. The Espec [J/cm^2] value is determined per article and specifies the required energy per area depending on color. The Espec is printed on every roll on the inside label and available in list form for specific customers if required for production planning. These specifications apply for straight-line plants. In contour applications, edges are currently fed in individually (on HOMAG and IMA machines, the Espec has been usable like straight-line plants since mid-2015). When using a CO2 laser, the specifications of the required laser power [W], depending on edge width and feed rate, must be requested from REHAU. Processing of the REHAU LaserEdge in PVC material using laser technology is not authorized.

6. Processing Parameters for the Plasma Process



The respective setting for the electrical voltage and compressed air with the plasma process must be requested from the machine manufacturer depending on feed rate and edge width.

7. Processing Parameters for Hot-Air



The specifications for the machine settings are recommendations for processing on straight-line machines when edging 19 mm panels and with the specified feed rates.

The main pressure roller should be at 2.5 - 3 bars (approx. 20 – 25 kg). In case of deviation, the machine parameters must be adjusted in consultation with the respective machine manufacturer or REHAU.

HOMAG airTec		HOMAG airTec	
		Feedrate: 20m/min	
	Hot Air Reservoir	550 - 620 °C	
	Air Nozzle Pressure	2 - 2.5 bar	

BRANDT airTec		BRANDT airTec	
		AT10 = 8m/min	AT15 = 15m/min
	Air Nozzle Temperature	450 °C	320 °C
	Air Nozzle Pressure	0.8 bar	6.5 bar

BIESSE airForce		BIESSE airForce	
		Feedrate: 20m/min	
	Hot Air Reservoir	730 °C	
	Air Nozzle Temperature	550 °C	
	Air Flow	1200 nl/min	

HEBROCK airtronic		HEBROCK airtronic Feedrate: 20m/min
	Temperature	450 °C
	Air Flow	480 nl/min

For all other hot-air sources on the market, the setting parameters must be requested from the respective machine manufacturer. REHAU LaserEdge can also be processed in PVC material using the hot-air process.

8. Processing Parameters for NIR Process

The NIR technology works in a similar wavelength range to the diode lasers. REHAU LaserEdge is designed for this wavelength range. The required power [KW] is specified using programs already pre-set by the machine manufacturer and must be adjusted if necessary depending on the board thickness and feed rate used.

9. Frequently Asked Questions

Laser Technology:

Problem		Diagnosis
1	Open joints on long edge	Incorrect laser coverage setting Incorrect pressure zone setting Angularity of form cutting
2	Open joint in copying corner	Edge and board feed not synchronized Edge overhang too long/short Laser radiation start/end not compatible
3	Too little adhesion / peel strength	Functional layer thickness outside tolerance Pressure zone setting incorrect (lift, pressure) Energy specification not compatible with the edge
4	Functional layer burns / heavy smoke formation	Energy specification not compatible with the edge Dirty or missing functional layer
5	Edge jams in the hopper	Lengthwise warping or width fluctuation of the edge Retaining device set too low
6	Machine temperature sensor switches off	Incorrect laser coverage setting Laser penetration due to insufficient coloring of the edge

Hot-Air Technology:

Problem		Diagnosis
1	Open joints on long edge	Pressure supply too low Incorrect pressure zone setting Angularity of form cutting

2	Open joint in copying corner	Edge and board feed not synchronized Edge overhang too short Hot-air application start/end not compatible
3	Too little adhesion / peel strength	Functional layer thickness outside tolerance Pressure zone setting incorrect Energy specification not compatible with the edge coating
4	Functional layer smudged	Temperature setting not compatible with edge coating (correct specifications for RAUKANTEX pro or plus) Nozzle pressure too high
5	Edge jams in the hopper	Lengthwise warping or width fluctuation of the edge Retaining device set too low Functional layer "jams" on edge guide (pull edge back during work breaks)
6	Machine pressure sensor switches off	Check compressed air supply