

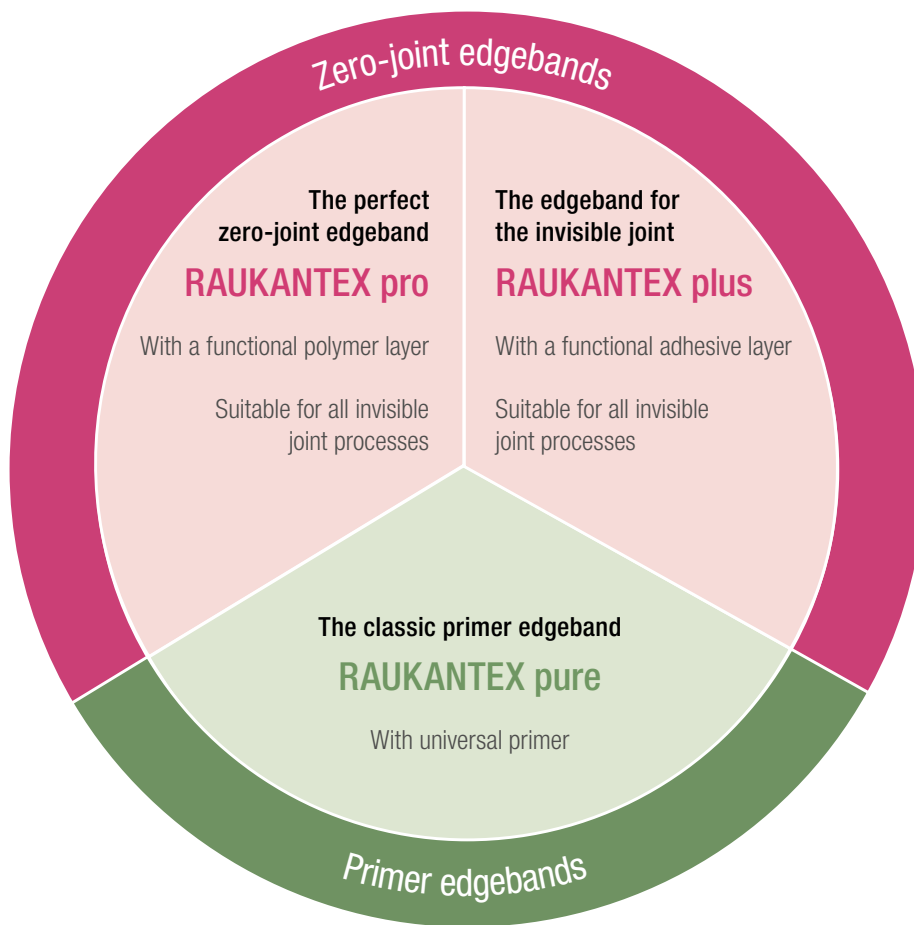
RAUKANTEX EDGE BANDS FOR ZERO-JOINTS

Technical information

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Increasing demands on design and appearance, coupled with high product quality, play a vital role in furniture production. Whichever requirements our customers have for an edgeband – REHAU offers the perfect solution with respect to design, function and processing.



RAUKANTEX pro

Using RAUKANTEX pro, you can achieve the perfect, permanent invisible joint thanks to the 100% polymer functional layer – no adhesives and no compromises.



RAUKANTEX plus

With RAUKANTEX plus, the colour matched adhesive functional layer allows you to create a virtually seamless joint thanks to the pigmented, pre-coated adhesive.



RAUKANTEX pure

RAUKANTEX pure, REHAU's tried-and-tested edgeband with primer, is available in all dimensions and decorative designs.

1. Suitability

RAUKANTEX zero-joint edgebands are designed for processing on edgebanding machines that work with CO₂ and diode laser technology, hot-air, plasma or NIR process. These edgebands have an added functional layer. Due to the many parameters, which can impact upon edgeband application (board type, machine set-up etc.), REHAU would recommend conducting processing trials prior to series production. Please refer to the relevant technical information of the respective edgeband material for processing details.

Achieve an invisible joint using three technologies:



Laser technology

During laser processing, a laser activates the edgeband's functional layer.



Near infra-red technology

NIR technology allows thermal energy to be transferred quickly and accurately.



Hot air technology

Hot compressed air can be used to melt the functional layer during the hot-air process.

2. Properties and differentiation



Designation	RAUKANTEX pro	RAUKANTEX plus	RAUKANTEX pure
Invisible joint	●●● Zero joint technology with colour matched polymer functional layer	●● Coloured adhesive in generic colours	● Conventional edgeband with primer
Zero joint quality	●●●	●	● EVA / PUR
Edgeband adhesion	●●●	●●	● EVA ●●● PUR
UV stability	●●●	●●	● EVA / PUR
Heat resistance according to AMK edging	●●●	●●	● EVA ●●● PUR
Processing procedure	Zero joint application method	Zero joint application method	Adhesive applied by machine
Availability	Ex stock	Ex stock	Ex stock
Materials	PMMA, ABS	PMMA, ABS	PMMA, ABS
Minimum buying quantity	Starting at 1 roll	Starting at 1 m	Starting at 1 m

●●● Excellent

●● Good

● Limited

3. General processing instructions

The edgebands to be processed must be acclimatised at normal room temperature (> 18 °C). It is recommended to open the boxes. In practice for processing, suitable extraction must be ensured. Subject to the technical instructions on air quality, extracted air 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 here. For further instructions and guidelines on optimal processing of RAUKANTEX edgebands, separate processing instructions specific to the material are available from REHAU.

4. Storage

If **stored properly**, RAUKANTEX edgebands **can be stored for min. 12 months**. For edgebands older than 12 months, however, a processing trial should always be carried out prior to series processing. Recommended storage conditions:

- Room temperature (approx. 18°C to 25°C)
- Dry
- Clean
- No vapours containing solvents
- Protected from light

5. Processing parameters laser process



The specific energy recommended by REHAU should be used for the processing of RAUKANTEX zero-joint edgebands (plus and pro) with diode lasers. The so-called $E_{\text{spec.}}$ [J/cm²] is a value that is determined metrologically and which specifies the required energy per area depending on colour. The $E_{\text{spec.}}$ is printed on every roll in the REHAU inside label and available in list form for the specific customer if required for production planning. These specifications apply to straight-line edgebanders. For CNC processing centres (for shaped parts), the values should be adjusted to suit the individual machine (in the case of HOMAG and IMA processing centres, since mid 2015, the same $E_{\text{spec.}}$ has been used as for straight-line edgebanders). 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 RAUKANTEX pro or plus in PVC material using laser technology is not authorised.**

6. Processing parameters hot-air

The specifications for the machine settings are recommendations for processing on straight-line edgebanders when edging 19 mm carrier boards and with the specified feed rates. The main pressure roller should be at 2.5 - 3bars (approx. 20-25 kg). In case of deviation, the machine parameters must be adjusted in consultation with the respective machine manufacturer or REHAU.



HOMAG	AT10 (up to 10m/min.)		AT20 (up to 20m/min.)	
parameters	pro	plus	pro	plus
temperature nozzle	490 °C	350 °C	650 °C	650 °C
pressure nozzle	1,6 bar	1,6 bar	4 bar	1,5–2,0 bar



BIESSE AirForce	P1/2 (Akron) up to 18m/min.		P3/4 (Stream) up to 30m/min.	
parameters	pro	plus	pro	plus
temperature nozzle	480 °C	360 °C	580 °C	420 °C
air volume	1100 nl/min.	480 nl/min.	1100 nl/min.	950 nl/min.



HEBROCK airTronic	$V_f = 10\text{m/min}$	
parameters	pro	plus
temperature aggregat	450 °C	375 °C
air volume	480 nl/min	280 nl/min



FELDER advantEdge	$V_f = 10\text{m/min}$	
parameters	pro	plus
temperature blower	500 °C	450 °C
temperature nozzle	310 °C	250 °C
air volume	500 nl/min	400 nl/min

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

7. Processing parameters for nir process



The NIR technology works in a wavelength range close to the diode laser and is based on the activation of absorbers. An edgeband calculator provided by the machine manufacturer is available for the individual setting of processing parameters, with the help of which it is possible to convert the specific energy values $E_{\text{spec.}}$ [J/cm²] of RAUKANTEX edgebands (plus and pro) recommended by REHAU into device-specific performance values [kW].

8. Frequently asked questions

Laser technology:

Problem	Problem Diagnosis
1 Open joints on long edge	<ul style="list-style-type: none"> - Incorrect laser coverage setting - Incorrect pressure zone setting - Angularity of form cutting
2 Open joint in corner	<ul style="list-style-type: none"> - Edge and board feed not synchronised - Edge overhang too long/short - Laser radiation start/end not compatible
3 Too little adhesion / peel strength	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Energy specification not compatible with the edge - Dirty or missing functional layer
5 Edge jams in the hopper	<ul style="list-style-type: none"> - Longitudinal warping or width fluctuation of the edge - Retaining device set too low
6 Machine temperature sensor switches off	<ul style="list-style-type: none"> - Incorrect laser coverage setting - Laser penetration due to insufficient colouring of the edge

Hot-Air technology:

Problem	Problem Diagnosis
1 Open joints on long edge	<ul style="list-style-type: none"> - Pressure setting too low - Incorrect pressure zone setting - Angularity of form cutting
2 Open joint in corner	<ul style="list-style-type: none"> - Edge and board feed not synchronised - Edge overhang too long/short - Hot-air application start/end not compatible
3 Too little adhesion / peel strength	<ul style="list-style-type: none"> - Functional layer thickness outside tolerance - Pressure zone setting incorrect (lift, pressure) - Temperature setting not compatible with the edge
4 Functional layer smudged	<ul style="list-style-type: none"> - Temperature setting not compatible with the edge (correct specifications for RAUKANTEX pro or plus) - Nozzle pressure too high
5 Edge jams in the hopper	<ul style="list-style-type: none"> - 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 temperature sensor switches off	<ul style="list-style-type: none"> - Check compressed air supply

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