Engineering progress
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RAUKANTEX

Technical delivery specifications

REHAU

Contents

RAUKANTEX – Technical delivery specifications

1. Scope of application

This technical delivery specification forms part of the contract and applies to RAUKANTEX edgebands. It defines and limits the range of REHAU's services. The material and product characteristics described in the following relate to the product as supplied. This condition has been documented by means of appropriate retained samples.

2. Range of application

RAUKANTEX edgebands are used to cover the cut edges of substrate boards in the furniture industry. They are designed for indoor use and are specially stabilised. Depending on edgeband material, colour, and installation situation, their colour may change slightly over years of use.

3. Dimensions and tolerances

You can obtain the standard tolerances for RAUKANTEX edgebands from your contact partner upon request or you can also find them online (depending on the material) under **www.rehau.com/TI-raukantex**.

Functional edgebands

RAUKANTEX pro – the perfectionist

Edgeband with polymer functional layer

Get perfect, seamless components with the 100% polymer functional layer. 100% colour match. 100% adhesive-free – tried and tested industrial quality.
Materials: PMMA, PP, ABS, PET

- Moisture resistance
- UV resistance
- Adhesion/hardness
- Appearance

Functional layer can be seamlessly fused

RAUKANTEX plus – the entry-level edgeband

Edgeband with TPU functional layer

A polymer-based, colour-matched functional layer on the reverse side gives the components a seamless appreance. 100% adhesive-free.
Materials: PMMA, ABS
The Plus coating is only available in the stock collection.

- Moisture resistance
- UV resistance
- Adhesion/hardness
- Appearance

Functional layer with barely perceptible joint

Adhesive edgebands

RAUKANTEX pure – the standard

Primer edgeband

Adhesive is melted before it is applied to the board or edgeband.
Materials: PMMA, PP, ABS, PET, PVC

Example: EVA adhesive:

- Moisture resistance
- UV resistance
- Adhesion/hardness
- Appearance

Example: PUR adhesive:

- Moisture resistance
- UV resistance
- Adhesion/hardness
- Appearance

Adhesive bond with visible joint

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

Hot air technology
With this process, compressed hot air is used to melt the functional layer.

NIR technology
Thermal energy can be quickly and precisely transferred with near infra-red technology.

4. General material properties

4.1. Edgeband materials

	RAU-PP colour, decor and natura	**RAU-PP** designo	**RAU-ABS** colour, decor and natura	**RAU-ABS** basic edge	**RAU-PMMA** colour, decor
Shore hardness D DIN ISO 48-4: 2021-02	75 ± 3	75 ± 3	70 ± 4		80 ± 3
Vicat softening temperature ISO 306, method B/50	approx. 100 °C	approx. 100 °C	approx. 90 °C		approx. 80 °C
Density as per EN ISO 1183				approx. 0.6 g/cm³	
Ball indentation hardness DIN EN ISO 2039, part 1					≥ 80 N/mm²
Light fastness DIN EN ISO 4892-2 Process B Assessment according to grey scale ISO 105-A02	Level 7-8	Level 7-8	≥ level 6		≥ level 6
Shrinkage for edgeband thicknesses 0.4–4.0 mm 1 h at 90 °C in a hot cabinet, open storage	≤ 0,3 %	≤ 0,3 %			≤ 1,0 %
Shrinkage for ≥ 1.7 mm edgeband 1 h at 90 °C in a hot cabinet, open storage			≤ 1,7 %	≤ 0,3 %	
Shrinkage for ≤ 1.5 mm edgeband 1 h at 60 °C in a hot cabinet, open storage			≤ 0,3 %		
Water vapour resistance following DIN EN 438-2 item 14		Level 5			

	RAU-PVC colour, decor and natura	**RAU-PP** 4531 4639 (eco) floor	**RAU-PVC** 1195 floor	**RAU-PP** 4581 4689 (eco) floor	**RAU-PVC** 1699 floor	**RAU-PET** magic 1	**RAU-PP/SRT** soft
Shore hardness D or A DIN EN ISO 7619-1	79 ± 4 (D)				75 ± 4 (D)		70 to 90 (A) as specified in formulation
Vicat softening temperature ISO 306, method B/50	approx. 67 °C		approx. 73 °C		approx. 65 °C	approx. 76 °C with aluminium insert	
Tensile strength DIN EN ISO 527-2			≥ 30 N/mm²				
Elongation at break DIN EN ISO 527-2			0 – 5 %				
Surface resistance, measurement with special electrode at 10 V		$5x10^4$ < R < $5x10^6$ Ohm	$5x10^4$ < R < $5x10^6$ Ohm				
Volume resistance (related to 0.8 mm edgeband thickness) 100 mm edgeband on tin underlay Mount 50 mm brass electrode, at 10 V		$5x10^4$ < R < $5x10^6$ Ohm	$5x10^4$ < R < $5x10^6$ Ohm				
Light fastness EN ISO 4892-2 Process B Assessment according to grey scale ISO 105-A02	≥ level 6					≥ level 6	≥ level 6
Shrinkage for ≥ 1.7 mm edge-band 1 h at 90 °C in a hot cabinet, open storage	≤ 1,7 %					< 0,3 %	
Shrinkage for ≤ 1.5 mm edge-band 1 h at 60 °C in a hot cabinet, open storage	≤ 0,3 %		≤ 0,3 %		≤ 0,3 %	< 0,1 %	
Fire behaviour DIN 4102 work-sheet 4	self-extin-guishing		self-extin-guishing		extinguishes after the acting flame has been withdrawn		
Classification according to EN 13501-1:2018		S		S			

4.2. Functional layer materials

	RAUKANTEX pro	RAUKANTEX plus	RAUKANTEX OFL
Shore hardness D or A DIN EN ISO 7619-1	58 ± 3 (D)	approx. 92 (A) approx. 35 (D)	90 (A) 35(D)
Melting point (DSC) DIN EN ISO 11 357-1 (heating rate 10 K/min.)	150 ± 15 °C	115 ± 20 °C	135 ± 15 °C
Density according to EN ISO 1183	0,85 - 0,93 g/cm³	1,2 - 1,3 g/cm³	0,95 g/cm³
Tensile strength to ISO 527	> 14 MPa	–	–

4.3. Gloss level

The gloss level is an important product feature for surfaces, and is achieved using UV lacquers. Depending on the surface quality and perspective, light is reflected differently, meaning the surface appears more or less glossy – what is known as the "shine effect".
REHAU measures the gloss level at an angle of 60 degrees in accordance with DIN 67530, generally on smooth surfaces.

The article-specific gloss level can also be measured directly on the embossing. A comparison of gloss level results with the measurement on smooth surfaces is not given here.

Tolerances for lacquered edgebands:

Gloss level	Tolerance in gloss units
6 to 100	± 3

Special lacquers (EM, SM, SHGL, GLS) can have different tolerances. Special tolerances upon request.

Tolerances for unlacquered edgebands:
The tolerance range for unlacquered edgebands is considerably larger. This concerns what is known as machine gloss, which empirically speaking lies between 0–40 gloss units, depending on which production technique (calender/extrusion), which surface design (embossed/unembossed) or which edgeband material (ABS/PP/PMMA) is used.

4.4. Printing/painting

From the standpoint of visual inspection, some printed edgebands can have non-printed areas ≤ 1,50mm along the edge. This will not affect the end product due to the subsequent processing. This non-printed area is therefore not a defect in quality, and does not constitute a complaint.

5. Special notes for RAUKANTEX edgebands

5.1. ABS edgebands

It is recommended to clean edgebands made from RAU-ABS with special plastic cleaners.
Substances with a high solvent or alcohol content should not be used for cleaning, as this might cause the edgeband material to become brittle or dissolve.
If strong pressure is applied while rubbing, intensive or dark colours may come off at the processed radius.
For further information on cleaning, please refer to point 8. For more information on processing, please refer to the corresponding sales documentation.

5.2. Transparent PET and PMMA edgebands

When using release or cleaning agents, check carefully that they do not contain alcohol and solvents, as these must not come into contact with transparent edgeband materials.
This especially applies to antistatic agents and/or coolants. Cracks may form if agents containing alcohol or solvents are used, even after an extended period of time.
For further information, please refer to the corresponding sales documentation.

Tips on cleaning and reducing stress cracking:
Essentially, all transparent hard plastics are susceptible to stress cracking if they are over stretched and are cleaned with even mildly aggressive cleaning agents. Depending on the extent to which the material is over stretched, stress cracking can be seen as a deep material crack, as a hairline crack, or as cloudiness on the transparent material. For this reason, it is crucial that the edgeband is applied around the external radius of the board free from tension. This is achieved by sufficiently heating the edgeband material with UV lamps or hot air.

5.3. Edgebands with protective foils

The print on the protective foils of edgebands is only partially resistant to solvents.
The protective film must be removed from the edgeband directly after final assembly.
The standard protective film (transparent print) is not UV resistant (e.g. for painting). We recommend our UV-resistant black and white protective film for special applications of this kind. The protective foil can be up to 3mm short on each side. This is due to the manufacturing process and is not a ground for complaint.

5.4. RAUKANTEX pro and plus in PVC

RAUKANTEX pro or plus in PVC material can be processed using the hot air method

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Using laser technology to process RAUKANTEX pro or plus in PVC material is not authorised, as harmful gases may be emitted.

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6. RAUKANTEX classification

6.1. RAUKANTEX pure (primer edgebands)

RAUKANTEX pure edgebands are designed for processing on standard edgebanding machines using the hot-melt adhesive process. For this purpose, the edgebands are coated on the back with a universal primer suitable for use with hot-melt adhesives. The primer systems used are tested with products from reputable adhesive suppliers (Henkel, Jowat, Fuller, Kleiberit). Customers should carry out their own processing trials to check the suitability of all adhesives they use (EVA/PO/APAO/PUR, etc.).
The processing instructions of the adhesive supplier should be observed.

6.2. RAUKANTEX plus/pro (zero-joint edgebands)

RAUKANTEX plus/pro zero-joint edgebands are designed for processing with edgebanding machines using the CO_2 or diode laser, hot air, or NIR method. For this purpose, the edgebands are provided with a functional layer. The suitability of the RAUKANTEX zero-joint edgebands must be determined by the customer by means of processing trials.

Surface smoothness:
Due to the high energy input using the zero-joint procedure, processing RAUKANTEX laser edge on chipboards can lead to a rough edgeband surface. The energy input into the functional layer conducts into the chipboard edge and, depending on the edgeband thickness (< 1.5 mm) and surface finish, (where the glossier = the more critical) the chipboard structure can telegraph itself onto the surface of the narrow edge. In these cases, we recommend the use of special functional layers after consulting the REHAU Application Engineering Department. This effect is not critical for application on MDF boards.

The functional layer of RAUKANTEX zero-joint edgebands is unlacquered and therefore classified as machine gloss surface quality. This can vary with regard to gloss level and surface smoothness as a result of manufacturing dependencies. This has no effect whatsoever on the function and melting behaviour of the functional layer in processing.

RAUKANTEX pro functional layers based on PP have a high level of light fastness. Functional layers OFL 323 and 373 may change colour over time due to their material properties.

For wood edging, we generally recommend our OFL functional layer. The suitability for the respective application should be assessed independently through a processing trial.

REHAU recommends use of extraction when processing the edgeband, as melting the functional layer materials can cause harmful substances to form. The extracted air can be released into the environment if the technical instruction on air quality control is complied with – check the local regulations in each case. If cleaned air is returned, dust particles and gaseous components must be filtered in compliance with the machine and filter manufacturer's specifications.

6.3. RAUKANTEX edgeband range

6.3.1 RAUKANTEX colour and decor

RAUKANTEX colour and decor edgebands are intended for use with furniture components without special water vapour resistance requirements. The formulations PP1341/PP1541 have additional stability and an enhanced level of light fastness (5,000 h to DIN EN 513 – method 2 – S).

Metallic colors differ from standard/uni colors.
- Color effects (depending on the viewing angle) cannot be avoided.
- Due to the pigment used, isolated surface defects cannot be avoided.

6.3.2 RAUKANTEX designo

RAUKANTEX designo edgebands made of RAU-PP are intended for use on pieces of furniture that have special water vapour resistance requirements.

6.3.3 RAUKANTEX eco

RAUKANTEX eco edgebands made of RAU-PP embody our sustainability concept, as 50% of the polymer base material is replaced with recycled material.

6.3.4 RAUKANTEX evo

RAUKANTEX evo edgebands made of RAU-PP embody our sustainability concept, as a part of the polymer base material is replaced with non-fossil recycled material.

6.3.5 RAUKANTEX magic 1

RAUKANTEX magic 1 edgebands made of RAU-PET with aluminium insert are characterized by a realistic metal effect.

6.3.6 RAUKANTEX magic 2
RAUKANTEX edgebands with an aluminium or stainless steel surface. The aluminium or stainless steel surface is provided with UV protection lacquer and a protective foil.

6.3.7 RAUKANTEX magic 3
RAUKANTEX edgebands made of RAU-PP have a polymer aluminium or chromium surface and a protective film. They are intended for use with furniture components without special water vapour resistance requirements.

6.3.8 RAUKANTEX soft
RAUKANTEX soft edgebands with a seal/buffer element are intended for use as a dust seal or compression seal.

6.3.9 RAUKANTEX basic edge
RAUKANTEX basic edge made of foamed RAU-ABS is used as a supporting edgeband in lightweight boards or as a bottom edge of low-density chipboards for thin edge fabrication. Its surface is lightly structured and almost entirely homogeneous.

6.3.10 RAUKANTEX paintable
Program of edgebands suitable for coating with paint. RAUKANTEX lacquered edgebands are available in ABS and, on request, in PP variants. For further information, please refer to the Technical Information RAUKANTEX paintable (M01693).

6.3.11 RAUKANTEX floor
RAUKANTEX edgebands made of electrically conductive RAU-PVC 1195 (thickness ≥ 0.5 mm) with primer are self-extinguishing and are used to discharge static electricity on raised floor elements.
Please note that, due to the ingredients used, colour may come off if it is not handled correctly.

The formulation for RAUKANTEX edgebands made of RAU-PVC 1699 with primer reduces creaking noises and makes them self-extinguishing. These edgebands are used to cover the cut edges of raised floor elements.

RAUKANTEX edgebands made of RAU-PVC 1293 with primer have a defined brittleness and are self-extinguishing. They are used to cover the cut edges of raised floor elements made of mineral material.

If printed with text the print will have only limited resistance to abrasion and solvents.

6.3.12 RAUKANTEX door
RAUKANTEX door edgebands made of RAU-PP are specially intended for use with door rebates. These edgebands are only available in RAU-PP with variants in pro and pure.

It should be noted that certain functional layers have only limited UV resistance (depending on storage conditions). Functional layers OFL 323 and 373 may change colour. In the processed state, however, this plays an insignificant role, as the joint line is very thin.

Please keep in mind there are separate tolerances for this product range.

6.3.13 RAUKANTEX health.protect
RAUKANTEX edgebands can also be manufactured to be antibacterial. If this is something you require, please get in touch with your REHAU contact partner. You can find information on the active ingredient (silver phosphate glass) and its effects in our technical information M01678, "RAUKANTEX health.protect".
www.rehau.com/TI-raukantex

6.3.14 RAUKANTEX fire.protect
REHAU fire.protect is an edgeband range of self-extinguishing edgebands with halogen-free flame retardants. More information is available in the technical information M01677 and M01692.

6.3.15 RAUKANTEX natura
RAUKANTEX natura is used for recreating a natural wood grain in the milled radius and at the corners (for this, an overlap of 2 mm is required on both sides during the processing). To achieve this, colours are mixed in non-homogeneous manner. The actual effect becomes visible when the edgeband is processed. The non-homogeneity gives the effect of a wood grain in the milled radius.

6.3.16 RAUKANTEX light up
Self-illuminating edgeband. Further information is available in our technical information M01679. Processing with conventional processing methods is possible without any problem.

6.3.17 RAUKANTEX pigmento
The edgeband material is additionally mixed with particles/glitter or flakes that spread out randomly in the edgeband.

6.3.18 RAUKANTEX wood (solid wood veneer edgebands)

Solid wood veneer edgebands come in different thicknesses and are sometimes glue-laminated in multiple layers for edge banding substrate boards in the furniture industry. The shelf life in the unopened packaging and under normal temperatures (20 °C/65% rel. humidity) is at least 12 months. After expiry of this period, you should first carry out processing tests prior to use. Incorrect storage might cause the veneer edgebands to become brittle.

6.4. Article supplements

These supplements describe additional features of the edgeband and are always referred as a supplement to the actual edgeband product family.

- **Duo**
  Describes the structure of the edgeband.
  At least two different colours are placed on each other, wherein transparent is also considered as a colour.

- **Bicolor**
  Similar structure to that of Duo. However, the colours are placed here one after the other.

- **Contura**
  The surface of the edgeband is given a contour.

- **scratch.protect**
  Features added scratch resistance as compared to normal edgebands.

7. Processing instructions

RAUKANTEX edgebands are suitable for continuous production lines and machining centres. The exact processing parameters required depend on the glues and additives used, environmental conditions, and the machines and tools used. The customer must ensure edgeband adhesion after fabrication using suitable methods and tests.

The edgebands to be processed must be conditioned at normal room temperature (approx. 18 °C to 25 °C). It is recommended to open the packaging.

Due to their material properties (formulation and pigmentation), edgebands of certain colours may be subject to stress whitening if the selected board radius is too small.
The following serves as a basic guide for radius compatibility:

- Edge thickness 0.40–1.3 mm > minimum external radius approx. 20 mm
- Edge thickness 1.5–2.0 mm > minimum external radius approx. 30 mm
- Edge thickness 2.1–3.0 mm > minimum external radius approx. 50 mm

Smaller radii are certainly possible, but these must be verified individually based on the influencing parameters (machine, adhesive, programming, edgeband material).

Due to their material properties, edgebands of certain colours may be subject to stress whitening if the selected board radius is too small.

You will find more usage instructions in the relevant sales documentation and technical information.

8. Cleaning/disinfection

8.1. Cleaning

Below, you will find an overview of the resistance of edgeband materials to chemicals that are/may be an ingredient in commercially available cleaning agents.

This overview only refers to the pure base material of the edgeband. Other influencing factors are the composition of the cleaning agent and the exposure time and volume. The listed resistance always refers to the basic substance or the base of the cleaning agent used.

8.2. Disinfection

Various disinfection agents have been tested on different edgeband materials. When used as intended in line with the specifications of the manufacturer, no changes to the edgeband could be determined. For more information, please contact your Applications Engineering Department.

We recommend testing disinfection agents on a less-visible spot first and following the manufacturer's specifications.

	PP	ABS	PMMA	PVC
Acetone	+	–	–	–
Benzine	+	0	+	+
Cyclohexanone	+	–	–	0
Acetic acid, concentrated	+	–	+	0
Ethanol, 96% (alcohol)	+	+	–	0
Ethyl acetate, vinegar	+	–	–	–
Heptane, hexane	+	0	+	+
Isopropanol	+	0	–	+
Methyl ethyl ketone	+	–	–	–
Sodium hypochlorite, 2% active chlorine	+	+	+	+
Hydrogen peroxide, 30% aqueous	+	+	+	+
Hydrogen peroxide, 10% aqueous	+	+	+	+

+ resistant 0 limited resistance – not resistant

Cleaner-specific additives (oils, fragrances, etc.) may also have a harmful effect on the polymers. For this reason, the suitability of each cleaning agent must be checked individually (it is recommended to test the cleaner on a less-visible spot).

9. Surface design
Surfaces are specified in accordance with the REHAU embossing and gloss level collection. In the case of lacquered edgebands, the gloss level of the lacquer influences the visual effect of the embossing. With matt edgebands, the embossing appears less pronounced, while high-gloss edgebands emphasize the embossed structure and the embossing appears deeper and more distinctive (the embossing collection shows a medium gloss level of 29 units).

Deviations caused by processing or material should not adversely affect the appearance when viewed from a distance of 0.5 m (1.6 ft).

10. 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 are:
- room temperature (approx. 18 °C to 25 °C)
- dry
- clean
- no solvent vapours
- protected from light

RAUKANTEX soft PVC must not be stored longer than 6 months after delivery.

RAUKANTEX plus (with a pre-coating of thermoplastic glue on the back) must not be stored for longer than six months after delivery. The storage temperature must not exceed 25 °C to prevent the individual layers from sticking together.

11. Scope of supply and packaging
Coil packaging/packaging of RAUKANTEX edgebands is carried out as specified in the order. For the standard stock range, the units are packaged according to standard specifications.
A length tolerance of +/- 2% (at room temperature – approx. 18–25 °C) applies for production orders.

A length tolerance of +/- 5% (at room temperature – approx. 18–25 °C) applies to zero-joint edgebands PRO from the standard stock range due to production-technical dependencies.

12. Function
It is the responsibility of the customer to establish the suitability of our product for the specific application as part of their own meaningful functional tests for series delivery.

13. Modifications
As the responsible supplier, REHAU reserves the right to make modifications or variations for the purpose of improvement and further development of the described products; changes to the specifications agreed herein being excluded. The latest edition of the Technical Delivery Specifications applies in this case.

14. Compliance with standards
Changes to requirements resulting from modification of the standards listed in this Technical Delivery Specification must be reported and requested by the customer. If no other agreement is in place, the status of standards valid when this TDS was issued shall apply.

Notes

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