
RAUVISIO WAVE

Technical information

This "RAUVISIO wave" technical information is valid from December 2016.

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1 INFORMATION AND SAFETY WARNINGS

Validity

This Technical Information is valid worldwide.

Current relevance of the Technical Information

For your own safety and in order to ensure correct application of our products, please check regularly whether a newer version of this Technical Information is already available.

You can obtain the current version of the document from your responsible specialist trade, your REHAU sales office or you can download it at www.rehau.com.

Navigation

At the beginning of this Technical Information, you will find a detailed table of contents with hierarchical headings and the corresponding page numbers.

Pictograms and logos



Safety warnings



Legal information



Important information



Information on the Internet



Your advantages

Intended use

RAUVISIO products may only be configured, processed and assembled as described in this technical information. Any other use is deemed to be outside the intended scope of application and is therefore not permitted.

Suitability of the material

The relevant, valid Technical Information is to be observed for the processing / assembly and use of RAUVISIO wave. Our Technical Information is based on laboratory values and knowledge acquired up to the time of printing. The transmission of this information includes no assurance of the properties of the products described. No explicit or implicit guarantee may be derived from it.

The information does not release the user/purchaser from their obligation to assess the suitability of this material and the correct processing thereof to attain the required results in terms of objective and application.

Forwarding of information

It is essential to ensure that your customers, also including end customers, are informed of the necessity to observe the current Technical Information as well as instructions for care and use for RAUVISIO wave products.

The instructions for use and care must be provided to the end customer either by yourself or by your customers.

Note to our distribution partners and customers that press RAUVISIO wave Laminate and resell the composite sheets: Please inform your customers of the requirement to observe the current Technical Information and make it available to them.

Note to fabricators of pressed RAUVISIO wave boards: Please ensure that as a minimum the assembly guidelines (chapter "8 Assembly guidelines – Summary"), and the instructions for use and care (chapter "9 Instructions for use/care for the end user") are handed over to your customers and end customers.

Safety warnings and installation instructions

Observe the instructions on the packaging, accessories and installation instructions. Keep the installation manuals, and ensure that they are always available.

If you do not understand the safety warnings or installation instructions, or find them unclear please contact your local REHAU sales office.

Applicable regulations and safety equipment

All applicable safety and environmental regulations as well as the regulations of the Factory Inspectorate and Employers Liability Insurance must be strictly complied with. These always take priority over the instructions and recommendations provided in the Technical Information.

Always use safety equipment such as

- Gloves
- Safety goggles
- Ear protection
- Dust mask

Adhesives and additional work equipment

Observe the safety regulations for the adhesives used and ensure that they are strictly observed.

Keep additional working equipment, e.g. alcohol-based cleaners and other easily flammable materials, in safe and well ventilated locations.

Ventilation / extraction, production dust

Ensure good ventilation and extraction around the processing machines.

If production dust is inhaled, ensure a supply of fresh air, seek medical advice if symptoms occur.

Safety at work and disposal

The product RAUVISIO wave is harmless to the environment. The dust created during processing is not toxic. The dust concentration is to be minimised through suitable protective measures such as extraction and use of a dust mask.

Dust from RAUVISIO wave presents no specific risk of explosion.

Disposal code in accordance with the waste catalogue ordinance:

- 170203 / wood, glass and plastic construction and demolition waste
- 120105 / Waste from mechanical shaping processes and from the physical and mechanical surface treatment of metals and plastics (plastic swarf and turning swarf)

Fire behaviour

Due to its composition of polyolefin and wood material, RAUVISIO wave demonstrates favourable fire behaviour and is classified to DIN 4102-B2 as normal flammability. In the event of a fire, no toxic substances such as heavy metals or halogens are released. The same fire fighting techniques can be used as for construction materials containing wood.

Fire-fighting

Suitable extinguishing agents for fire-fighting are

- Water spray
- Foam
- CO₂
- Extinguishing powder

A full water jet is unsuitable for safety reasons.

When fire-fighting, wear suitable protective clothing and if necessary self-contained breathing apparatus.

2 RAUVISIO WAVE

2.1 Product description

RAUVISIO wave impresses with its unique wave surface finish. Depending on the lighting direction, it creates fascinating light and shade effects, providing dynamics on the furniture surfaces. The striking design is ideal for furniture fronts or for creating highlights in shop designs. The wave-surface pattern is reminiscent of a deep-milled and lacquered MDF board.

As the surface no longer needs to be manually processed, RAUVISIO wave offers considerable time and cost savings in production.

Naturally RAUVISIO wave also offers all the benefits provided by the surface series of REHAU: The laminate range combines high resistance to shock and scratches, both during processing during subsequent usage. During processing, RAUVISIO wave can be processed using all standard woodworking tools.



The wave pattern is positioned parallel to the narrow side (1300 mm).

2.2 Product composition

RAUVISIO wave composite/complete is a composite material consisting of the individual components listed below. The properties of the individual materials as well as correct processing are critical for the overall quality of the components.

Laminate surface:

- Coated, scratch-proof PO (polyolefin) foil
- WPC base layer
- Fleece layer for secure adhesion

Adhesive

MDF wooden substrate

Adhesive

Laminate balancing sheet:

- Fleece layer for secure adhesion
- WPC base layer
- Embossed / smooth scratchproof PO (polyolefin) foil

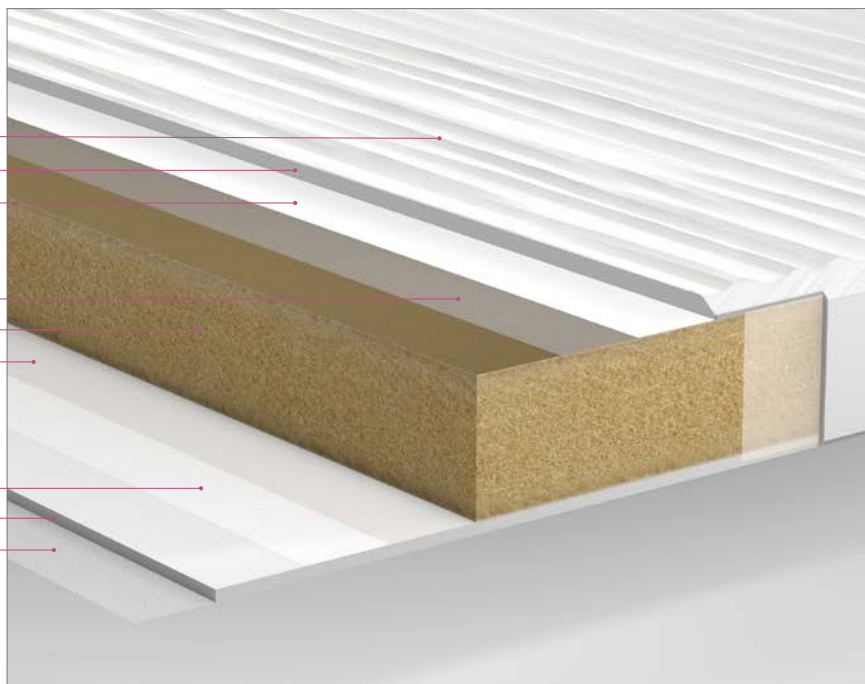


Fig. 2-1 RAUVISIO wave product composition

Layer		Material / thickness / weight	Description
Laminate surface	Decorative foil	Matt, scratch-resistant hard coating PO-based foil	Increasing the chemical resistance as well as the abrasion and scratch resistance Defined matt appearance
	or primed foil	Coating via primer PO-based foil	Primer ensures a good bond of the laminate to the paint system
	WPC	Max. embossing 1.8 mm	Permits the embossing and applying a texture to the surface Ensuring the material rigidity
	Fleece	Surface weight approx. 45 g/m ²	Embedded in WPC matrix, the fleece ensures the bond to the adhesive
Surface adhesive		Thin layer of adhesive	Ensures safer bonding with the substrate material Adhesive systems approved for the application are used in combination with the relevant components
Substrate material		MDF 14.8 mm	Approved substrate materials and thicknesses are used to ensure permanently consistent quality in the relevant application
Laminate balancing sheet side	Fleece	Surface weight approx. 45g/m ²	Embedded in WPC matrix, the fleece ensures the bond to the adhesive
	WPC	1.2 mm	Thanks to its material composition, ensures the stability of the entire system during climatic changes Ensuring the material rigidity
	decorative foil	Embossed, scratch-resistant hard coating PO-based foil	Increasing the chemical resistance as well as the abrasion and scratch resistance Colour-matched to the top surface laminate
	or primed foil	Coating with primer on the unembossed PO-based foil	Primer ensures a good bond of the laminate to the lacquer system

2.3 Individual components

All RAUVISIO wave components can be ordered separately:

Laminate (hard-coated; primed)

RAUVISIO wave is a WPC-based composite material. The surface is equipped with a hard-coated decorative or primed, foil, which can be lacquered.

The emboss of max. 20 and min. 1.2 mm creates the wave effect.

Balancing sheet (embossed, hard-coated; unembossed, primed)

For the surface – wooden substrate system composite a technically coordinated balancing sheet was developed, which had been ideally adapted to the properties of the composite structure.

Thanks to the material thickness of the balancing sheet of 1.4 mm, non-permissible deformations due to the influence of humidity/heat/cold are avoided. The working method of the balancing sheet is based on coordinated material parameters in particular with regard to the thermal and hygroscopic properties.

Edgeband collection

For RAUVISIO wave REHAU offers colour-matched edgeband designs in the versions RAUKANTEX pure, plus or pro.

The edging is carried out using a modified chamfer which applied as standard below 45° under the root of the waves.

	RAUKANTEX pure Traditional primer edgeband	RAUKANTEX plus Invisible joint entry-level	RAUKANTEX pro ¹⁾ Permanently jointless
Description	Available in all dimensions and decorative designs	The invisible joint entry-level: A coloured adhesive pre-coated on the rear ensures an invisible joint on the component	Perfect invisible joint thanks to 100 % polymer functional layer
Properties	Traditional edging	Invisible joint - Colouring of the adhesive layer in defined standard colours	Permanently invisible and functional joint - Precise colour matching of the polymer functional layer with the decorative designs - No rubbing off of the joint in daily usage
Delivery	Available customer-specifically or from the REHAU stock programme	Available from the REHAU stock programme Minimum quantities and short delivery times	Customer-specifically or from the REHAU stock programme
Processing	Conventional processing - Can be processed using all standard adhesive types - Processing using mechanical adhesive application - In straightline edgebander and edgebanding centre	Versatile processing - Can be processed using laser, hot-air, plasma and NIR - Suitable for straightline edgebander and edgebanding centre	

1) specially recommended for VARIO

RAUKANTEX lacquerable edgeband

RAUKANTEX edgeband, which can be lacquered, made from RAU-ABS must be fully lacquered over. Lacquers made from PUR (or DD lacquer) are particularly suitable for this. The relevant lacquer systems must always be agreed with the manufacturer and must be confirmed via processing trials. The edgeband surface itself is untreated, unembossed and without any significant requirement in terms of colour, homogeneity or gloss level.

2.4 RAUVISIO wave composite pressed board

In addition to the individual product components, in particular the right processing parameters are critical for the permanent, high quality of the system component. To ensure the quality of the pressed board, REHAU offers the system component comprising surface – substrate material – balancing sheet as pressed board in a large format (1300 x 2800 mm).



Fig. 2-2 RAUVISIO wave composite pressed board in the colour bianco



The pressing of the individual components is carried out by authorised REHAU fabricators. The prerequisite for this is checking and fulfilling the defined quality requirements.

2.5 Finished component RAUVISIO wave complete

The REHAU surface configurator (www.rehau.com/boards) can be used to specify individually fabricated fronts made from RAUVISIO wave and matching edgebands in invisible joint quality from one piece.



Fig. 2-3 RAUVISIO wave finished component in the colour bianco

3 TRANSPORT, PACKAGING AND STORAGE

3.1 Transport and loading information



Upon receipt of the goods, the external packaging must be immediately checked for signs of damage:

- If there is any damage, open the packaging in the presence of the haulier and record any damage to the goods
- The haulier's drivers are to confirm the damage by stating their name, the haulier, date and signature.
- The damage is to be reported to the haulier within 24 hours.

The haulier's insurance will not accept liability in the event of failing to do so!

Delivery

Boards or laminates are shipped loaded on squared timber or pallets due to the required planarity depending the despatch method.

- Following delivery, the packaging units must be unloaded with a industrial trucks or similar equipment.
- If the relevant technology is not available, the boards can be unloaded by hand. It is to be ensured when doing this that the boards do not become dirty and are not subjected to any mechanical loads.
 - Protective equipment such as e.g. gloves must be worn during manual handling as sharp edges can cause cuts.
 - Suction lifters, lifting handles and board transporters must be used, see also chapter "5.1 Unpacking".
 - Deflection is not permitted when transporting the RAUVISIO wave boards horizontally.

3.2 Packaging



Protect boards with foam materials.

With RAUVISIO wave the edges and surfaces must be protected. Contamination between individual boards is to be avoided when moving, picking and processing boards. Otherwise the stack weight / dead weight of the boards can inevitably lead to pressure marks on the laminate surface.

- Protect surfaces with foam materials.

This will prevent marks being caused due to the pressure on surface when the components are stacked.

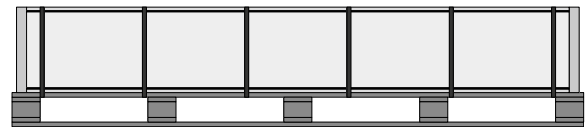


Fig. 3-1 Pallet packaging



Fig. 3-2 4-timber storage

4 PROCESSING CONDITIONS

4.1 Edgeband material

The use of RAUKANTEX edgeband material is recommended to create form-fit interlocking between the RAUVISIO wave surface and the board edges. The best visual results are achieved by using RAUKANTEX pro. No joint is visible here thanks to the pigmented polymer functional layer that matches the edgeband colour. In the RAUKANTEX edge product range, an ABS (acrylonitrile-butadiene-styrene) edgeband is supplied to match the surface.

4.2 Processing single-layer laminate

4.2.1 Substrate material

Wooden substrates, lightweight boards or composite boards are suitable substrate materials for RAUVISIO wave. In order to achieve the optimal surface finish it is critical that the correct substrate is selected for the intended application.

In principle the substrate must be chosen so as to ensure sufficient planarity. This forms the basis for planarity in the pressed end product.

Another factor for a pleasant appearance is the surface texture of the substrate material. A fine surface texture helps ensure a smooth and therefore high-quality surface.

MDF board is the recommended substrate here. It has a very fine surface texture from which only very small fibres are pulled out during processing (sawing, milling, drilling, bonding). By comparison the quantity of fibres pulled out from a chipboard, OSB, or plywood panel is much greater. Resulting in the risk that the pulled-out material/contaminations will push through the laminate and will be considered "distracting". With chipboard, particles may come out of the middle layer, leaving pressure marks on the laminate. This risk does not arise when using an MDF substrate.



An MDF substrate is recommended for a high-quality surface pattern.

4.2.2 Adhesive

In addition to selecting the suitable substrate, the selection of the correct adhesive is important for the functionality of the system. Single-component, reactive PU hotmelts have become increasingly common in recent years. These adhesives can be easily applied to the board or substrate using rollers. A short pressure time is usually sufficient to ensure a high initial strength. To ensure a high surface quality, either continuous roller lamination systems or presses for

intermittent processing can be used.

In addition to hotmelt adhesives such as e.g. RAUVISIO FLAT LAM PUR, conventional PVAC-based adhesives are also suitable for bonding the wood substrate and fleece.

When choosing a suitable adhesive type, ensure an adequate adhesion strength to counteract the forces that can occur in different climatic conditions between the wood substrate and laminate and avoid the laminate moving over the wood substrate, an associated opening of the joint towards the edgeband and general signs of detachment.



Ensure sufficient adhesion/final strength.

An adhesion strength of approx. 80 % is achieved after just a few hours, the adhesive joint takes max. 7 days to achieve its final strength.

Checking the composite.

For special applications composite strength must be independently verified.

4.2.3 Balancing sheet

To qualify a functioning overall system that remains dimensionally stable when exposed to temperature and humidity loads, a balancing sheet is required that ensures stability in changing climatic conditions. Without a balancing sheet, signs of warpage are highly likely with RAUVISIO wave.

A symmetrical board composition generally provides the optimal resistance to warping. A special polymer cellulose balancing sheet has been developed for this purpose which is equal to the wave laminate in thickness and composition and therefore demonstrates similar properties under different climatic conditions, minimising signs of distortion. This must generally be used.

For special applications, component tests may be required to verify the quality of the entire composite. The use of the requested balancing sheet must be agreed for specific cases with the applications engineering department at REHAU. Please contact your relevant REHAU sales office for this.

5 BEFORE PROCESSING

5.1 Unpacking

Prior to opening of a packaging unit, the boards must be allowed to acclimatise to room temperature for a period appropriate to the time of year, but for at least 48 hours.



Carefully unpack the boards.

Care must be taken whilst opening the packaging to ensure that surfaces are not damaged by sharp objects. Suitable lifting equipment must be used to separate individual boards.

Open the package with a pair of scissors.
Do not use sharp objects!

1. Cut the packaging tape.
2. Cut the protective film vertically
3. With 2 people, or 4 vacuum suction lifters carefully lift the top board vertically, without displacing it, or carefully remove the box if individually packed.
4. Debris which can get trapped between the individual boards must be completely avoided or removed.

5.2 Check boards or laminates



Please check the RAUVISIO wave system components for the following points before further processing and therefore the finishing of the goods (see chapter “5.4 Documents for material warranty”):

- External damage, such as e.g. cracks or notches
- surface damage or defects
- planarity (when purchasing pressed boards)
- colour uniformity within the production batch

The surfaces of RAUVISIO wave are generally supplied with a cover panel. Despite this cover panel, it may be that there are minor scratches or pressure marks/defects in the laminates on delivery. These cannot be entirely avoided for technical production reasons and do not constitute a specific reason for complaint.

If consolidating several different laminates into an order, it should be ensured that only laminates with the same production number are used.

Consistency of colour across production batches must be checked prior to processing if different production numbers exist.

Colour uniformity must be checked in natural daylight, although bright sunlight must be avoided as there may be occasional minor visual impairments on the surface on delivery. These cannot be entirely avoided in an industrial production process for technical production reasons and do not constitute a reason for complaint.



Costs incurred as a result of the afore-mentioned points cannot be borne by REHAU. This also applies to consequential costs incurred during the further processing of faulty goods.

5.3 Conditioning



RAUVISIO wave and all other materials to be processed, such as e.g. edgebands, must be conditioned prior to processing at room temperature (min. 18 °C) for a period of at least 48 hours.

Processing is also carried out at room temperature. It is to be ensured, in particular during the colder months, that conditioning of all boards takes place. If there is insufficient acclimatisation of the laminate on the inside due to the stack size, the dwell time must be adjusted accordingly.

5.4 Documents for material warranty

Delivery notes and shipping labels must be retained to aid batch traceability in the event of a technical issue.

The inkjet printing on the narrow edge of the substrate can also be used to clearly identify a production batch. This must be communicated to the REHAU sales office in the event of a complaint.

6 PROCESSING

6.1 Proper handling of RAUVISIO boards

Placing the boards on the machine table

The machine table must be of sufficient size, must not have any sharp edges and must be thoroughly cleaned.

Alternatively: Cover the machine table with a clean base (wooden board, carton, etc.).

Cutting the boards

The nesting process is recommended to format the boards.

When formatting using a saw, observe the instructions for positioning the boards on the machine table (see above). In this case, use a scorer.

Between processing steps

All foreign bodies must be removed, and all surfaces cleaned after every milling / sawing operation.

For transport, position the boards vertically and separated on appropriate transport trolleys.

Alternatively: Stack the workpieces in layers with clean and flexible-box/foam material intermediate layer on a pallet.

Edging the workpieces

When applying edging to workpieces, use antistatic agents to prevent the adhesion of swarf.

Ensure that the boards are fed into the system properly and efficiently. Any loose swarf produced must be safely removed via extraction.

Drilling and milling

Extraction and blowing off must be used during drilling / milling operations to ensure swarf is safely removed.

Packing the workpieces

Stack the workpieces in layers with clean and flexible box/foam material intermediate layer on a pallet.

Use transport locks to avoid damage caused by shifting, etc.

6.2 Preparing the individual laminates

6.2.1 Pre-treatment of the laminate and substrate

Manual cutting of the laminate

To cut the laminate, the laminate must be rotated and processed on the saw bench. The aim is to prevent fraying out of the fleece with the processing direction.

Bonding of the laminate

RAUVISIO wave is fitted with a fleece on the underside. This fleece ensures a good bond of the laminate to the adhesive.

To ensure an adhesive performance that meets all requirements, it is recommended to produce line of samples and to test them accordingly.

To avoid damage due to the lamination process, ensure a clean processing environment and sufficient cleaning of the laminates and substrate materials. Here it is important that there are no particles on the laminate and substrate after cleaning. Foreign objects of this type could lead to defects during the lamination process that may become visible afterwards.

6.3 Edging

The use of RAUKANTEX edgeband material is recommended to create a form-fit interlocking between the RAUVISIO wave surface and the edges. The best visual results are achieved by using RAUKANTEX laser edge. No joint line is visible here thanks to the pigmented polymer functional layer in the edgeband colour. The RAUKANTEX edgeband product range can be supplied to match the surface in the materials ABS (acrylonitrile-butadiene-styrene).

The correct processing is described in the processing guidelines for RAUKANTEX color. For further information, please contact your REHAU sales office. The resulting component quality (e.g. adhesion of the edgeband, appearance and usage properties) depends on the machine settings and the board quality used and must be checked by the fabricator.



Fig. 6-1 45° chamfer over edgeband and surface

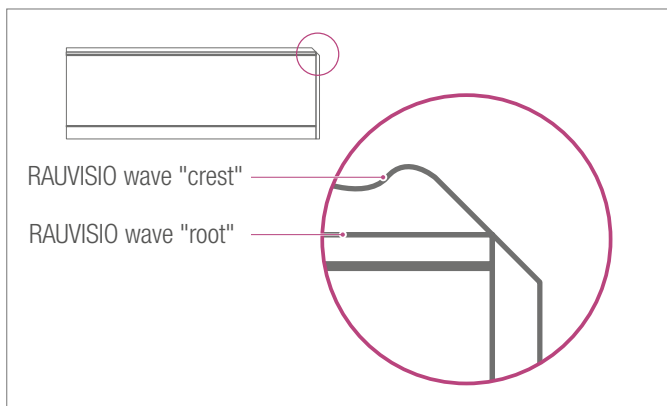


Fig. 6-2 45° chamfer across edgeband and surface material

In this process various cutting materials and axis directions of the tools and geometries can be used that provide the relevant surface pattern of the milling area (matt/gloss) depending on the quality requirement.

To achieve as uniform a surface finish as possible, high concentricity of the milling machine, high number of cutting blades and minimal feed rate to reduce the planing marks as well as taut tool guidance/tension and minimal, even chip removal when using a scraper to avoid different gloss effects and pulled-off material/vibration marks in the surface material to a large extent.



REHAU offers its customers both the standard primer edgeband RAUKANTEX pure, the invisible joint entry-level edgeband RAUKANTEX plus and the 100 % polymer invisible joint edgeband RAUKANTEX pro (previously RAUKANTEX laser edge).

6.4 The edged component

In addition to pure laminate and large size pressed board, REHAU gives customers the option to use the configurator to purchase customised, laser-edged components from one piece on request.



Fig. 6-3 Laser-edged component



The configurator for laser-edged components can be found at www.rehau.com/boards

7 TECHNICAL DATA

RAUVISIO wave was developed for vertical use in indoor areas. Horizontal usage and alternative applications must be tested for the specific purpose by the customer and compared to the relevant applicable requirements.

Depending on the application, the foil has a finish – for example the decorative foils BIANCO and MORO have a hard coating and the lacquerable version VARIO has a primer applied. For secure adhesion, fleece is worked into the underside of the laminate.

RAUVISIO wave is a WPC (Wood Polymer Composite) coated with a PO-based (polyolefin) foil.

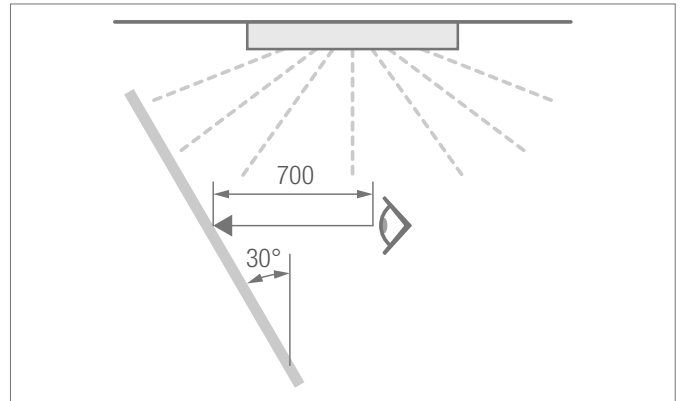
The general data for RAUVISIO wave at a glance:

Visual characteristics	Test standard	Requirement	Test result
Surface gloss level	AMK-MB-009, 09/2010	Measurement with 60° measuring geometry	PO decorative foil: ≤ 7 GLE
Colour	AMK-MB-009, 09/2010	no significant change to the master sample; even coverage properties	fulfilled
Surface	AMK-MB-009, 09/2010	uniform surface, surface defects must not have a distracting effect from a distance of 0.7 m. A flawless surface is not feasible due to the industrial production process; minor defects and surface irregularities are permitted.	fulfilled
Light-fastness	based on DIN EN ISO 4892-2, Process B (behind window glass)	Assessment according to the blue scale	≥ level 7
	Evaluation according to DIN EN ISO 105 A02	Assessment according to the grey scale	≥ level 4

Surface and colours within stringent, application-appropriate tolerance limits – defined tolerance limits are colour-specific and are to be agreed with the customer

The following basic requirements apply:

- Viewing distance: 700 mm
- Lighting strength: 1000 – 2000 lx
- Angle of inclination: 30° to the vertical
- Colour temperature light source (daylight, diffuse light or D65 lamps): 6500 K
- Viewing time: max. 20 s



Surface properties	Test standard	Requirement	Test result
Mechanical / physical			
Chemical resistance ¹⁾	DIN 68861 / T1	Hardcoat matt: 1B	fulfilled; see Substances table
Scratch resistance	EN 15186:2012, method B	4B	2.5 N
Micro-scratch resistance	CEN/TS 16611:2014, method B	Class 5	fulfilled
Performance in dry heat	DIN 68861 / T7 / DIN EN 12722	7D	fulfilled
Performance in humid heat	DIN 68861 / T8 / DIN EN 12721	8B	fulfilled
Cross-cut test	DIN EN ISO 2409	GT 0-1	fulfilled
Behaviour in water vapour	DIN 438-2	Level 5 no change	fulfilled

¹⁾ Test results apply solely to hardcoated substrate surfaces and not to the mechanically exposed chamfer in the milled area

Component tests on the edged component

The scope of supply from REHAU includes RAUVISIO wave as individual laminate and pressed board with and without edging. The details below refer to the component pressed and fully edged with RAUKANTEX pro by REHAU.

It is advised that REHAU only accepts warranty liability for its scope of supply as per the REHAU specifications, not for pressing and edging processes performed outside REHAU.

The results of the component test on the finished, edged component are also heavily dependent on the machine and process parameters to be set by the customer for processing RAUVISIO wave, using suitable

adhesives and edgeband as well as full compliance with the REHAU processing instructions in accordance with this Technical Information.

With regard to setting the machine and process parameters, the REHAU Application Engineering Department will provide the appropriate support.

Please note that our advice relating to technical applications has been carried out to the best of our knowledge but we cannot accept any liability for this free service that is provided without obligation.

Component test	Test standard	Test result
Temperature resistance	Assessment to AMK-MB-001 (05/03)	passed
Water vapour flow	Assessment to AMK-MB-005 (07/2007), Module 1	passed
Humid climate resistance	Assessment to AMK-MB-005 (07/2007), Module 2	passed
Alternating climate resistance	Assessment to AMK-MB-005 (07/2007), Module 3	passed

Material properties	Test standard	Technical data
Surface weight of RAUVISIO wave surface	DIN EN 323	1760 g/m ² +/- 100 g
Surface weight of RAUVISIO wave balancing sheet	DIN EN 323	1600 g/m ² +/- 100 g
Fire behaviour	DIN 4102/1	B2 normal flammability

The specific data for RAUVISIO wave at a glance:

Product data	Test standard	Laminate surfaces	Laminate balancing sheet	Composite	Complete
				Pressed board MDF substrate 15	Edged component MDF substrate 15
Thickness	According to tech. drawing based on DIN 438-2	2.0 +/- 0.2 mm (measured at structure max.)	1.4 mm +/- 0.1 mm	18.4 mm +/- 0.4 mm	18.4 mm +/- 0.4 mm
Width (parallel wave direction)	According to tech. drawing based on DIN 438-2	1300 +/- 5 mm	1300 +/- 5 mm	1300 +/- 5 mm	Dimension +/- 0.5 mm
Length	According to tech. drawing based on DIN 438-2	2800 +/- 5 mm	2800 +/- 5 mm	2800 +/- 5 mm	Dimension +/- 0.5 mm
Angle deviation	According to tech. drawing based on DIN 438-2	+/- 0.3°	+/- 0.3°	+/- 0.3°	max. 0.5 mm/1000 mm
Edge defect	According to tech. drawing based on DIN 438-2	max. 15 mm	max. 15 mm	max. 15 mm	

8 ASSEMBLY GUIDELINES – SUMMARY



Damage to the RAUVISIO surface due to improper handling

Please observe the following guidelines to avoid damage.

Only store and transport large size boards on pallets with completely level and stable base protection boards along the length (e.g. MDF 18).

Always unload / load pallets from the short side in the centre.

Do not store large size boards and fabricated boards in damp rooms and not directly on the ground.

Do not store large size boards and fabricated boards either outside or in areas with UV light sources.

Acclimatise fabricated elements prior to installation for at least 24 hours at room temperature (min. 18°C). At delivery temperatures below 5 °C the elements must be conditioned for at least 48 hours on all sides.

Do not rest any objects on large size boards and fabricated elements, as this could lead to damage.

Boards made from RAUVISIO wave are protected with an upper and lower cover plate for protection during transport and storage.

RAUVISIO wave is suitable for vertical applications indoors. Special applications extending beyond the guaranteed properties described above must be tested independently for the application in question by the fabricator / customer or information must be obtained from the manufacturer and approved where necessary.

The installation of the acclimatised materials is not permitted to be carried out at temperatures < 15 °C.

All materials and components must be checked for damage or defects prior to processing / assembly.

To avoid stress cracking during processing and assembly, interim storage must take place prior to installation exclusively in the original packaging in frost-free and closed rooms.

The narrow sides of the wooden substrate without edgeband must not come into contact with moisture. The cut edges must always be sealed with suitable edging (RAUKANTEX color pure/plus/pro).

All drill holes in the wooden substrate boards are to be sealed during assembly so that they are watertight.

Strong chemical substances such as strong solvents, special cleaning agents (e.g. drain cleaners, industrial cleaners, etc.) as well as aggressive scouring agents can damage the surface.

Scratches can be caused during cleaning by the following elements: Grains of sand or similar, abrasive scrubbing utensils / cleaning sponges, etc.

Treatment with an anti-static plastic cleaner is an effective measure to minimise static charging.

Do not stand on RAUVISIO wave products.

Do not cut with sharp objects.

Do not work with tools on the surface.

9 INSTRUCTIONS FOR USE/CARE FOR THE END USER



Thank you for choosing a product made from this high-quality polymer-cellulose-surface material.

The non-porous, homogeneous material is hygienic and suitable for contact with foodstuffs and is resistant to fungal and bacterial growth.



RAUVISIO wave is resistant to most substances found in the household. Extended exposure to aggressive substances may leave marks or damage the material.

The table shows the mediums tested and the exposure time:

Substances	Requirement 1A		Requirement 1B	
	D	A	D	A
Acetic acid	16 h	5	1 h	5
Citric acid	16 h	5	1 h	5
Ammonia water	16 h	5	2 min	5
Ethyl alcohol	16 h	5	1 h	5
Red wine	16 h	5	6 h	5
Beer	16 h	5	6 h	5
Cola	16 h	5	16 h	5
Coffee	16 h	5	16 h	5
Black tea	16 h	5	16 h	5
Blackcurrant juice	16 h	5	16 h	5
Evaporated milk	16 h	5	16 h	5
Water	16 h	5	16 h	5
Petrol	16 h	5	2 min	5
Acetone	16 h	5	10 s	5
Ethyl-butylacetate	16 h	5	10 s	5
Butter	16 h	5	16 h	5
Olive oil	16 h	5	16 h	5
Mustard	16 h	5	6 h	5
Onion	16 h	5	6 h	5
Disinfectants	16 h	4	10 min	5
Black ball pen paste ink	16 h	1	–	
Stamping ink	16 h	1	–	
Cleaning agent	16 h	5	1 h	5
Cleaning solution	16 h	5	1 h	5

D Exposure time

A Result (see table on right)



RAUVISIO wave is pleasant to the touch, warm and has an excellent visual depth effect.

Cleaning

- Mild cleaning agents without scouring components must be used.
- Scouring agents, solvents, polishes, waxes and steam cleaning equipment must not be used.
- To prevent damage to the surface, compatibility must be tested on an unobtrusive location, using a small quantity and a short application time of the cleaning agent. The manufacturer's instructions must be taken into account here.

Assessment according to DIN EN 12720 (07/2009)	
Chemical resistance	Result
5	No visible change
4	Just noticeable change in gloss or colour
3	Slight change in gloss or colour; the structure of the test surface is not changed
2	Heavy marks visible; the structure of the test surface is largely undamaged, however
1	Heavy marks visible; the structure of the test surface is changed
0	Test surface drastically changed or destroyed

NOTES

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