

RAUVISIO ferro™ metallic PET surface

Technical information




na.rehau.com/ferro



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This manual contains safety-related information that requires your special attention. It is indicated with the safety alert symbol and the signal words described below:

 DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates a risk of property damage, including damage to the individual components.

DISCLAIMER: The technical suggestions in this guide are designed to provide you with the best results when working with RAUVISIO ferro.

01 Information and safety notes

Latest version of the technical information

To ensure your safety and proper use of our products, please regularly check whether a more recent version of the technical information is available.

You can obtain the latest version of the document from your local retailer, your REHAU sales office or download it from na.rehau.com/ferro

Proper use

RAUVISIO products may only be planned, processed and installed in accordance with this technical information. Any other use is in violation of the specifications and is therefore prohibited.

Suitability of the material

The relevant, valid technical information is to be observed for the processing/assembly and use of RAUVISIO products. Our technical information is based on empirical values and knowledge acquired up to the time of printing. The transmission of this information includes no assurances as to 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.

Disclosure of information

It is essential to ensure that your customers, also including end customers, are aware of the necessity to observe the current technical information as well as instructions for the care and use for RAUVISIO products. The instructions for use and care must be provided to the end customer either by yourself or by your customer.

Note to our distribution partners and customers that resell RAUVISIO products:

Please also inform your customers about the need to observe the current technical information and make it available to your customers.

Note to the processor:

Please ensure that at least the installation guidelines and the instructions for use and care are made available to your customers and processing and installation firms.

Safety information and installation instructions

Observe the instructions on the packaging, accessories and installation instructions. Keep the installation instructions handy for easy access.

If you do not understand the safety information or the individual installation procedures or if something is unclear, please contact your REHAU sales office.

Applicable guidelines and safety equipment

Strictly observe all applicable safety and environmental regulations as well as the regulations of the trade supervisory authority and the employers' liability insurance association. Such regulations always take precedence over the information and recommendations in this technical information.



CAUTION

To reduce the risk of injury always use safety equipment such as

- Gloves
- Safety goggles
- Ear protection
- Dust mask

Adhesives and auxiliary materials

Strictly observe the safety instructions for any adhesives.



CAUTION

To reduce the risk of injury always store work equipment such as alcohol-based cleaning products and other easily flammable materials in safe and well-ventilated places.

Ventilation/extraction, production dust

Dust created by drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. Appropriate protective measures should be taken when processing this material.

California residents, visit www.rehau.com/us-en/ca-prop-65 for more information.



CAUTION

To reduce the risk of injury do not inhale production dust. If you inhale production dust, get fresh air and seek medical attention if you experience any symptoms.

Protective measures and disposal

RAUVISIO ferro is a composite made of wooden substrate and polymer surface coating, which has ecologically sound properties. The dust that forms is not toxic. The dust concentration is to be minimized through suitable protective measures such as extraction or a dust mask.

Dust from RAUVISIO ferro does not pose any specific risk of explosion.

Disposal code in accordance with the Waste Catalogue Ordinance:

- 170203/Construction and demolition waste consisting of wood, glass, plastic
- 120105/Waste from mechanical shaping processes and from the physical and mechanical surface treatment of metals and plastics (plastic shavings and lathe shavings)

Fire behavior

Due to its composition of wooden substrate and PET foil, RAUVISIO ferro demonstrates favorable fire behavior and is classified as per DIN 4102-B2 as being of normal flammability. In case of fire, no toxic substances such as heavy metals or halogens are released. The same fire-fighting techniques can be used as for other construction materials containing wood.



WARNING

To reduce the risk of serious injury or death use the following fire extinguishing procedures.

Extinguishing fires

Suitable extinguishing agents for fighting fires

- Water spray
- Foam
- CO₂
- Extinguishing powder

A water jet is unsuitable for safety reasons.

When extinguishing fires, wear appropriate protective clothing and, if necessary, a self-contained breathing apparatus.

02 Product description

2.01 Description

RAUVISIO ferro metallic PET surface is a brushed metallic print topped with a clear PET film and UV-cured lacquer. The surface is laminated on both sides of a high-quality, super-refined engineered MDF core that is CARB2, TSCA Title VI certified. All components are provided with perfectly matched REHAU LaserEdge.

RAUVISIO ferro features the following advantages:

- Soft touch finish
- Fingerprint, impact and scratch resistant
- Mold and stain resistant
- Solid PET with no delamination
- Double-sided finished panel or cabinet door

2.02 Individual components

Surface

RAUVISIO ferro is a multi-layer, polymer surface, which is applied continuously using rollers. The hard coat finish guarantees increased chemical and scratch resistance.

Wooden substrate

The use of a homogeneous and finely sanded wooden substrate guarantees a smooth finish. The thermoset balancing sheet applied enables reliable processing.

Edgeband

The use of a REHAU edgeband material is recommended to create a uniform appearance between the RAUVISIO ferro surface and the board edge. The best visual results are achieved by using REHAU LaserEdge™. No optical joint is visible here thanks to the pigmented polymer functional layer in the edging color. The REHAU LaserEdge edgeband product range can be supplied to match the surface in the materials ABS (acrylonitrile-butadiene-styrene). Correct processing is described in the processing guidelines separately.

For further information, please contact your REHAU sales office. The resulting component quality (e.g. adhesion of the edgeband, appearance and application properties) depends on the machine settings and the board quality used and must be checked by the fabricator. Optimum machine parameters, tool configuration and cutting speeds are to be established individually prior to production using a series of samples; the REHAU applications engineering department will be happy to support you with this

2.03 RAUVISIO ferro composite pressed board

RAUVISIO ferro is available as a large format pressed board, 1219 x 2800 x 18.6 mm (48 x 110 x 3/4 in) consisting of double-sided lacquered laminate and melamine coated MDF board.

03 Transport, packaging and storage

NOTICE

To reduce the risk of property damage use the following transport, packaging and storage procedures.

3.01 Transport and loading information

Check the exterior packaging for damage immediately when the goods arrive:

- If damage has occurred, open the packaging in the presence of the freight carrier and record the damage to the goods.
- This must be confirmed by the haulier with their name, company, date and signature.
- **The damage must be reported to the haulier within 24 hours. Otherwise the haulier's insurance company will not accept liability.**

Transport

The boards must not be exposed to temperatures higher than 122°F (50° C) during transport to avoid thermal overloading of the adhesive/laminate system.

Exposure to extreme temperatures may cause the adhesive and surface laminate to interact, which can result in orange peel/rippling and thus adversely affect the appearance.

Delivery

Boards are shipped loaded on square timber battens or pallets to ensure they are kept flat.

- Ideally, packaging units should be unloaded with a forklift or similar appliance.
- If the required equipment is not available, the boards can be unloaded by hand. When doing this, it must be ensured that the boards do not become dirty and are not subjected to any mechanical loads.
- Suitable protective equipment, such as gloves, should be worn during manual handling as sharp edges can cause cuts.
- The use of transport aids such as suction lifters, lift handles and board transporters is recommended for handling.
- Bending is not permitted when transporting the RAUVISIO boards horizontally.

3.02 Packaging

Protect the boards with foam non-woven material.

With RAUVISIO ferro, the narrow edges and surfaces must be protected under all circumstances. Particularly when moving, picking and further processing the boards, avoid or remove any dirt or foreign materials that may get between the individual boards. Otherwise the stack weight/dead weight of the boards will inevitably lead to pressure marks on the laminate surface.

- Protect the surfaces with foam non-woven material. This will prevent any impurities from marking the surface when pressure is applied to the surfaces.

3.03 Internal transport and storage

Internal transport

RAUVISIO ferro must be kept flat, level and fully supported along its entire length during transportation. Ideally RAUVISIO ferro should be transported in its original packaging. No repacking recommended.

Storage

RAUVISIO ferro is supplied on pallets or square timber battens covered with appropriate protective boards. The packaging units with RAUVISIO ferro are stackable. Due to the stack pressure, however, it is not permitted for more than four packaging units to be stacked on top of one another.

Protecting the packaging units.

The packaging units are to be protected against damage, large fluctuations in temperature and humidity, as well as high UV levels of artificial lighting or direct sunlight.

Store boards flat and level.

RAUVISIO ferro must be kept flat, level and fully supported along its entire length during storage and

transportation. It is recommended to store boards on the supplied pallet.

Alternatively, boards must be supported by a minimum of evenly spaced timber battens of equal size. This will prevent bending or warping.

In the event of storage in conditions not in line with those described above (pallet or on at least 4 equal battens), no assurances can be given against warping.

The material must be stored in closed, heated rooms in which the room temperature is between 59 and 77°F (15 and 25°C) and the relative humidity is between 40 and 60%.

Before opening the packaging unit, the goods must have an acclimation period at room temperature of at least 48 hours or longer depending on the season.

After opening and removing a quantity of the product, it must be ensured that the cover panel remains on top of the goods during re-storage, in order to prevent soiling and asymmetrical temperature/humidity effects (e.g. through drafts or heated air) and thus counteract warping or surface damage.

04 Prior to processing

NOTICE

To reduce the risk of property damage use the following unpacking and conditioning procedures.

4.01 Unpacking

Before opening the packaging unit, the goods must have an acclimatization period at room temperature of at least 48 hours or longer depending on the season.

NOTICE

To reduce the risk of property damage use the following conditioning procedures.

Carefully unpack the boards.

When opening the packaging, ensure that the surfaces are not damaged by sliding or sharp objects. Appropriate lifting technology must be used to separate the boards.

Open the packaging with package shears.

Do not use sharp objects!

1. Cut the packaging tape.
2. Cut the protective foil vertically.
3. With 2 people and 4 suction cups carefully lift the top board vertically, without sliding it, or carefully remove carton if individually packed.
4. Remove any debris or contamination that gets between the individual boards.

4.02 Checking the boards

Please check the RAUVISIO ferro system components for the following points before further processing, i.e. finishing the goods:

- External damage such as cracks or dents
- Surface damage or blemishes
- Planarity (for pressed boards)
- Color uniformity within the production batch

The surfaces of RAUVISIO ferro are always supplied with a protective film applied. Despite this protective film, it may be that there are occasional minor defects in the laminates on delivery. This cannot be avoided completely due to the production process and does not represent a direct cause for complaint.

When grouping different boards into one order, it is to be ensured that only boards of the same production number are used. When processing sheets with different batch numbers, it is imperative to check the color compatibility prior to processing.

Color consistency should be checked in natural daylight, although bright sunlight should be avoided. In case of deviations a colorimeter should be used.

Any costs resulting from checking the above points shall not be borne by REHAU. This also applies to follow-on costs in the subsequent processing of defective goods.

4.03 Conditioning

RAUVISIO ferro and all other materials to be processed such as the adhesive and edgebands must be conditioned at room temperature (at least 64°F [18 °C]) for a sufficient period of time (at least 48 hours).

Processing is also carried out at room temperature. It is to be ensured, in particular in the colder months, that conditioning of all boards takes place. If the size of the stack prevents the boards in the middle from acclimating sufficiently, the acclimation period must be extended accordingly.

4.04 Documents for the material warranty

In order to process complaints, the delivery notes for the goods and the shipping labels must be retained.

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

05 Processing RAUVISIO ferro

NOTICE

To reduce the risk of property damage use the following processing procedures.

5.01 Proper handling of RAUVISIO boards

Placing the boards on the machine table

The machine table must be of sufficient size, have no sharp edges and must be thoroughly cleaned.

Alternatively, cover the machine table with a clean base (wooden board, cardboard, etc.).

Formatting the boards

The nesting procedure is recommended to format the board. When formatting with a saw, be sure to observe the instructions for placing the board on the machine table (see above). In this case, work with a scoring saw blade.

Between the processing steps

After milling/sawing, all residue must be removed and all surfaces cleaned.

For transport, place the boards vertically and individually on appropriate trolleys.

Alternatively, stack the boards on a pallet with a clean and pliable layer of cardboard or foam between them.

Edging the boards

When edging the boards, work with a static inhibitor to prevent shavings from sticking to them.

Ensure that the boards are fed into the machinery in a clean state and in an orderly fashion.

Any shavings or dust must be safely removed through the extraction unit.

Drilling and milling

When drilling/milling, any sawdust or shavings must be safely removed, e.g. through suction or blowing.

Packing the boards

Stack the workpieces in layers with clean and padded carton/foam material inserted inbetween each layer on a pallet.

Use a transport lock to prevent damage due to slipping or similar.

5.02 Mechanical processing of the pressed board

Sawing/milling/drilling

RAUVISIO ferro can be processed with most conventional woodworking tools. When cutting RAUVISIO ferro, a scoring saw blade must be used.

In order to enable precise processing, it must be ensured that the tools are sharp and that ideal machine settings are used. It is recommended that the optimal machine settings are determined by means of trials prior to starting production.

5.03 Edging

The use of Magic 3-D edgeband material is recommended to create an interlocking joint between the RAUVISIO ferro surface and the edge. The best visual results are achieved by using REHAU LaserEdge. No joint line is visible thanks to the color-matched polymer functional layer of the edgeband color. A range of matching ABS edgeband is available to complement this product. This edgeband material can be polished, resulting in a finished component with an impressive invisible joint.

For more information, please contact your REHAU sales office. The resulting component quality (e.g. adhesion of the edgeband, appearance and performance characteristics) depends on the machine configuration and the raw materials and must be checked by the processor.

Optimum machine parameters, tool configuration and cutting speeds are to be established individually prior to production using a series of samples; the REHAU applications engineering department will be happy to support you with this.

06 Technical data

Product data	Test standard	RAUVISIO ferro pressed board on directly coated MDF substrate 18 mm
Thickness	as per technical drawing as per DIN 324-1	18.6 mm \pm 0.4 mm
Width	as per technical drawing as per DIN 324-1	1219 mm \pm 3 mm
Length	as per technical drawing as per DIN 324-1	2800 mm \pm 5 mm
Angle deviation	as per technical drawing as per DIN 324-2	\pm 3 mm/m
Edge defects	as per technical drawing	15 mm
Weight per square meter		14.7 kg/m ²

Visual properties	Test standard	Requirement	Test result
Gloss level of the surface	AMK-MB-009, 04/2013	Measurement with 60° measurement geometry	\leq 7 GLE
Color	AMK-MB-009, 04-2013	No significant change to the master sample; uniform covering properties	Fulfilled
Surface	AMK-MB-009, 04/2013	Uniform surface, surface defects must not have a distracting effect from a distance of 27.6 in (0.7 m). A totally flawless surface is not reasible due to production tolerances. Some minor surface irregularities are possible	Fulfilled
Lightfastness	Based on DIN EN ISO 4892-2, process B Duration of the test: to DIN EN ISO 105 B01-B06 Assessment of the sample: to DIN EN ISO 105 02	Assessment according to the blue scale	grade 6
		Assessment according to the grey scale	\geq level 4

Material properties	Test standard	Requirement
Fire behaviour	DIN 4102/1	B 2
Material purity/sand content (lacquered laminate)	Ignition residue after test specification	≤ 1%
Density (lacquered laminate)	DIN EN ISO 1183-1 process A(04/2013)	≥ 1.42 g/cm ²

Surface properties	Test standard	Test result
Chemical resistance*	DIN 68861 / T1 1A/1B	See "Substances" table page 13
Scratch resistance	DIN 68861/T4	Class 4F
Micro-scratch resistance	DIN CEN TS 16611 process A	Change in gloss level 8% (Measurement with 60° measurement geometry)
	DIN CEN TS 1611 process B	Class 3

*The testing of the chemical resistance as per DIN 68861-1 includes the substances listed in the table on page 13; other substances have not been tested specifically and are to be tested separately by the customer.

07 Installation guidelines

1. Fabricated components should only be transported in the original packaging unit.
2. Always unload packaging units sideways and from the middle.
3. Fabricated components should always be stored on the original pallet or using four-timber storage.
4. The storage of the fabricated components must not be stored outside or in damp environments.
5. Fabricated components should always be stored appropriately at the installation location and not exposed to strong UV light sources.
6. Acclimate fabricated components prior to installation for at least 24 hours at room temperature (min. 65°F [18°C]). At delivery temperatures below 32°F (0°C), acclimate the elements for at least 48 hours on all sides.
7. No objects are to be rested on raw boards and fabricated components as these could cause damage.
8. RAUVISIO ferro is suitable for vertical applications indoors. Inquire and check with the manufacturer about special application cases if necessary.
9. All materials and components must be checked for damage or defects prior to processing/assembly.
10. Temporary storage must take place prior to installation exclusively in the original packaging in frost-free and closed rooms.
11. Load-bearing substructures, which are firmly connected to each other, are to be aligned so that they are flat and vertical.
12. To avoid stress cracks no bending should occur during processing and assembly.
13. Do not bring unprotected corner connections of wooden substrates into contact with moisture prior to assembly.
14. In the case of wooden substrates all cut edges and raw board edges must be sealed so that they are watertight.
15. All drilled holes in the wooden substrates must be sealed during assembly so that they are watertight.
16. Tools must not be used on the surface.
17. No strong solvents, special cleaners (e.g. drain cleaners, industrial cleaners, lubricants or abrasive cleaning cloths) or strong chemical substances must be used on the surface.
18. Heavy dirt can cause scratches during cleaning, therefore always clean dirty areas carefully with a microfibre cloth.
19. Do not stand on unassembled or assembled RAUVISIO ferro components.
20. Assembly for indoor vertical applications only.

08 Operating/maintenance instructions for end users

The non-porous, homogeneous lacquered laminate is hygienic and suitable for contact with food stuffs and is resistant to fungal and bacterial growth.

RAUVISIO ferro is a polymer surface material that is pleasant and warm to the touch.

RAUVISIO ferro is resistant to most substances found in the household. An extended exposure to aggressive substances can leave behind marks or damage the material.

The table shows the mediums tested and the exposure time:

Substances	Stress group 1A/1B RAUVISIO ferro	
	T	A
Acetic acid	16 h	5
Citric acid	16 h	5
Ammonia water	16 h	5
Ethyl alcohol	16 h	5
Red wine	16 h	5
Beer	16 h	5
Cola	16 h	5
Coffee	16 h	5
Black tea	16 h	5
Black currant juice	16 h	5
Evaporated milk	16 h	5
Water	16 h	5
Petrol	16 h	5
Acetone	10 s	5
Ethyl-butylacetate	10 s	5
Butter	16 h	5
Olive oil	16 h	5
Mustard	16 h	4
Onion	16 h	5
Disinfectants	10 m	5
Cleaning agent	16 h	5
Cleaning solution	16 h	5

Assessment according to DIN EN 12720 (07/2009)

Chemical durability	Result
5	No visible change
4	Just noticeable change in gloss or color
3	Slight change in gloss or color; the structure of the test surface is not changed
2	Heavy marks visible; the structure of the test surface is however largely undamaged
1	Heavy marks visible; the structure of the test surface is changed
0	Test surface severely changed or destroyed

T Exposure time

A Requirement as classification code to DIN EN 12720:2009-07

h Hour(s)

s Second(s)

m Minute(s)

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