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Enhancing lives**

# **RAUVISIO cube Urban Concrete**

Technical information

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This "RAUVISIO cube Urban Concrete" Technical Information is valid from December 2023.



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# 01 Information and safety information

## Validity

This Technical Information is valid worldwide.

## Currentness of Technical Information

For your safety and to ensure the correct use of our products, please check at regular intervals whether a new version of this Technical Information is already available. You can obtain the latest version of the document from your local retailer, your REHAU sales office or at [www.rehau.com/TI](http://www.rehau.com/TI).

## Navigation

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

## Pictograms and logos



Safety notice



Legal notice



Important information



Information available online



The benefits for you



Chemical resistance

## Intended use

REHAU RAUVISIO products may only be planned, processed and installed in accordance with this Technical Information document. Any other use is deemed to be outside the scope of intended use and therefore is not permitted.

## Suitability of the material

The relevant, valid Technical Information is to be observed for the processing / assembly and use of RAUVISIO cube Urban Concrete. Our technical information is based on empirical values and knowledge acquired up to the time of printing. The dissemination of this information does not comprise any 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.

## Disclosure of information

It is essential to ensure that your customers, including end customers, are informed about the necessity to observe the current technical information publication as well as the care and usage instruction for RAUVISIO cube Urban Concrete products. The care and usage instructions must be made available to the end customer, either by you or by your customers.

## Safety instructions and installation instructions

Please observe the directions provided on the packaging, accessories, and installation instructions as well as the handling instructions enclosed with the goods. Keep the installation instructions so that they are always available. If you do not understand the safety instructions or installation recommendations, or if there is any uncertainty with regard to their content, please contact your local REHAU sales office.

## Relevant regulations and safety equipment

All applicable safety and environmental regulations, as well as the regulations from Trade and professional associations must be strictly observed. These always take priority over the instructions and recommendations given in the technical information.

Always use safety equipment such as

- Gloves
- Protective goggles
- Ear protection
- Dust mask

### **Adhesives and additional tools**

Observe safety regulations for the adhesives used and ensure that they are strictly complied with. Keep ancillary working materials, e.g. alcohol-based cleaners and other highly flammable substances, in safe and well ventilated places.

### **Ventilation/extraction, production dust**

Ensure good ventilation and extraction around the processing machines.

- Inhalation: (only for machine processing) if you experience health problems, seek fresh air and consult a doctor if necessary.
- Skin contact: (only for machine processing) rinse skin with water. If skin irritation persists, consult a doctor.
- Eye contact: (only for machine processing) do not rub. Rinse immediately with water.

### **Protective measures and disposal**

The product RAUVISIO cube Urban Concrete is harmless to the environment. The dust that forms 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 cube Urban Concrete presents no specific risk of explosion.

### **Disposal code in accordance with the waste category ordinance**

Disposal of RAUVISIO cube Urban Concrete

- Disposal code number 17 09 04 for mixed construction waste
- Disposal code number 20 03 01 mixed municipal waste
- Disposal code number 03 01 05/03 01 99 waste from wood processing and panel production

### **Fire-fighting**

Suitable extinguishing agents for fire-fighting include:

- Water spray
- Foam
- CO<sub>2</sub>
- Extinguishing powder

A solid-stream water jet is unsuitable for safety reasons.

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

## 02 RAUVISIO cube Urban Concrete

### 02.01 Product description

Whether in kitchens or living areas, natural materials like ceramic and stone are today used in a wide range of applications.

RAUVISIO cube Urban Concrete is similar in feel and appearance to the popular building material concrete, yet it has considerable advantages when it comes to processing. Thanks to natural air voids, the material offers a look

that picks up on the rough industrial aesthetic. Each panel has its own unique surface structure.

As RAUVISIO cube Urban Concrete can be processed with standard woodworking machines, REHAU offers maximum flexibility for the production of furniture fronts with a concrete look.

### 02.02 Product structure

RAUVISIO cube Urban Concrete comprises a wood substrate with mineral filler layer consisting of the following individual components. Natural materials are predominately used in a semi manual process.

- 1 Clear coat
- 2 Color lacquer
- 3 Filler
- 4 Primer
- 5 MDF substrate with melamine coating on both sides

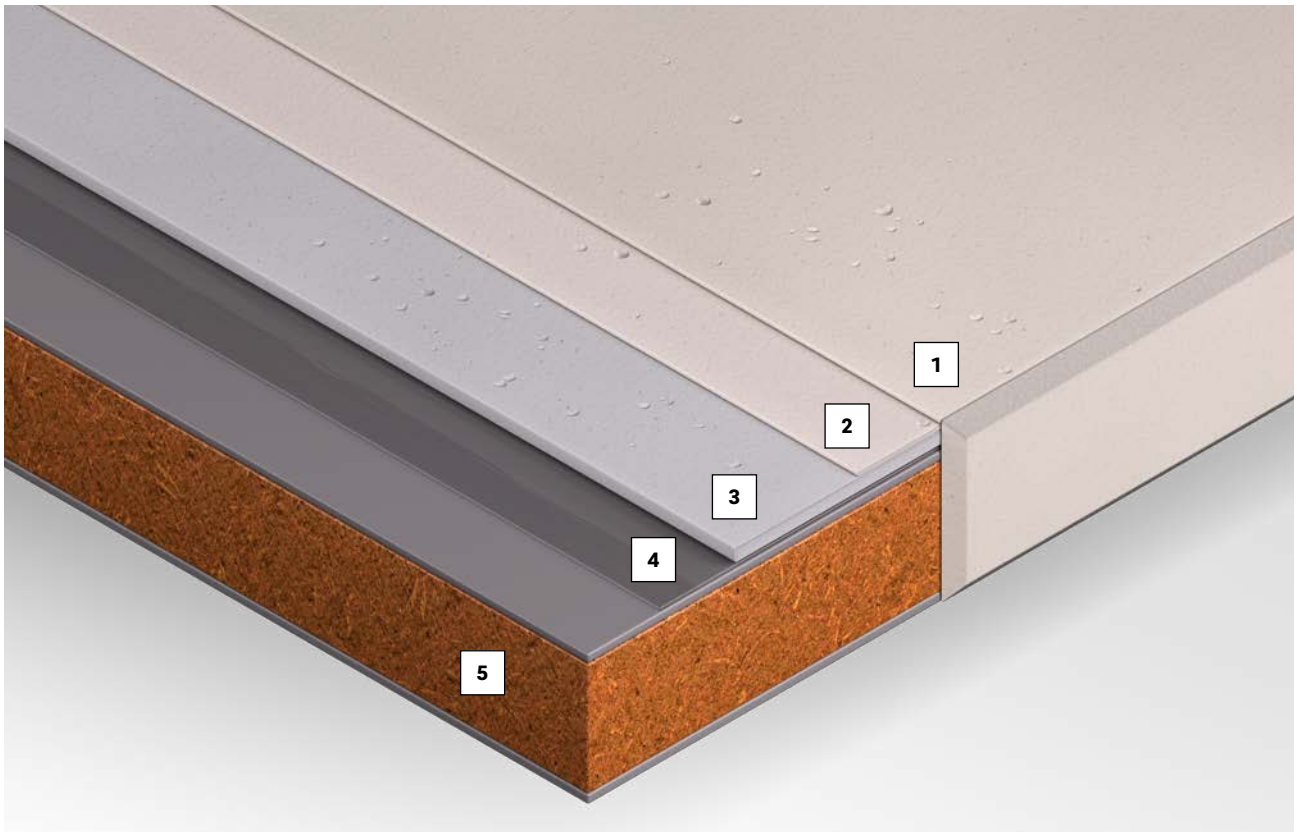


Fig. 02-1 Product structure of RAUVISIO cube Urban Concrete with edging



### 02.03 Range of application

RAUVISIO cube Urban Concrete is designed for vertical indoor use. For horizontal applications, REHAU's Applications Engineering Department should be consulted. Alternatively, suitability for application must be determined independently.

The material properties listed on the technical data sheet (in particular of a thermal or mechanical/physical type) must be observed and assessed for the respective application. Risk assessment and approval are the responsibility of the customer.

If you have any questions, please contact the REHAU Applications Engineering Department.

### 02.04 Product advantages



**RAUVISIO cube Urban Concrete has the following advantages:**

- Exclusive 3D structure: an appearance and feel close to real concrete, and creation of a solid look with chamfer geometry using a pigmento edgeband
- Design match: same color as RAUVISIO noir and reproducibility of the surface
- Robustness: high resistance to scratches, heat, moisture, stains and other everyday wear and tear
- Can be processed using conventional woodworking machines with carbide-tipped tools (no increased tool/machine wear, flying sparks or dust creation)
- Low weight
- Resistant to impacts and shocks and less susceptible to breaking, which results in less cracking and breakage
- Formulation: water-based, solvent-free material composition free of harmful substances, made of mineral components (no quartz)

### 02.05 Individual components

All RAUVISIO cube Urban Concrete components can be ordered separately:

#### **Board material of RAUVISIO cube Urban Concrete**

In addition to the constituent parts, use of the correct processing parameters is key to ensuring consistently high quality components. To ensure the quality of boards REHAU offers them pre-laminated with the surface material in the large format (1,220 x 2,760 mm).



Fig. 02-2 Board material of RAUVISIO cube Urban Concrete

#### **Edgeband collection**

For RAUVISIO cube Urban Concrete, REHAU offers a perfectly coordinated edgeband design. The edging can be applied either as a RAUKANTEX decor pro 23/2.2 mm zero-joint edgeband or as a RAUKANTEX decor pure 23/2 mm primed edgeband. By applying a 45° chamfer (edgeband chamfer only), a solid concrete slab look is created.



Fig. 02-3 RAUVISIO cube Urban Concrete edgeband collection

## 03 Transport, packaging and storage

### 03.01 Transport and loading information



When the goods arrive, check the exterior packaging for damage immediately:

- 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 driver of the haulage company with their names, haulage company, date and signature.
- The damage must be reported to the freight carrier within 24 hours.

If you do not do this, the freight carrier's transport insurance is not liable!

#### Delivery

Depending on the type of shipment, and to ensure they are kept flat, boards or laminates are shipped on square battens or pallets.

- Upon delivery, always unload pallets with a forklift truck or similar appliance.
- If the appropriate technology is not available, unload the pallets manually, upright, one by one and with two people. The use of transport aids such as suction lifters, lever holds and board transporters is recommended for handling. In this case, ensure that the boards do not become dirty and are not subjected to any mechanical loads.
- Because of the risk of breakage, do not transport individual boards horizontally. Rather, stand them upright from the stack or a firm base and transport them vertically.
- When transporting RAUVISIO cube Urban Concrete panels horizontally, deflection must be avoided and is not permissible.
- When unloading by hand, wear suitable protective equipment, e.g. gloves, as sharp edges can cause cuts.

### 03.02 Packaging



#### Protect the boards with foam non-woven material.

The corners and surfaces of RAUVISIO cube Urban Concrete absolutely must be protected. For the protection of surfaces, foam fleece is recommended. For corners and edges, foam blocks, foam angle profiles or rugged cardboard angle profiles should be used. When moving, picking or processing boards take particular care to avoid or remove any dirt that may get between individual boards, otherwise the stack pressure / dead weight of the boards will inevitably cause indentations in the surface.

- Protect the surfaces with foam wrap.  
This will prevent marks being caused on the surface when stacking components.



### 03.03 Internal transport and storage

#### Inter-company transport

While being moved, RAUVISIO cube Urban Concrete boards must be fully supported along their complete length, and kept flat and level. The ideal method is to transport them in the packing format in which they were delivered (no repacking recommended).

#### Storage

RAUVISIO cube Urban Concrete is delivered on pallets or squared timbers with the appropriate protective boards to cover them. The packaging units of RAUVISIO cube Urban Concrete can be stacked. However, due to the stack pressure, no more than 4 units can be stored on top of each other.



#### 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.

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#### Store boards flat and level.

RAUVISIO cube Urban Concrete board material must be stored and transported in a flat and level position with support along its complete length. Storage on the supplied packaging unit is recommended. Alternatively, boards must be supported by a minimum of 5 evenly spaced timber battens of equal size (see diagrams). This is necessary to prevent bending or warping.

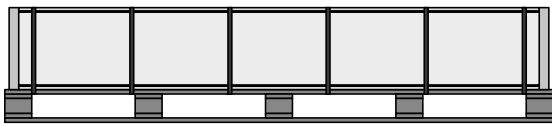


Fig. 03-1 Pallet packaging

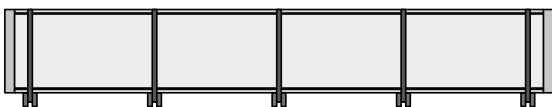


Fig. 03-2 5-batten storage

In the event of storage contrary to the storage regulations described above (pallet or at least 5-batten storage), no warranty can be given for warping.

The material must be stored in closed, heated rooms in which the room temperature is between 15 and 25 °C and the relative humidity is between 30 and 70%.

Prior to opening packaging units, boards must be allowed to acclimatise to room temperature for at least 48 hours.

Prior to returning opened or partially used packaging units to storage it must be ensured that the cover board is replaced on top. This is to prevent contamination and uneven temperature/humidity penetration (due to drafts or heating air), and thus counteract warping effects as well as surface damage.

## 04 Prior to processing

### 04.01 Unpacking

Prior to opening packaging units, the panels must be allowed to acclimatize to room temperature for at least 48 hours, depending on the time of year.



#### Carefully unpack the boards.

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

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Open the packaging with scissors.

Do not use a sharp blade!

1. Cut the packaging tape.
2. Cut the protective sheeting vertically.
3. Carefully lift the uppermost cover board vertically upwards and without sliding it. This should be done by two people using four vacuum lifting pads. For individual packages, carefully remove the box.
4. Dirt which can get trapped between the individual boards must be completely avoided or removed.

### 04.02 Checking the boards



Please check RAUVISIO cube Urban Concrete for the following issues before carrying on with the processing:

- External damage, e.g. cracks or marks
  - Surface damage or defects
  - Planarity
  - Color consistency within the production batch
- 

The RAUVISIO cube Urban Concrete surfaces are always delivered with a protective film. Despite this protective foil, there may already be slight scratches on the surfaces upon delivery. These cannot be entirely excluded for technical production reasons and do not constitute a direct reason for complaint.

When grouping different boards into one order, it is to be ensured that only boards of the same production batch are used. Uniformity of color across production batches must be checked prior to processing.

A color uniformity check must be performed in daylight – on account of the objective comparability in daylight – and not in bright sunlight. Due to the industrial production processes, occasional minimal optical imperfections of the surface cannot be entirely avoided and are not a reason for complaint.



The costs incurred for checking the above mentioned points cannot be accepted by REHAU. This also applies to consequential costs incurred in the further processing of defective goods.

### 04.03 Conditioning



RAUVISIO cube Urban Concrete and all other materials to be processed, e.g. edgebands, are to be conditioned prior to processing at room temperature (min. 18 °C) for a period of at least 24 hours. Processing is also carried out at room temperature. It must be ensured, particularly in the colder months, that all boards are acclimatised. If the size of the stack prevents the boards in the middle from acclimatising sufficiently, the acclimatisation period must be extended accordingly.

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### 04.04 Documents for material warranty

Delivery notes and shipping labels should be retained to aid batch traceability in the event of a technical issue. These must be given to the REHAU sales office in the event of a complaint.

## 05 Processing of RAUVISIO cube Urban Concrete

### 05.01 Proper handling of RAUVISIO boards

#### Placing the boards on the machine table

The machine table must be large enough, must not have any sharp edges and must have been thoroughly cleaned. Alternatively: cover the machine table with a clean base (wooden board, box, etc.).

#### Formatting the boards

The nesting process is recommended to cut the boards to size. When cutting to size using a saw, observe the instructions for positioning the boards on the machine table (see above). In this case, work with a scoring 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 workpieces in layers with clean and padded cardboard/foam material inserted in-between on a pallet.

#### Edging of the workpieces

Ensure that the boards are fed into the system cleanly and safely. Any loose chipping created must be safely removed via extraction.

#### Drilling and milling

Extraction must be used during drilling/milling operations to ensure that the swarf is removed.

#### Packing the workpieces

Stack the workpieces in layers on pallets with a clean and pliable interlay of cardboard or foam between the layers.

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

### 05.02 Mechanical processing of RAUVISIO cube Urban Concrete

RAUVISIO cube Urban Concrete can be processed very easily with sharp woodworking tools. When machining, the protective foil must remain on the surface. Damage such as cracks at cut edges must be prevented by using suitable tools.



To check the quality, test processing on samples is recommended.

Optimal machine parameters, tool configuration and cutting speeds must be established individually prior to production using a series of samples. The REHAU Applications Engineering Department and your tool manufacturer will be happy to support you with this.



When processing of RAUVISIO cube Urban Concrete (all decors), it is to be ensured that the installation direction is the same as the logo and arrow on the protective foil. If an element is installed upside down, a different visual effect may be created due to the way that the decors are aligned.

#### 05.02.01 Cutting

To ensure good cutting results, please observe the following:

- Visible side / design side up
- Ensure the correct saw blade projection
- Adjust the rotational speed and number of teeth to suit the feed speed
- The use of a scoring saw is recommended for clean cuts on the underside of the panel
- Cutting speed
- Tooth shape
- Tooth pitch

Depending on the amount of cutting, either carbide-tipped (HW) or diamond-tipped (DP) circular saw blades can be used.

### 05.02.01.01 Cutting of RAUVISIO cube Urban Concrete

#### Sizing saws

Saw blades with a large number of teeth are generally recommended for high-quality processing.

The best cutting quality is achieved with the following tooth shape combination:

- Carbide circular saw blade with HZ/DZ tooth shape (hollow tooth/pointed tooth)
- HM circular saw blade with FZ/TR tooth shape (flat tooth / trapezoidal tooth)
- HM circular saw blade with tooth shape TR/TR (trapezoidal tooth / trapezoidal tooth)
- Carbide circular saw blade with WZ tooth shape (alternating tooth)

The hollow tooth/pointed tooth (HZ/DZ) saw tooth shape achieves the best cutting results on machines without a scoring unit. In the case of machines with a scoring unit, the flat tooth/trapezoidal tooth (FZ/TR) saw tooth shape also offers very good cutting results with a longer tool life compared to HZ/DZ. A long tool life and good cutting results can also be achieved on sizing saws with scoring units with the TR/TR tooth shape.

Optimum usage data: (for a circular saw blade Ø 300mm)

Saw blade projection:	$u = 15\text{--}20\text{ mm}$
Rotational speed:	$n = 5,500\text{--}6,000\text{ 1/min}$
Processing speed:	$v_f = 4\text{--}6\text{ m/min}$
Cutting speed:	$v_c = 53\text{ m/s}$

#### Panel sizing saws

The panels can also be cut on panel sizing systems with many carbide circular saw blades. For nearly optimal cutting results, cutting should be carried out with saw tooth shape combinations such as flat/trapezoidal tooth (FZ/TR) or trapezoidal/trapezoidal tooth (TR/TR). For larger quantities, we recommend cutting with a DP panel-sizing circular saw blade.

Optimum usage data: (for a circular saw blade Ø 450mm)

Saw blade projection:	$u = 25\text{ mm}$
Rotational speed:	$n = 3,600\text{ 1/min}$
Processing speed:	$v_f = 25\text{--}40\text{ m/min}$
Cutting speed:	$v_c = 80\text{ m/s}$
Feed per tooth:	$fz = 0.09\text{--}0.15\text{ mm}$

The recommended cutting speed is 60–80 m/sec. The upper value is to be selected for DP-tipped circular saw blades. A feed per tooth of 0.09 - 0.15 mm is to be aimed for.

The saw blade projection must be set depending on the diameter:

Circular saw blade diameter	Saw blade projection
D = 250 mm	approx. 15–20 mm
D = 300 mm	approx. 15–25 mm
D = 350 mm	approx. 18–28 mm
D = 400 mm	approx. 25–30 mm
D = 450 mm	approx. 25–30 mm

In principle, panel cutting with circular saw blades is to be seen as pre-processing. To create an optimal surface and break-free edge for edgebanding, the saw cut must be reworked using a cutter or jointing cutter as described in the following chapter.

### 05.02.02 Milling on straightline edgebanders

Fundamentally, the material can be machined with solid carbide or carbide-tipped tools, carbide turnable end mill inserts or diamond-tipped milling cutters. However, the tools must have cutting edges with alternating splay angles.

#### Table miller and milling cutters for straightline edgebanders

Tool:	cutter heads with carbide, indexable inserts or diamond-tipped (DP) milling cutters with an axis angle of 30° to 50° are recommended.
Cutting speed:	$vc = 50\text{--}60\text{ m/s}$
Example:	Ø 85 mm → 12,000 rpm Ø 100 mm → 12,000 rpm Ø 125 mm → 9,000 rpm
Feed per tooth	$fz = 0.5\text{--}0.8\text{ mm}$

#### Cutters for straightline edgebanders

Tool:	Cutters with low cutting pressure are recommended.
Cutting speed:	$vc = 75\text{ m/s}$
Example:	Ø 250 mm → 6,000 U/min
Feed per tooth:	$fz = 0.15\text{--}0.25\text{ mm}$

**Machining on stationary CNC machines**

Clamping tool	Hydraulic chuck, TRIBOS or heat shrinking chuck
Tool	Spiral solid carbide milling cutter, indexable insert end mills or DP-tipped end mills with alternating axis angles
Cutting speed dependent on cutting diameter:	$v_c = 30 \text{ m/s}$
Feed per tooth:	$f_z = 0.2 - 0.25 \text{ mm}$
Rotational speed	$n = 18,000 - 24,000 \text{ rpm}$
Processing	in reverse

**05.02.03 Drilling**

Solid carbide twist drills are recommended for drilling dowel and hardware fixing holes. Drilling of dowel holes and holes for hardware is carried out on the opposite side.

**Dowel holes**

Rotational speed:	$n = 3,000 - 8,000 \text{ rpm}$
Processing speed:	$v_f = 0.5 - 2.5 \text{ m/min}$
Drill mode:	L – S

**Through-hole drill bit**

Rotational speed:	$n = 3,000 - 8,000 \text{ rpm}$
Processing speed:	$v_f = 0.5 - 3.0 \text{ m/min}$
Drill mode:	L – S – L

**Hinge drilling**

Rotational speed	$n = 3,000 - 8,000 \text{ rpm}$
Processing speed:	$v_f = 0.5 - 0.3 \text{ m/min}$
Drill mode:	L – S

**05.02.04 Edge processing on edgebanding machines**

Chamfer cutters and scrapers on edgebanding machines must be set so that the tools do not touch the RAUVISIO cube Urban Concrete surface or the decor.

**Chamfer mills**

Chamfer cutters should have a profile runout of at least  $10^\circ$ . The chamfer cutter setting must be made so that contact only occurs with the edgeband.

**Profile scraper**

Profile scrapers are equipped with a profile runout and can easily be used for finishing RAUVISIO cube Urban Concrete panels if they are set precisely.

**Flat scraper**

Flat scrapers should preferably have a chamfer of  $2-4^\circ$  from the edgeband to the panel so as to not touch the panel decor.

**05.03 Tool lives**

Tool life and work piece quality of course depend on several factors, e.g. the material, the tool and the machine. Durability tests processing boards with the top layer of RAUVISIO cube Urban Concrete showed a longer service life than when processing a melamine top layer. Due to the variety of processing machines and the varying complexity of the tasks, we recommend that you discuss your customer-specific requirements with the relevant REHAU sales office or the tool manufacturer. The findings shown were developed in collaboration with established tool manufacturers; detailed recommendations regarding machine parameters and tool recommendations can be provided by your REHAU sales office.

## 06 Application

### 06.01 Front application



RAUVISIO cube Urban Concrete was developed for front applications and combines a high-quality concrete looks with the advantages of material properties and therefore offers maximum flexibility in the production process, using conventional woodworking processes.

Whether you are sawing, milling, drilling or edging with matching REHAU edgeband, a complete concrete-effect front can be created without any unusual processes. The unusual product structure also ensures sufficient flatness, which is essential for front applications.



Fig. 06-1 RAUVISIO cube Urban Concrete as a front application



## 07 Technical data of RAUVISIO cube Urban Concrete

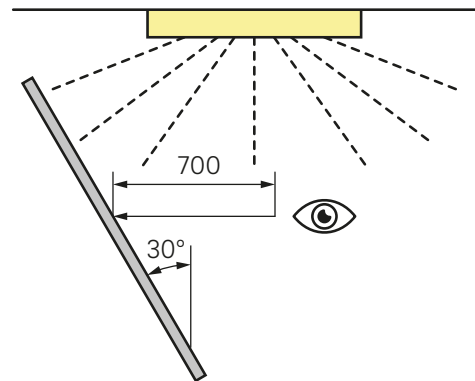
RAUVISIO cube Urban Concrete is designed for vertical indoor use. Horizontal use, and alternative applications must be checked by the customer and compared with the 'properties currently available. The board surface is protected by a special PE foil that must not be removed until after installation.

Overview of RAUVISIO cube Urban Concrete general data:

Visual properties	Test standard	Requirements	Test result
Surface gloss level	AMK-MB-009, 09/2010	<ul style="list-style-type: none"> <li>Measurement with 60° measurement</li> </ul>	Matt: ≤ 6 GLE
Colour/decor	AMK-MB-009, 09/2010	<ul style="list-style-type: none"> <li>No significant changes from the master sample</li> </ul>	Fulfilled
Light fastness	DIN EN ISO 4892-2, method B (behind window glass) Assessment in line with DIN EN ISO 105 A02	<ul style="list-style-type: none"> <li>Assessment according to the blue scale</li> </ul>	Level 7
		<ul style="list-style-type: none"> <li>Assessment according to grey scale</li> </ul>	Level 4
Surface	AMK-MB-009, 09/2010	<ul style="list-style-type: none"> <li>Uniform surface, surface defects must not have a distracting effect from a distance of 0.7 m.</li> <li>A flawless surface cannot be produced due to the industrial manufacturing process; small defects, surface irregularities, and cavities of the same size and distribution as demonstrated by the original sample are permissible.</li> </ul>	Fulfilled

The following boundary conditions apply:

- Viewing distance: 700 mm
- Illuminance: 1000–2000 lx
- Angle of inclination: 30° out of vertical
- Light source color temperature: 6500 K
- Viewing time: 20 s max.



Surface and colors must be within tight tolerance limits appropriate to the application. Defined tolerance limits are color-specific and must be agreed with the customer.

Surface properties – mechanical / physical	Test standard	Test result
Chemical resistance <sup>1)</sup>	DIN 68861/T1	1B See "Substances" table
Micro-scratch resistance	DIN CEN TS 16611 (method B)	Class 5 No surface change
Performance in dry heat	DIN 68861 / T7 and DIN EN 12722	7A No surface change
Behaviour in moist heat	DIN 68861 / T8 and DIN EN 12721	8A No surface change
Cross-hatch test	DIN EN ISO 2409	Gt 0-1
Performance in water vapour	DIN 438-2	Level 5 No surface change

1) The chemical resistance test according to DIN 68861-1 covers the substances listed in the table below. Other substances are not explicitly tested and need to be tested independently by the customer. Test results apply exclusively to the varnished board surface and not to mechanically exposed radii or chamfers in the milled area or on the surface.

#### Component tests on the edged component

The scope of supply from REHAU includes RAUVISIO cube Urban Concrete as a board without edging. The details below refer to the finished, edged component from REHAU. Attention is drawn to the fact that REHAU accepts liability under warranty law for its delivery contents only in accordance with the REHAU specification, but not for any edging processes performed outside of REHAU.

The results of the component tests on the finished edged component are particularly dependent on the machine and process parameters to be set by the customer for the processing of RAUVISIO cube Urban Concrete, and on the use of suitable adhesives and edgebands. REHAU Applications Engineering Department provides appropriate support for the setting of machine and process parameters. Please note that our advice relating to technical applications is correct to the best of our knowledge, but we cannot accept any liability for this free service, which is provided without obligation.

Component tests	Test standard	Test result
Temperature resistance	Assessment according to AMK-MB-001 (07/2007)	Passed
Infiltration of water vapour	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
Long-term heat storage 4 weeks 50 °C	Assessment after 24h acclimatisation	Passed

**Overview of RAUVISIO cube Urban Concrete specific data:**

<b>Product data</b>	<b>Test standard</b>	<b>Composite material board</b>
Total panel thickness	Based on DIN EN 438-2	19 mm $\pm$ 0,5 mm
Filler thickness	Based on DIN EN 438-2	0,8 mm $\pm$ 0,3 mm
Width	Based on DIN EN 438-2	1220 mm $\pm$ 0,5 mm
Length	Based on DIN EN 438-2	2760 mm $\pm$ 0,5 mm
Perpendicularity	Based on DIN EN 438-2	$\leq$ 1 mm/m
Edge defects	Based on DIN EN 438-2	5 mm from all four sides
Surface weight		19 mm: $\sim$ 14,1 kg/m <sup>2</sup>
Waste disposal code (AVV)		17 09 04 Mixed construction waste 20 03 01 Mixed municipal waste 03 01 05 Waste from wood processing and the manufacture of panels 03 01 99 Waste from wood processing and the manufacture of panels



### Chemical resistance

The product is resistant to common household chemicals, substances and disinfectants. Aggressive substances acting upon the material for extended periods of time can leave residue or damage the material. The table below shows the material's chemical resistance to various substances.

The user is responsible for testing the material's chemical resistance to any other substances that are not listed in this table.

### Assessment according to DIN EN 12720 (2009/07)

#### Chemical resistance rating

5	No visible change
4	Barely perceptible change in gloss or color
3	Slight change in gloss or color; the structure of the test surface is unchanged
2	Heavy marking visible; however, the structure of the test surface is largely undamaged
1	Heavy marking visible; the structure of the test surface is changed
0	Test surface severely changed or destroyed

### RAUVISIO cube Urban Concrete substances

#### Stress group 1A

Substance	Exposure time T	Result according to DIN EN 12720 (2009-07)
Acetic acid	16 h	5
Citric acid	16 h	1
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	3
Black tea	16 h	5
Blackcurrant juice	16 h	5
Evaporated milk	16 h	5
Water	16 h	5
Petrol	16 h	5
Acetone	16 h	5
Ethyl-butyl acetate	16 h	5
Butter	16 h	5
Olive oil	16 h	5
Mustard	16 h	5
Onion	16 h	5
Disinfectants	16 h	5
Cleaning agent	16 h	5
Cleaning solution	16 h	5

**RAUVISIO cube Urban Concrete substances****Stress group 1B**

<b>Substance</b>	<b>Exposure time T</b>	<b>Result according to DIN EN 12720 (2009-07)</b>
Citric acid	1 h	5

T Exposure time

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

Determination of wear for RAUVISIO cube Urban Concrete compared to melamine and HPL carried out with carbide-tipped tool.

Tool wear in  $\mu\text{m}$  after 100 running meters of milling in the top layer.

<b>Material</b>	<b>Tool wear result</b>
RAUVISIO cube Urban Concrete top layer	36.5 $\mu\text{m}$
Melamine top layer	60 $\mu\text{m}$
HPL top layer	64.0 $\mu\text{m}$

## 08 Installation guidelines – Summary



To avoid damage to the RAUVISIO surface due to improper handling, please observe the following instructions.

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

Always unload / load from the short side in the center.

Do not store large-sized boards or preassembled boards in damp rooms and not directly on the ground.

Do not store large-sized boards or preassembled boards in the open air or in areas with UV radiation sources.

Acclimatize 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 acclimatized on all sides for at least 48 hours.

Do not deposit any objects on large-sized boards or preassembled elements, because this could cause damage.

Boards made from RAUVISIO cube Urban Concrete are laminated with an environmentally friendly polyethylene foil for protection during transport and storage. The surface protection remains on the board until it is time to use the finished part at the end customer's premises.

RAUVISIO cube Urban Concrete is suitable for vertical applications indoors as a furniture front. Special applications that go beyond the conditions described above must be independently tested in relation to the respective application by the fabricator/customer or must be queried with the manufacturer and approval testing undertaken as required.

The acclimatized material may not be installed at temperatures < 15 °C.

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

The non-edged narrow sides of the wooden substrate must not come into contact with moisture. The cut edges must always be sealed with suitable edging, e.g.

with a RAUKANTEX dekor pro 23/2.2 mm zero-joint edgeband or a RAUKANTEX dekor pure 23/2 mm primed edgeband.

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

Damage to the surface can be caused by strong chemical substances, e.g. strong solvents, special cleaners (e.g. drain cleaners, industrial cleaners, etc.) as well as aggressive scouring agents.

The following elements can cause scratches during cleaning:

Grains of sand or similar, scrubbing utensils/cleaning sponges, etc.

Do not stand on RAUVISIO cube Urban Concrete products.

Do not cut with sharp objects on the surface.

Do not work on the surface with tools.



## 09 Care and usage instructions for end users



Congratulations on your decision to purchase a product made of this high-quality and durable material.

RAUVISIO cube Urban Concrete is less susceptible to breakage, is impact and shock resistant and is a resilient surface material. It is suitable for vertical indoor use.



RAUVISIO cube Urban Concrete is easy to clean. Most soiling can be removed with water and a cloth. In case of heavy soiling with adhesive substances, the surface can be effectively cleaned with a cloth and a small amount of water mixed with detergent.



Fig. 09-1 RAUVISIO cube Urban Concrete is easy to clean



RAUVISIO cube Urban Concrete has an outstanding visual depth effect. The surface has a matt, scratch- and abrasion-resistant coating, preventing signs of normal domestic wear and tear as far as possible.



All staining and aggressive substances must be removed from the surface immediately.

Abrasive cleaners, sanitary cleaners, acids and strong solvents can damage the surface. Rubbing and scrubbing can also cause changes to the gloss level.

Do not use abrasive cleaning sponges with scourers (e.g. Scotch Brite, scouring pads, etc.) or brushes, as they can cause scratches and changes to the gloss level if forcefully applied.

Refrain from using mechanical cleaning processes, e.g. with razor blades, knives or scrapers, etc. as this can cause scratches and damage the abrasion-resistant coating.

## Notes

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