REHAU®
Unlimited Polymer Solutions

Hanex
Solid Surfaces

REHAU I HANEX – BOARDS, WASHBASINS, SINKS

Technical information

Our current technical documentation is available to download at www.rehau.de/rauvisio.

All dimensions and weights are guide values.
Subject to errors and modifications.

CONTENT

1 INFORMATION AND SAFETY INSTRUCTIONS

Validity
This technical information is valid worldwide.

Current relevance of the technical information
To ensure your safety and the proper use of our products, please regularly check whether a more recent version of this technical information is available. The issue date of your technical information is always printed on the bottom right-hand side of the back page.
You can obtain the latest version of the document from your responsible specialist dealer, your REHAU sales office or for downloading at www.rehau.de/rauvisio.

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 instructions


Legal notice


Important information


Information on the internet


Your advantages

Use in line with specifications
Products made of REHAU I HANEX must only be designed, installed and operated as described in this technical information. Any other use is not in accordance with specifications and is therefore not permitted.

Safety instructions and operating instructions
- For your own safety and the safety of other people, please read through all safety instructions and operating instructions carefully and completely before commencing assembly.
- Retain the operating instructions and keep them available.
- If you have not understood the safety instructions or any individual installation instructions or find them unclear, please contact your REHAU sales office.
- Failure to observe the safety instructions can result in damage to property or personal injury.

Observe all applicable national and international accident prevention and safety regulations, the instructions in this technical information as well as the safety data sheets of the adhesives and cleaning agents used.

Also observe the currently applicable laws, standards, directives, regulations (e.g. DIN, EN, ISO, DVGW, TRGI, VDE and VDI) as well as regulations regarding environmental protection, employer's liability insurance association provisions and regulations from local utility companies.

Application areas that are not included in this technical information (special applications) require consultation with our technical applications department.
Please contact your REHAU sales office for a detailed consultation.

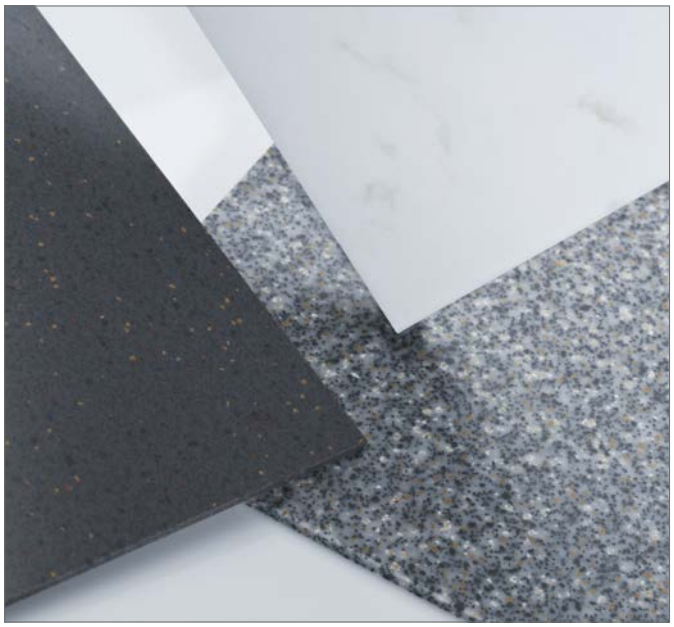
The assembly instructions relate directly to the respective REHAU product. Reference is made to extracts of generally applicable standards or regulations.
Observe the relevant applicable version of directives, standards and regulations. Further standards, regulations and directives must also be taken into consideration and do not form part of this technical information.

Personnel prerequisites
- Only allow the production and installation to be carried out by authorised and trained professionals.
- Only allow work involving electrical connections to be carried out by professionals who have received training in this and are authorised to do so.

General precautions
- Keep your workplace clean and free from objects that may impede you.
- Ensure that your work space has adequate lighting.
- Keep children, pets and unauthorised persons away from tools and installation areas. This applies particularly in the case of renovation work in an inhabited area.
- Only use the components intended for the REHAU I HANEX product range.

Work clothes
- Wear protective goggles, suitable work clothes, safety footwear and a hair net for long hair.
- Do not wear loose-fitting clothing or jewellery, as they may become caught in moving parts.
- When performing installation work at or above head height, wear a hard hat.

2 PRODUCT DESCRIPTION



REHAU I HANEX is a homogeneous, non-porous, mineral-filled acrylic sheet made from aluminium trihydroxide (ATH) and PMMA. This material, which is durable and easy to clean, has a high-quality appearance and is pleasantly warm to the touch.
REHAU I HANEX offers a wide range of design diversity for functional and decorative applications in the areas of interior design, kitchens, sanitation, hospitals, doctor's surgeries and furniture.

2.1 Material properties

REHAU I HANEX solid surface material is:
- Non-porous
- Homogeneous
- Evenly coloured across its entire thickness
- Easy to clean
- Low-maintenance
- Hygienic
- Food-safe and tasteless
- Stain-resistant
- Light-fast
- Waterproof
- Possible to bond producing a virtually invisible joint
- Thermoformable
- Like wood, can be processed with hard metal tools
- Can be made to look as new with repeated sanding
- Repairable

2.2 Health and safety at work and disposal

REHAU I HANEX is a cured acrylic resin composite material and has no environmental impact.
- Waste code in accordance with waste catalogue ordinance:
- 170203/construction and demolition of wastes consisting of wood, glass, plastic
- 120105/wastes from mechanical shaping processes and from the physical and mechanical surface treatment of metals and plastics (plastic shavings and turnings)
- The swarf is non-toxic. The dust concentration should be minimised through suitable protective measures such as extraction or dust masks.
- Dust from REHAU I HANEX presents no specific risk of explosion.

2.3 Fire behaviour

REHAU I HANEX exhibits a fire behaviour and is classified as B - s1, d0 in accordance with DIN EN 13501-1 thanks to its composition of ATH and PMMA. 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.
The information and recommendations provided here do not release the fabricator from strict adherence to all applicable safety and environmental regulations as well as the regulations of the industrial and trade supervision and employer's liability insurance association as these always take precedence.

It is imperative to observe and adhere to the safety regulations of the adhesives used.

Supplementary working substances such as e.g. alcohol-based cleaners and other highly flammable materials should only be stored in a safe and well-ventilated place.

Safety equipment such as gloves, safety goggles, ear protectors and dust masks must always be used.

3 TRANSPORT, PACKAGING AND STORAGE

The external packaging must be immediately checked for signs of damage upon receipt of the goods:
- If damage has occurred, open the packaging in the presence of the haulier and record the damage to the goods.
- This must be confirmed by the driver of the haulage company with their name, haulage company, date and signature.
- The damage must be reported to the haulier within 24 hours.

In the event of a failure to comply with this, the haulier's insurance company will not accept liability!

3.1 Transport

- The general transport and loading provisions must be observed across the board.
- Upon delivery, always unload pallets with a forklift truck or similar appliance.
- If such appliances are not available, manually unload the pallets upright, one by one and with two people. It is advisable to use transport
  aids such as vacuum lifters, lever handles and board transporters for handling.
- 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. Alternatively, slide them horizontally onto a pallet of the same height (Abb. 3-1).
- In cold conditions, boards in particular are significantly more brittle and prone to breakage, as are semi-finished and finished products. This must be taken into consideration during transport.

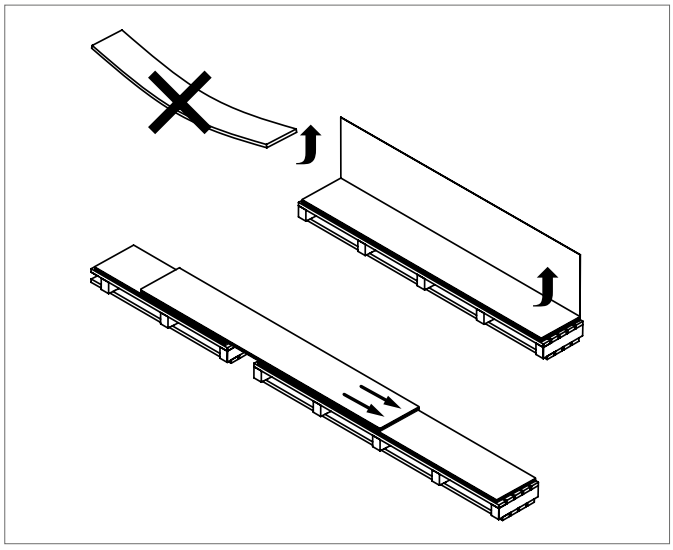


Abb. 3-1 Transport

3.2 Packaging

It is imperative that the corners and surfaces of processed RE-HAU I HANEX are protected. It is advisable to use corrugated board or bubble wrap to protect the surfaces. For the corners and edges, foam blocks, foam angle profiles or robust cardboard angle profiles should be used.

Worktops with cut-outs should only be transported upright. All weak points such as cut-outs, notches or cut-outs with inserted moulded parts must be protected with 19 mm thick single-piece chipboards.

For safety reasons, labels with “Fragile, handle with care” in the warning colour red should additionally be applied to all packaging.

3.3 Storage

REHAU I HANEX boards should be stored flat as well as level and be continuously supported in order to prevent sagging or warping.

REHAU I HANEX mouldings should not be stacked more than six high, even in their packaging.

4 PREREQUISITES FOR PROCESSING

4.1 Substrate material/substrate construction

- Low-formaldehyde chipboard E1 as per EN 312
- Plywood as per EN 313
- MDF as per EN 316
- 25 mm thickness REHAU I HANEX 6 mm
- 19 mm thickness REHAU I HANEX 12 mm
- Plywood frame construction 100 x 25 mm for REHAU I HANEX 12 mm
- Metal frame construction 20 x 20 mm for REHAU I HANEX 12 mm

4.2 Lightweight boards as substrate

4.2.1 Cardboard honeycombs with chipboard or HDF top layers

- These solid surface sheets are fixed across the surface using dots or a line of adhesive lengthwise and diagonally every 600 x 600 mm with silicone Sikaflex 221, Sikabond Parquet or MS Polymer to be permanently elastic.
- Reinforce the edges of cardboard honeycomb with a timber batten/ thick veneer
- Determine the thickness of the balancing sheet for planarity
- Not suited for locations exposed to thermal loads (e.g. kitchen)

4.2.2 Poplar plywood

- These solid surface sheets are fixed across the surface using dots or a line of adhesive lengthwise and diagonally every 600 x 600 mm with silicone Sikaflex 221, Sikabond Parquet or MS Polymer to be permanently elastic
- Determine the thickness of the balancing sheet for planarity

4.2.3 Poplar chipboard

- These solid surface sheets are fixed across the surface using dots or a line of adhesive lengthwise and diagonally every 600 x 600 mm with silicone Sikaflex 221, Sikabond Parquet or MS Polymer to be permanently elastic
- Weight reduction of 30% compared to standard chipboard
- Determine the thickness of the balancing sheet for planarity

4.2.4 Polystyrene foam with HDF top layers or solid surface coating

- These sheets are fixed across the surface using dots or a line of adhesive lengthwise and diagonally every 600 x 600 mm with 1-component PU adhesive (e.g. Sikabond Parquet) to be permanently elastic
- REHAU I HANEX acrylic adhesive dissolves polystyrene foam, timber batten/thick veneer as intermediate layer prior to edging with REHAU I HANEX
- Determine the thickness of the balancing sheet for planarity
- Polystyrene foam with a volume weight of below 100 kg/m^3 is not suitable, respectively a significantly stronger balancing sheet is required

4.2.5 Polyurethane (PUR) foam

- These sheets are fixed across the surface using dots or a line of adhesive lengthwise and diagonally every 600 x 600 mm with 1-component PU adhesive (e.g. Sikabond Parquet) to be permanently elastic
- 2-component acrylic adhesive REHAU I HANEX for edgebanding with REHAU I HANEX
- Determine the thickness of the balancing sheet for planarity
- Polystyrene foam with a volume weight of below 100 kg/m^3 is not suitable, respectively a significantly stronger balancing sheet is required
- TI REHAU I HANEX on PUR sheet RG100 at www.rehau.de/rauvisio

4.2.6 XPS foam sheet

See chapter “interior design with REHAU I HANEX“ on page 31.

4.3 Balancing sheet material for the substrate

A phenol sheet or high-pressure laminate (HPL) sheet 0.7 – 1.0 mm must be used as balancing sheet for the substrate.

4.4 Tools

Essential basic equipment:
- Veneer press
- Adhesive roller/notched trowel
- Router/table shaper
- HM milling tools
- HM saw blades (flat trapezoidal tooth)
- Screw clamps/edge clamps
- Contact adhesive
- Double-sided adhesive tape
- Random orbital sander stroke 3
- Light-coloured, clean, lint-free cloths
- Acetone or spirit (oil-free)
- Micro-finish sanding paper/sanding fleece

Do not use jigsaws!

5 PRIOR TO PROCESSING

5.1 Checking sheets

Please check the sheets for the following issues prior to carrying on with the processing:
- External damage, such as cracking or notches
- Surface damage
- Warpage
- Colour consistency within the production batch

When joining sheets with the same decorative design, only sheets with the same production number should be used.

When processing sheets with different production numbers, it is imperative that the colour compatibility is checked prior to processing. Check for colour consistency in daylight, not in bright sunlight. The best judgement can be made in daylight without exposure to sunlight and with a damp cloth (this comes very close to the visual end result) from a viewing distance of 60 cm.

5.2 Checking sinks and basins

Please check the sinks and basins for the following issues prior to carrying on with the processing:
- Flatness of the shape of the edge
- Edge milling
- Damages caused by improper transport or unprofessional handling

5.3 Checking the 2-component acrylic adhesive

The adhesive must evenly cure at room temperature within the allotted time. If this is not the case, the adhesive must no longer be used.
A technical data sheet and safety data sheets regarding adhesives/ curing agents are available from www.rehau.de/rauvisio.

5.4 Conditioning

Prior to processing, REHAU I HANEX sheets and all other materials to be processed must be conditioned at room temperature (min. 18 °C) for a minimum of 24 hours. Processing is also carried out at room temperature.

5.5 Documents for the material warranty

The delivery notes for boards, sinks and basins have to be retained for the material warranty as well as the labels of the processed sheet batches.
Furthermore, the batch numbers must be noted on the delivery note.

6 PROCESSING REHAU I HANEX

6.1 Mechanical processing of REHAU I HANEX

6.1.1 Sawing/milling

Do not use jigsaws.

Approved and sharp tools which are tungsten carbide-tipped (HM) and offer sufficient performance:
- Manual routers 1,600–2.200 W, speed 8,000–24,000 rpm
- Table shaper 3,000-5,000 W
- Panel saws with speed 4,000-4,500 rpm.
- Saw blades with positive/negative flat trapezoidal tooth (e.g. d = 300 mm, z = 96).

Notching effect
The molecular structure of REHAU I HANEX requires that all cut and milled edges have a radius of at least 1.5 mm. Internal corners must be rounded with a radius of at least R6, while internal corners exposed to thermal loads must be rounded with a radius of at least R10.

6.1.2 Drilling

Do not use auger or gimlet bits.

- Ø 10 mm HM drill with inverted V-point 60°
- Ø >10 mm HM drill with cylinder head with two strobes

6.2 Adhesives

6.2.1 REHAU I HANEX 2-component acrylic adhesive

The REHAU I HANEX 2-component acrylic adhesive in the relevant sheet decorative design is used to bond REHAU I HANEX edgebands, REHAU I HANEX sheet joints or REHAU I HANEX sheet connections. The REHAU I HANEX 2-component acrylic adhesive in the relevant basin decorative design is used to bond REHAU I HANEX washbasins and sheets.

- Check the adhesive prior to use.
- Only use the adhesive if it cures evenly within 48 hours!
- Can be used until the date on the label, as long as it has been stored at a constant temperature of 5-18°C without exposure to direct sunlight. After this date, test the adhesive beforehand to ensure that it still cures as specified.
- A higher storage temperature significantly reduces the processability (e.g. six months at 25°C).
- Data sheet at www.rehau.de/rauvisio.

Material requirement 2-component acrylic adhesive
1 250 ml cartridge suffices for approx.:
→ 7 running metres (lfm) 40 mm edgeband
→ 10 running metres 30 mm edgeband
→ 25 running metres 10 mm edgeband

6.3 Bonding/fastening

The 1-component PU adhesive Sikabond Parquet can be used both for bonding REHAU I HANEX 6 mm with other substrate materials than wood material (e.g. plasterboard, Fermacell, Styrodur or PU sheets) as well as for bonding with wood materials, when no press is available.
Ensure even application of the adhesive and press down well with the hard rubber roller.

Adhesive application:	approx. 400 g/m² with notched trowel with 1 mm teeth
Open time:	1 h at 20°C
Pressure:	Manual with a hard rubber roller. Store flat and level (transport horizontally, do not bend)
Repressing	min. 12 h stack pressure across the whole surface, min. 30 cm FPY stack (= 200 kg/m²).

6.3.1 Surface fastening of REHAU I HANEX for 6/12 mm

REHAU I HANEX sheets in thicknesses 6/12 mm must not be bonded with the substrate material across the whole surface.

These solid surface sheets are fixed with silicone, Sikaflex 221, Sikabond Parquet or MS Polymer using dots or a line of adhesive lengthwise and diagonally every 600 x 600 mm to be permanently elastic.
- REHAU I HANEX 6 mm on a continuous substrate P3 (moisture-resistant) min. 25 mm.

- REHAU I HANEX 12 mm on a frame construction 600 x 600 mm made of plywood strips 25 x 100 mm glued and dowelled to make them waterproof, aluminium or metal frames 600 x 600 mm made from a profile cross-section min. 20 x 20 mm or on a continuous substrate P3 min. 25 mm (Abb. 6-1).
  The double-sided adhesive tape 3M 9088 can also be used for aluminium or metal frames.

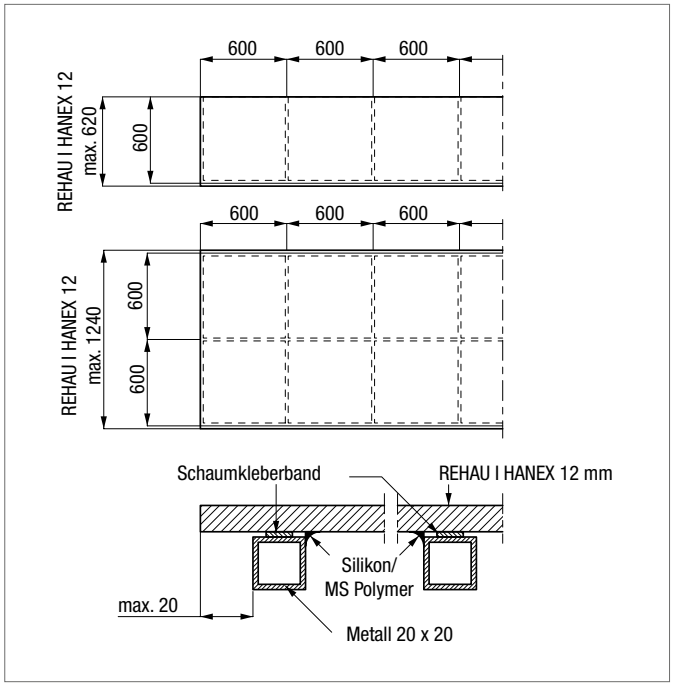


Abb. 6-1 Surface fastening of REHAU I HANEX 12 mm

The adhesive joint should be 1-2 mm following compression. The underside and all edges of wooden substrates must be protected against moisture and water vapour.

6.4 Bonding edgebands and butt joints

The REHAU I HANEX 2K-Acrylkleber joins REHAU I HANEX with REHAU I HANEX, REHAU I HANEX with wooden substrates, wooden substrates with wooden substrates.

The wooden substrate should be low-formaldehyde (e.g. E1 chip-board). The 2-component acrylic adhesive does not fully cure on substrates with a high formaldehyde content.

After use, the adhesive cartridge can be re-sealed with the original seal and kept for further use.

Various edge designs can be produced using REHAU I HANEX 2-component acrylic adhesive.

It is advisable to design the edge butt-jointed placed below the sheet surface or a waterproof and hardly visible joint is achieved with a 45-joint made of REHAU I HANEX 6/12 mm. Clean all adhesion surfaces with acetone or spirit and a clean white cloth prior to edgebanding. Do not touch the adhesion surfaces with your fingers after this.

In order to achieve an optimum colour joint pattern, the saw cut is generally remilled at the adhesive edges and adhesion surfaces of the butt joints.
This applies for all decorative designs. Dirt and chipping on the edges from the saw make the adhesive joint clearly visible. Apply the 2-component acrylic adhesive to the edge strips with an edge surface that is free from chips (Abb. 6-2). Permitted joint gap 0.1-0.2 mm.

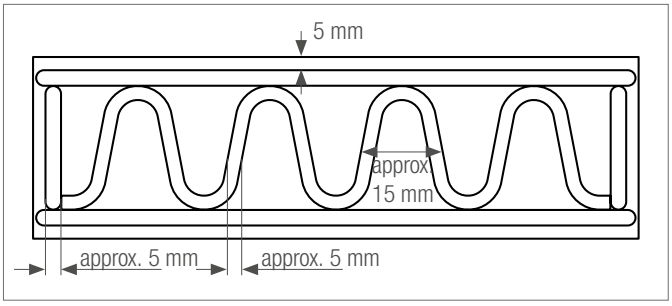


Abb. 6-2 Bonding edgebands and butt joints

A hardwood junction and edge clamps spaced at 20-25 cm are used for fastening, only fastened fingertight. A sufficient quantity of adhesive and level of pressure can be recognised by the adhesive emerging evenly and without interruption from the outer edges of the joint.

Prior to processing, check the colour compatibility of the sheet and the edgeband.

6.4.1 Bonding edgebands made of REHAU I HANEX 6/12 mm

When bonding edgebands made from material 6/12 mm to sheets in the relevant thickness, the edgeband is placed under the surface of the sheet (Abb. 6-3).

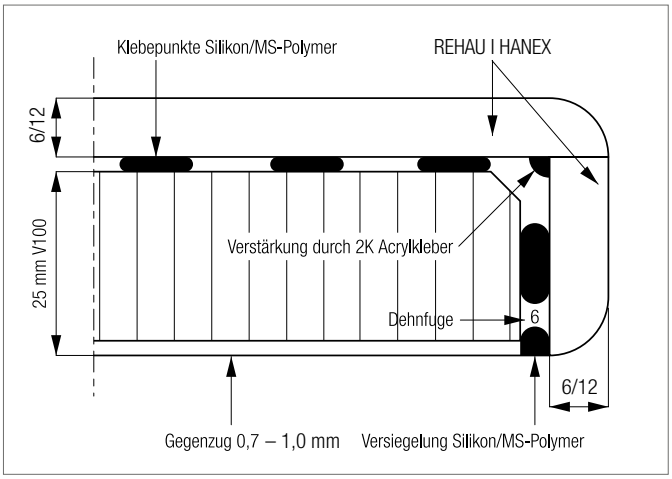


Abb. 6-3 Bonding edgebands made of REHAU I HANEX 6/12 mm

Surfaces and edgeband are joined with a 45°joint (Abb. 6-4) to achieve colour consistency in rough and special decorative designs.

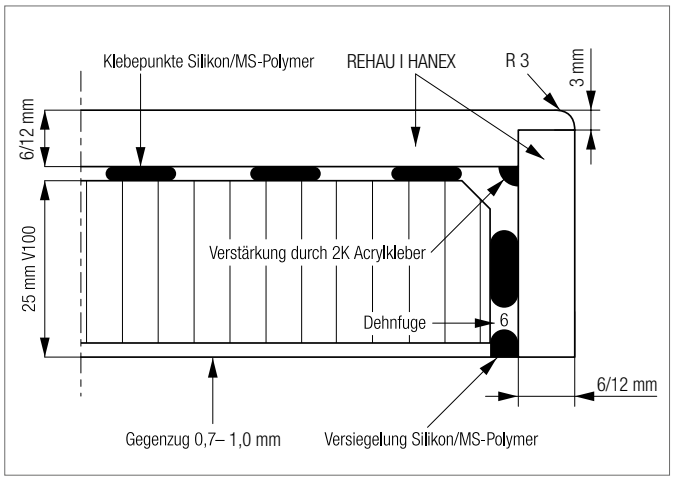


Abb. 6-4 Surface and edgeband with rough and special decorative designs with 45° joint

The saw cut of the edge strip is remilled prior to bonding. The adhesion surfaces on the sheet and edgeband are cleaned with acetone and spirit and no longer touched with your hands after that. The bonding is reinforced on the reverse side of the edgeband with an additional, continuous line of adhesive with the REHAU I HANEX 2-component acrylic adhesive (Abb. 6-6, 6-7 and fig. 6-8). An expansion joint of 6 mm must be left between the substrate and the edgeband.
After fixing the sheet to the substrate material, the joint is sealed with MS-Polymer (Abb. 6-6, 6-7 and fig. 6-8). After the acrylic adhesive has cured, the edgeband is milled flush or the desired radius is applied to it. The end finish is produced with micro-finish sandpaper for solid surface materials and a random orbital sander.
Manufacturing worktops with REHAU I HANEX Wooden substrates must be sealed on all sides on the underside of the edges against moisture and water vapour (e.g. PU adhesive, MS-Polymer) as well as a joint of the balancing sheet 0.7 (Abb. 6-6, 6-7 and fig. 6-8).

6.5 Manufacturing worktops with REHAU I HANEX

Wooden substrates must be sealed on all sides of the underside of the edges against moisture and water vapour (e.g. PU adhesive, MS-Polymer), as well as a joint of the balancing sheet 0.7mm (see also Abb. 6-5)

6.5.1 Manufacturing worktops with REHAU I HANEX 6 mm with board dimension exceeding 3680

Extending boards beyond the format 3680 is carried out during installation on-site as illustrated in fig.Abb. 6-15 or Abb. 6-16. This is achieved with two 25 x 6 mm tongue and groove joints in REHAU I HANEX across the entire connection joint.

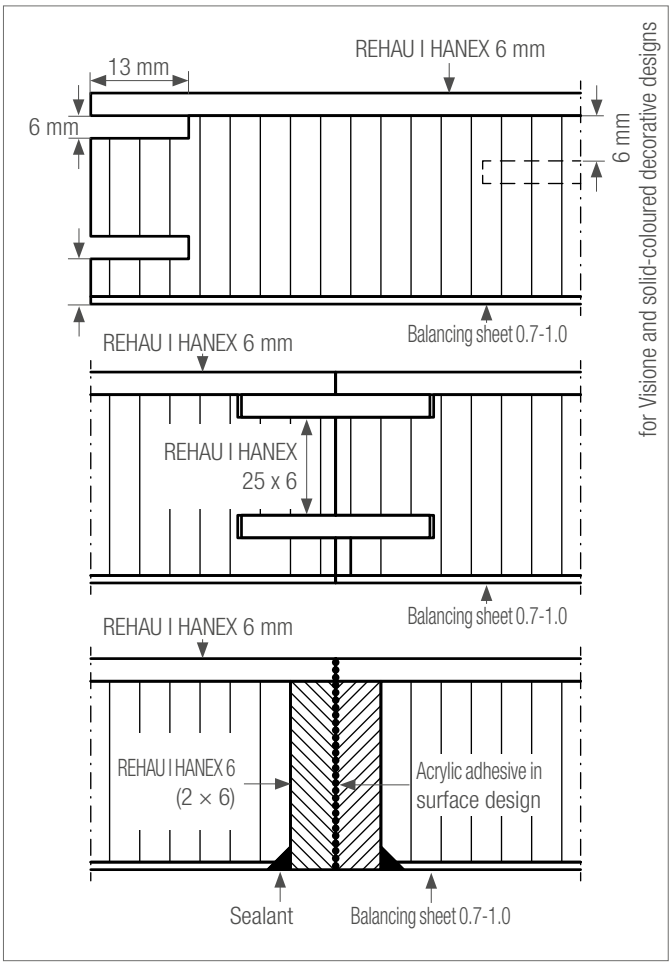


Abb. 6-5 Extension of worktops

The butt joints of the boards are remilled at right angles. In the area of the joint, cut a 13 x 6 mm groove into both sheets directly under the REHAU I HANEX material.
For translucent and solid-coloured decorative designs, cut a groove of 6 mm from the top edge so that the REHAU I HANEX tongue does not show on the substrate. Secure the grooves during transport with MDF tongues.
The second groove of the same dimension is cut approx. 6 mm from the bottom edge of the substrate (Abb. 6-8 and Abb. 6-9).
Alternatively to the design with the tongue/groove, a solid REHAU I HANEX edge strip (min. 6 and 12 mm thick) can be glued under the surface of REHAU I HANEX 6 mm and milled flush. Sand both surfaces with P80, clean and apply REHAU I HANEX acrylic adhesive in the surface design across the whole joining surface.

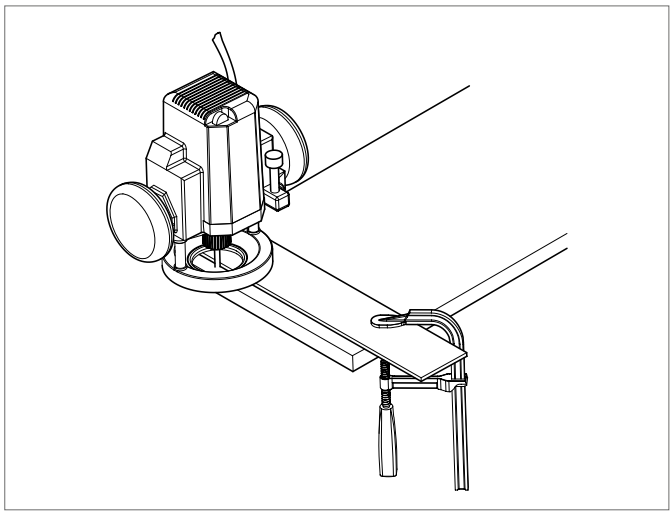


Abb. 6-6 Milling the groove

The milling stop for all milled grooves is generally the top surface of the REHAU I HANEX sheet.
Remove dust from the milled grooves, sand the REHAU I HANEX tongues on the top with grain size P 80, clean the REHAU I HANEX tongues and adhesion surfaces with spirit or acetone and no longer touch the adhesion surfaces with your hands. Glue in the tongues with 2-component acrylic adhesive in the board decorative design. Only clamp the butt joint hand-tight until the acrylic adhesive evenly emerges on the visible surface.
Joints on the balancing sheet are to be sealed against moisture and water vapour (e.g. PU adhesive).

Before the end finish, sand the adhesive joint flat with a belt sander all along the adhesive joint (P150). The manual end finish with a random orbital sander is always carried out diagonally to the adhesive joint.

6.5.2 Board joint REHAU I HANEX 6 mm on worktop with excess width

In the area of the REHAU I HANEX 780 mm board joint, mill a groove of 25 x 6.5 mm into the substrate. Insert a 24 x 6 mm REHAU I HANEX tongue into the groove using 2-component acrylic adhesive, sand the visible surface with grain size P 80 and after cleaning, glue it in place. The abutting faces of the REHAU I HANEX sheets are remilled at right angles and cleaned. Surface adhesive REHAU I HANEX is applied to the substrate, 2-component acrylic adhesive in the board decorative design REHAU I HANEX to the top surface of the glued-in tongue. Prior to placing and adjoining the remaining REHAU I HANEX sheet, apply a continuous line of 2-component acrylic adhesive to the edge of the first sheet. Apply the REHAU I HANEX surface adhesive with a glue roller. Too much glue is applied when using a notched trowel, the adhesion surface may float when pressed and the REHAU I HANEX sheets will move away from each other at the butt joints. Join the butt joint by hand using screw clamps or vacuum board clamps under pressure until the acrylic adhesive emerges on the sheet top surface without interruption. First of all, apply 50 mm wide Tesa 4024 adhesive tape (clear or brown, identical to the acrylic-based glue) diagonally to the butt joint at intervals of max. 30 cm and rub well. Then, apply the Tesaband 4024 along the entire length of the butt joint in two layers on top of each other and rub well. Remove the screw clamps or board clamps and partially reapply a double layer of adhesive tape along the butt joint. Then press the composite in the press (Abb. 6-10).
Before finishing, sand the adhesive joint flat along the adhesive joint with a belt sander. The manual end finish with a random orbital sander is always carried out diagonally to the adhesive joint.

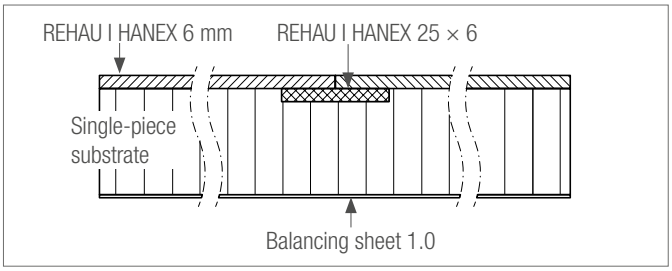


Abb. 6-7 Board joint on excess worktop width

Joints on the balancing sheet are to be sealed against moisture and water vapour (e.g. PU adhesive).

6.5.3 Corner connections or butt joints of boards made of REHAU I HANEX 6/12 mm

In the case of corner connections or butt joints, the sheet edges to be joined are positively/negatively remilled at right angles with a profile cutter. The cutter is positioned on the top surface of the sheet. The adhesive joint is increased in size through the profiling.
In the case of elements not exposed to thermal loads, a 50 mm REHAU I HANEX strip is glued across the bottom of entire length (Abb. 6-11). The strip can then be fixed at the ends with hot-melt adhesive.

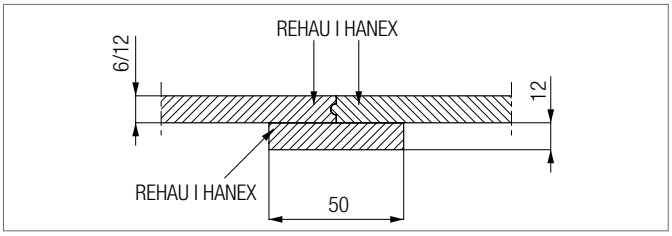


Abb. 6-8 Application with glue underneath elements that are not exposed to thermal loads

In the case of elements exposed to thermal loads, glue a REHAU I HANEX strip of 6 and 12 mm across the bottom of the entire length, which is milled at 45° on both sides (Abb. 6-12).
The strip can then be fixed at the ends with hot-melt adhesive.

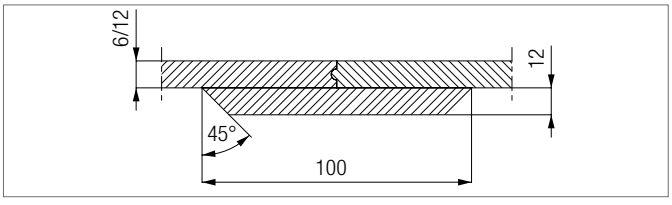


Abb. 6-9 Application with glue underneath elements that are exposed to temperature loads

Gluing is carried out with the REHAU I HANEX 2-component acrylic adhesive in the relevant board decorative design. Clean the adhesion surfaces with acetone or spirit and no longer touch them with your hands after this.
Adhesive joints are fixed with softwood blocks (do not use hard woods), using contact adhesive and hand-tightened screw clamps or board clamps.
Tighten the clamps/board clamp only until the adhesive emerges without interruptions on the joint.
Before finishing with a random orbital sander, sand adhesive joints at joints flat with a belt sander (P150).
The manual end finish with a random orbital sander is always carried out diagonally to the adhesive joint.

6.6 Installation of worktops with REHAU I HANEX

The worktops should be entirely supported by base units. This applies especially for areas with cut-outs for basins, sinks and hobs. Areas with cut-outs should only be loaded with weights of up to 25 kg. It is not permitted for people to sit or stand on worktop areas with cut-outs or projections.
The max. spacing of base units with worktops above should not exceed 40 cm. A single-sided, lateral worktop projection of up to 60 cm should be supported by two support feet. The positioning of dresser units on the worktop is not permitted in this area.
In the case of an installation between two walls, an expansion joint of 1 mm per running metre is to be taken into account. (e.g. room dimension 6 m/6 mm expansion joint). An expansion joint of min. 3 mm must be observed on the longitudinal wall (Abb. 6-13).

6.6.1 Installation of worktops with REHAU I HANEX in window recesses

For the installation in window recesses, an expansion joint of 3 mm must be observed on all sides.
The inner corners on the REHAU I HANEX transition from the window recess to the work surfaces should have a radius of min. R 6 (Abb. 6-13).

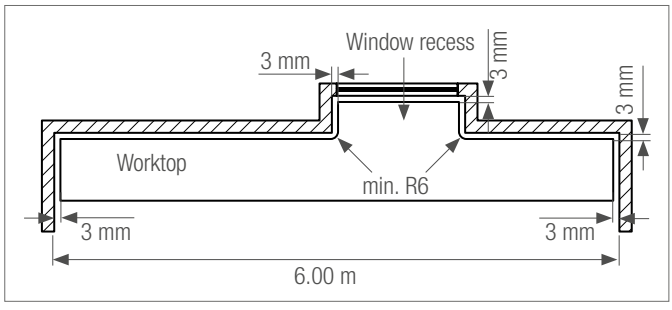


Abb. 6-10 Installation in window recess

6.7 Element connections

6.7.1 Manual corner connections

Mill the edges of the connection elements neatly and at a right angle (Abb. 6-14).

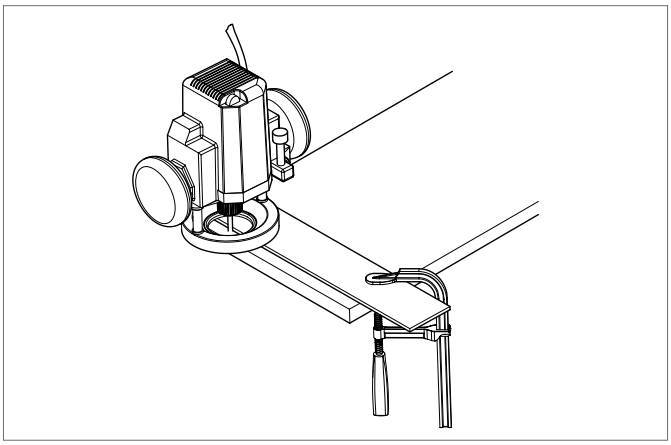


Abb. 6-11 Routing the edges

Milled grooves, REHAU I HANEX tongues and bonding see chapter 6.5.1.

Lay the sheets flat and join them. Join the two elements by attaching offset softwood blocks (do not use hardwood) with contact adhesive and fastening using screw clamps. Do not apply adhesive dots above the groove, otherwise there is a risk of breakage when the softwood blocks are subsequently removed. Alternatively, vacuum board clamps can be used. Only tighten the clamps/board clamps until the adhesive continuously emerges on the top surface of the board without interruption. After approx. 45 min. the fixing blocks can be removed/ the board clamps can be removed and the joint finished to the same standard as the sheet elements (Abb. 6-15). Sand the adhesive joints on the joint flat with a belt sander (P150) prior to finishing with the random orbital sander. The manual end finish with a random orbital sander is always carried out diagonally to the adhesive joint.

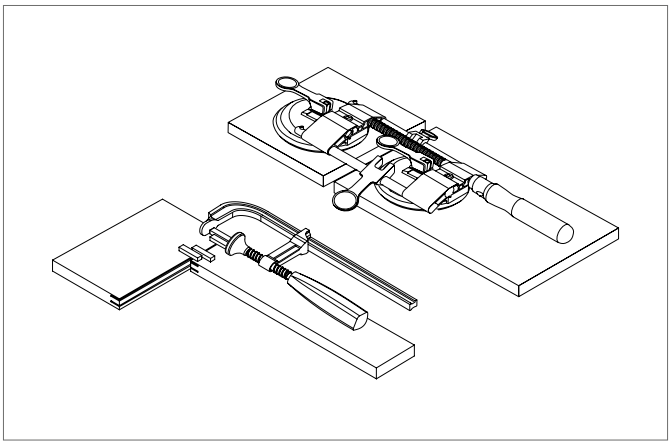


Abb. 6-12 Joining boards

6.7.2 Corner connection with worktop clamps for REHAU I HANEX 6 mm

A mechanical corner connection can also be produced by routing and fitting worktop clamps. In order to avoid stress cracks and achieve a joint that is also almost invisible, use REHAU I HANEX 2-component acrylic adhesive and the two glued-in REHAU I HANEX tongues as in connection design A. Only tighten the worktop clamps until the adhesive emerges evenly along the top surface of the sheet without interruption (Abb. 6-16 and Abb. 6-17). Sand the adhesive joints on the joint flat with a belt sander (P150) prior to finishing with the random orbital sander. The manual end finish with a random orbital sander is always carried out diagonally to the adhesive joint.

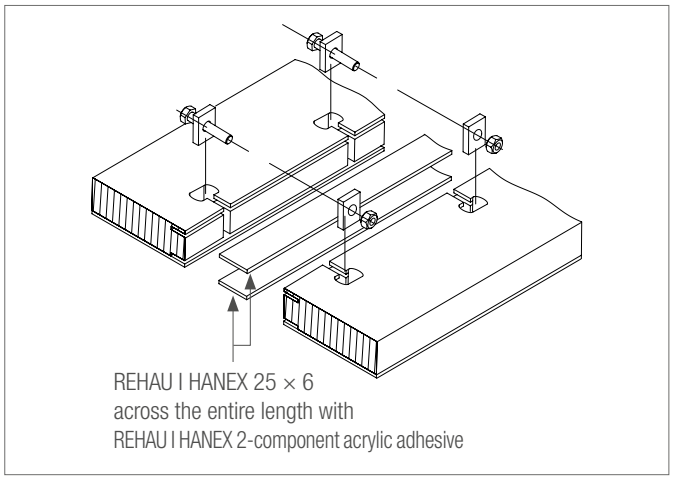


Abb. 6-13 Corner connection with worktop clamps

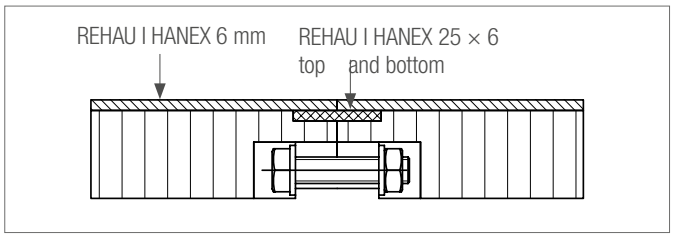


Abb. 6-14 Corner connection with worktop clamps

Corner design options

1. Corner design with 45° joint not permitted
2. 90° corner design without milling
3. 90° corner design with 45° milling
4. 90° corner design with inside radius

(see Abb. 6-18)

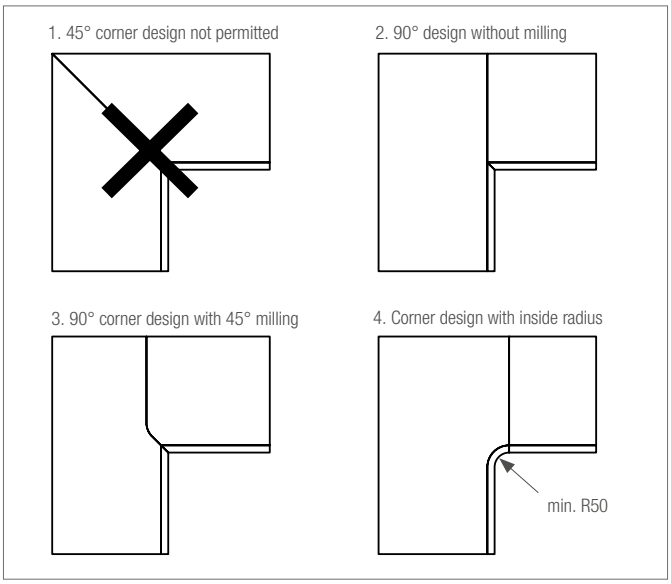


Abb. 6-15 Possible corner designs

6.8 Joints and cut-outs for REHAU I HANEX

Only use 2-component acrylic adhesive REHAU I HANEX for all edge an joint adhesions. Open time: approx. 10 min., further processability after approx. 45 min. The curing of the adhesive can be checked with a fingernail.

When using REHAU I HANEX acrylic adhesive, always use the respective colour-coordinated adhesive for the decorative design of the sheet.

Positioning of joints and cut-outs

No joints are permitted in the cut-out areas for sinks, washbasins and hobs.
Likewise, no joints are permitted over any appliances that emit heat, cold or water vapour (e.g. dishwasher, washing machine, oven, freezer).
Joints adjacent to cut-outs or appliances that emit heat, cold or water vapour should be a minimum of 100 mm away.
The minimum distance for hob cut-outs from corner connections and from the front edges of the board is 100 mm, the minimum distance between 2 hob cut-outs next to each other is 200 mm. The minimum distance for sink cut-outs from corner connections and from the front edge of board is 50 mm, the minimum distance between 2 cut-outs next to each other (e.g. for washbasins and sinks) is 100 mm.
No diagonal joints are permitted for the design of corner connections (Abb. 6-19).

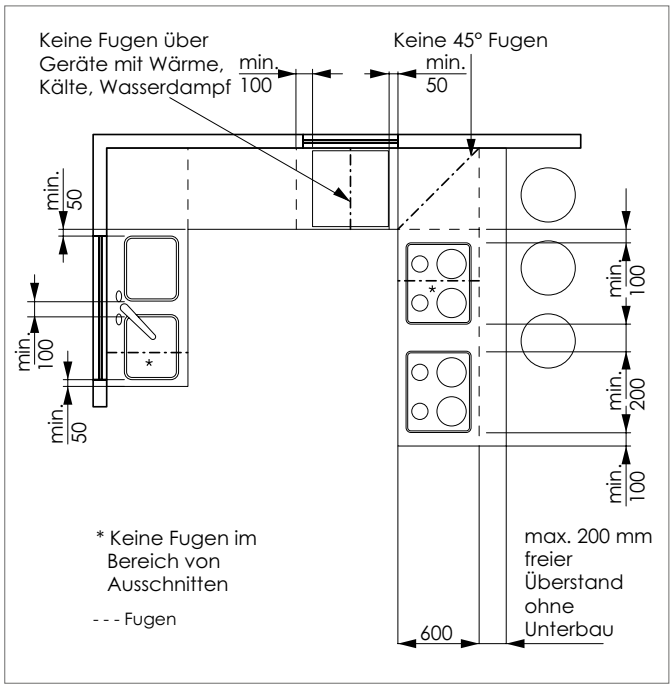


Abb. 6-16 Arrangement of worktops and joints

6.8.1 Cut-outs in worktops with REHAU I HANEX for applications, which are not exposed to thermal loads (e.g. stainless steel sinks)

All four corners radius R6. Mill the cut-out and apply a radius R3 to the milled edges of REHAU I HANEX all the way around.
Jigsaws are not permitted for the production of cut-outs as the stress cracks result in REHAU I HANEX.from the chipped notches of the saw cut.
Seal the cut-out edges of the substrate to prevent moisture from entering (e.g. PU adhesive, silicone or similar). A heat protection tape as for hob cut-outs is not required here.

6.8.2 Cut-outs and installation of hob units with REHAU I HANEX

Mill cut-outs for hob units with a router or CNC machine, corner radius min. R10.
Jigsaws are not permitted for the production of cut-outs as the stress cracks in REHAU I HANEX result from the chipped notches of the saw cut.

REHAU I HANEX 6/12 mm sheets are reinforced underneath on the cutout edges with 2 material strips (left and right) width min. 160 milled out min. 100 mm and 2 pcs. (front and back) min. 50 mm wide in 12 mm thickness. Bonding with REHAU I HANEX 2-component acrylic adhesive (Abb. 6-20).

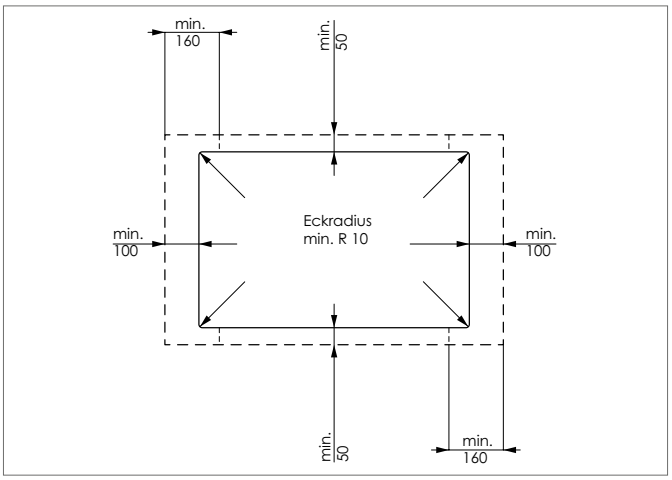


Abb. 6-17 Hob unit cut-out

Check the dimensions of the mounting part (internal housing and rim). The distance between the hob unit and the worktop cut-out must be min. 7 mm on all four sides. The internal corners of the cut-out should be min. radius R10 (Abb. 6-21 and Abb. 6-22)

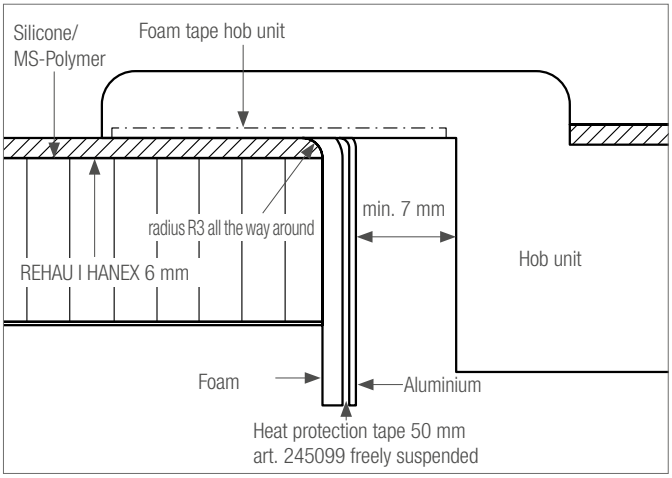


Abb. 6-18 Installation hob unit

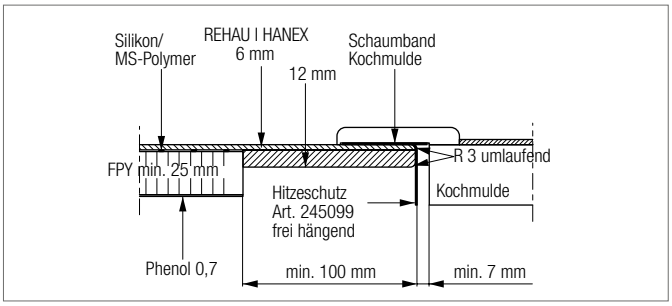


Abb. 6-19 Installation hob unit

If the minimum gap of 7 mm between the hob unit and worktop cut-out cannot be met all the way around, a stainless steel frame, which is mounted on the hob unit, is to be produced. A gap of min. 7 mm between the stainless steel frame and the REHAU I HANEX cut-out all the way around must be adhered to. The heat protection tape mat. no.1245099 must be applied all the way around to the REHAU I HANEX cut-out edge.

If the frame is screwed onto the cut-out, the heat protection tape must be applied over the screws. Clip joint screws, which are applied to the cut-out edges, should also be covered with heat protection tape.
A radius of R3 is milled all the way around on the cut-out edges at the top and bottom of REHAU I HANEX 6/12 mm.
Before installing the hob unit, seal the cut-out edges of the chipboard against moisture. A PU adhesive is suitable for this. (The REHAU I HANEX heat protection tape will not stick to silicone). The surface of the solid surface sheet is then sanded to the specified end finish.
The matt finish is recommended for work surfaces, the super matt finish for dark decorative designs. The heat protection tape mat.no. 1245099, made from the components foam and aluminium tape is applied continuously all around the edges of the cut-out up to the top edge of the REHAU I HANEX material (end of the radius R3). The heat protection tape is 50 mm wide and the projection over the worktop should be freely suspended (Abb. 6-21 and Abb. 6-22).
The rim of the hob must not rest directly on the REHAU I HANEX surface. Always attach the foam tape provided by the hob supplier under the rim before installing the hob units (Abb. 6-21 and Abb. 6-22).
Frameless hob units must not be installed in surfaces made from REHAU I HANEX as these do not create any boundary to the REHAU I HANEX cut-out and cause damage by overheating(Abb. 6-23).

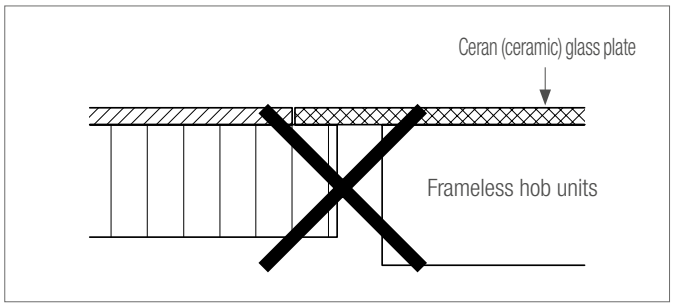


Abb. 6-20 No installation of frameless hob units

Hob units that are not fitted or used as directed can cause stress cracking due to heat on the REHAU I HANEX.

Causes of stress cracking:
- The hob unit was cut out with a jigsaw.
- The corner radii of the cut-out are smaller than 10 mm.
- The distance all the way around the hob unit housing to the worktop cut-out is less than 7 mm.
- The radius R3 has not been milled all the way around on the cut-out edge of the worktop.
- The heat protection tape mat. no. 1245099 has not been applied at all or not fully applied.
- The heat protection tape mat. no. 1245099 was damaged during installation of the hob unit, e.g. on the corner radius or by a screw/clip
- A hot pot was placed without a trivet, fully or partially, on the REHAU I HANEX worktop.

This information only applies for hob units, hot plates or similar in the domestic area, not in the commercial sector.

Industrial kitchens and catering
For hob units, fryers, hot plates or similar. A stainless steel frame is generally fitted additionally for appliances that radiate heat in excess of 80°C in the installation area of the worktop or counter. The total distance between the internal unit housing and the edge of the cut-out edge in the worktop or counter should be no less than 20 mm.
Three layers of the REHAU I HANEX heat protection tape mat. no. 1245099 are applied:
1. Layer below the stainless steel frame
2. Layer on the edges of the worktop cut-out, as previously described
3. Layer on the edges of the stainless steel frame. The heat protection tape also needs to cover the screw connection, which fix the stainless steel frame to the cut-out edges (Abb. 6-24)

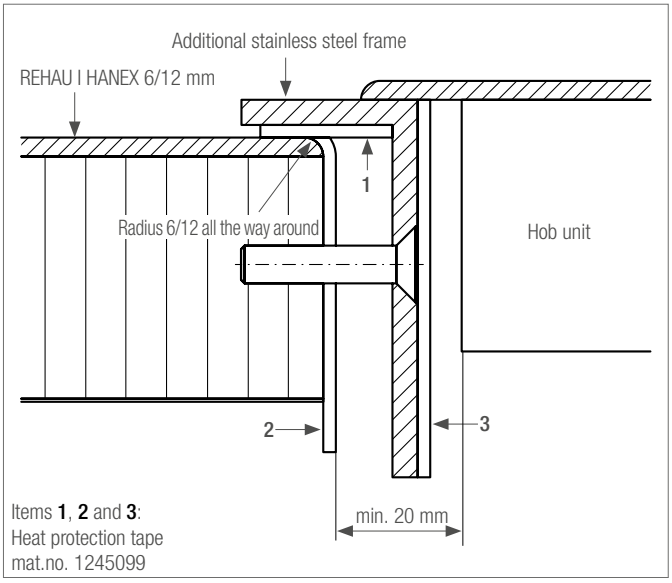


Abb. 6-21 Application of heat protection tape

6.9 Wall seal solutions and splash backs with REHAU I HANEX

6.9.1 Wall seal profile (WAP) 45 × 12 mm REHAU I HANEX

The standard solution for a connection to the wall is achieved using the 45 x 12 mm REHAU I HANEX edge strips. The strip is profiled on the top and has rebates of approx. 2 x 2 mm on the top and bottom. Sealing to the wall and to the worktop is achieved with sanitary silicone colour-coordinated with the REHAU I HANEX decorative design. Spray the excess silicone with releasing agent and use a plastic scraper to remove it neatly from rebate edges (Abb. 6-25).

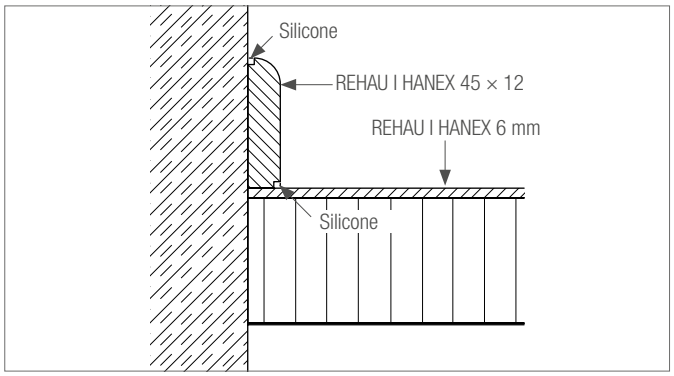


Abb. 6-22 Wall termination with REHAU I HANEX

6.9.2 REHAU I HANEX 6 und 12 mm to cover the wall recess

REHAU I HANEX 6/12 mm can be directly fitted to the wall. The bonding is carried out with PU construction adhesive or silicone applied as dots or stripes with approx. 30 cm spacing (Abb. 6-27).

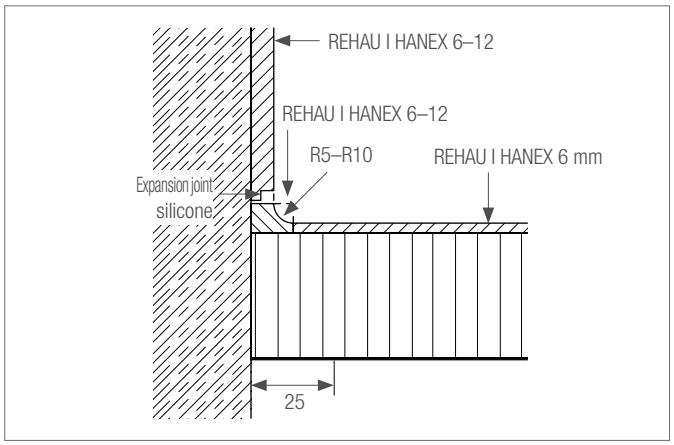


Abb. 6-23 Splash back

6.9.3 Wall seal 6/12 mm with fillet without splash back

The end strip of REHAU I HANEX 60 mm with the fillet design is directly integrated on the worktop for a wall connection without splash back (Abb. 6-28 and Abb. 6-29).

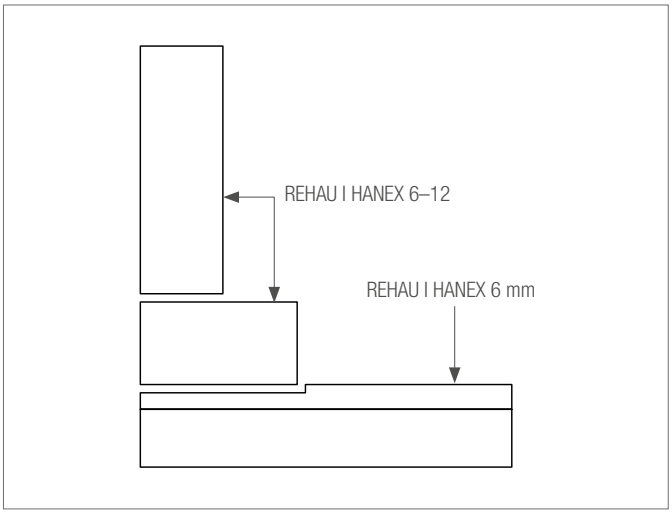


Abb. 6-24 Wall connection with fillet

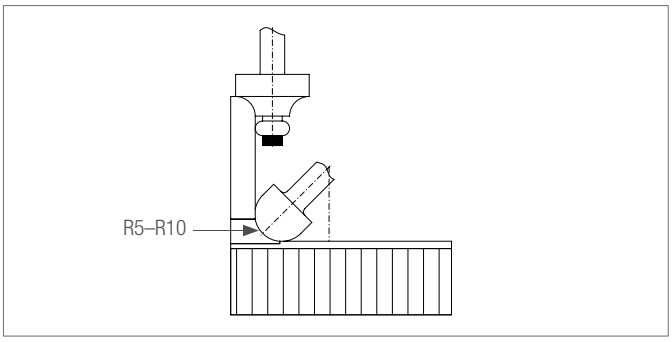


Abb. 6-25 Wall connection with fillet

6.10 Cast washbasin base

For all basin products, dxf files for the CNC milling cutter or when using a router, templates for the cut-out and rebate are available. Cast basins are undermounted (Abb. 6-30).

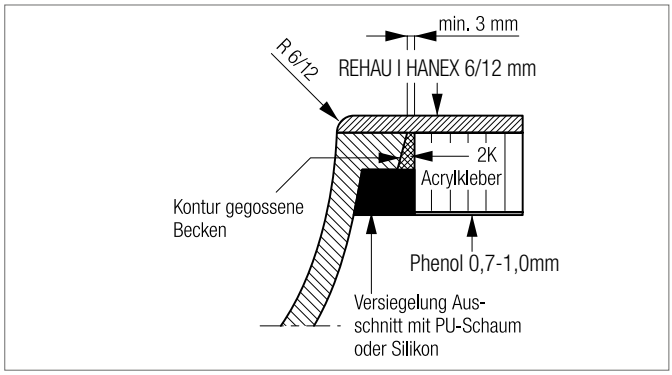


Abb. 6-26 Radius R6 for boards 6 mm / R12 for boards 12 mm

Milling tools
- CNC milling cutter or high-performance router with min. 10 mm collet chucks
- 10 mm groove cutter
- Guide bush for the router matched to the required rebate width of the respective basin
- Rebating cutter
- For router: Templates for the cut-out and rebate
- Radius cutter suitable for the thickness of the REHAU I HANEX sheet or 45° milling cutter with plastic thrust ring

Remove the dust from the milling contours of the substrate and clean the adhesion surfaces of the basin and the REHAU I HANEX surface in the adhesive rebate with spirit (ethanol) or acetone. Do not touch the adhesion surfaces with your hands after cleaning (prevents adhesion). Apply 2-component acrylic adhesive in the same colour as the basin to the adhesive rebate, insert the basin and fix with clamping screws. Apply pressure until the acrylic adhesive emerges evenly along the inner edge of the basin without interruption.
After the adhesive has cured (approx. 45 min.), the desired “satin matt” surface finish matching the basins is produced. The inner contour of the basin may have a radius applied. Use a milling tool fitted with a plastic thrust ring to avoid scratches on the basin surface with the “satin matt” surface finish.
Seal the cut-out edge of the substrate against moisture using PU adhesive, acrylic or silicone.

6.11 Washbasin base

These basins are produced in all sheet decorative designs from 12 mm REHAU I HANEX sheets using the vacuum forming process. The basins are undermounted (Abb. 6-31).

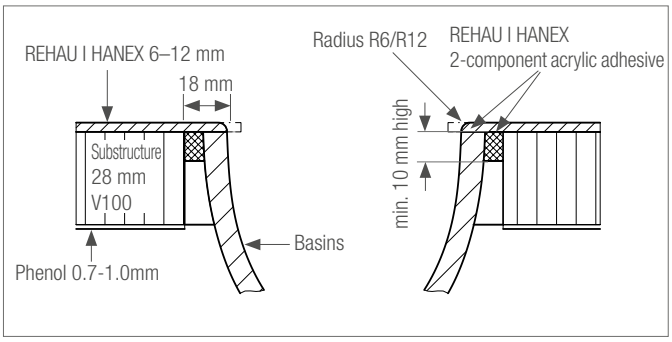


Abb. 6-27 Radius R6 for 6 mm boards / R12 for 12 mm boards

For all basin products, dxf files for CNC milling machine or when using a router, templates for the cut-out and rebate are available.

Milling tools
- CNC milling cutter or high-performance router with min. 10 mm collet chucks
- 10 mm groove cutter
- 30 mm thrust ring
- 20 mm rebating cutter
- For routers: Templates for the cut-out and rebate
- Radius cutter suitable for the thickness of the REHAU I HANEX sheet or 45° milling cutter with plastic thrust ring

When using a router
Templates A + F are fixed to the underside of the substrate. Cut the contour for the basin cut-out in the REHAU I HANEX, which is approx. 3 mm smaller than the basin contour, all the way around using template A. Mark the position of template A and place template F in the same position. Following this, the rebate for the basin retainer is cut out of the substrate without producing swarf on the reverse side of the REHAU I HANEX sheet (Abb. 6-32).

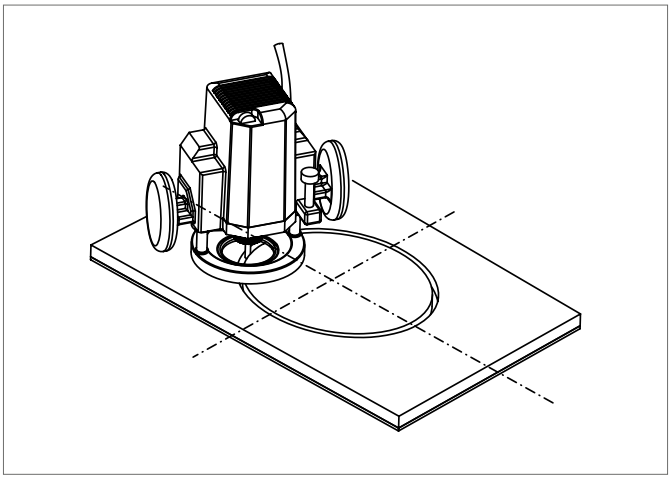


Abb. 6-28 Use of router

The outer contour of the milling rebate should be min. 6 mm larger than the contour of the basin all the way around (Abb. 6-33).

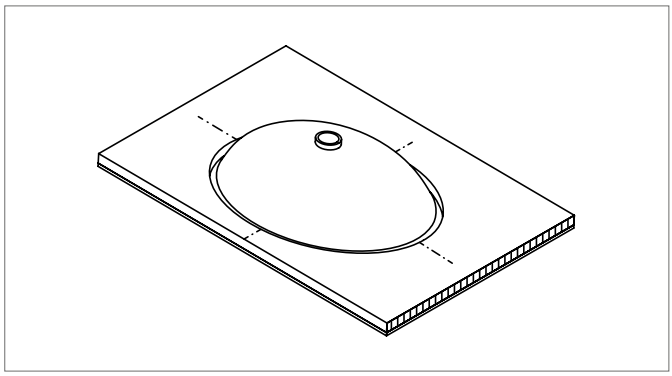


Abb. 6-29 Milled board and basin

Clean all adhesion surfaces (cut-out and basin edge) with acetone or ethanol (spirit) and do not touch them with your hands after this. Glue the basin under the REHAU I HANEX surface using 2-component acrylic adhesive in the decorative design of the basin. Fill the rebate with REHAU I HANEX 2-component acrylic adhesive to a height of at least 10 mm all the way around, so that stress caused by warm and cold water in the basin is dissipated into the substrate.
Fasten the basin with clamping screws for approx. 45 min or apply moderate pressure to the adhesion surface.
After the adhesive has cured, initially mill the contour of the basin cut-out flush and following this, radius 6 for REHAU I HANEX 6 mm or chamfer 45° exactly up to the edge of the basin/adhesive joint. In the case of other REHAU I HANEX sheet thicknesses, precisely select the radius for the sheet thickness.
This visually eliminates any colour differences, which are present in the natural solid surface or arise as a result of the moulding process.
For both of these cutting operations, use only milling cutters with a plastic thrust ring in order to prevent scratching of basins with a “satin matt” surface finish. Seal the cut-out edges of the substrate against moisture using PU adhesive, silicone, acrylic or similar. Alternatively, fill the cut-out with PU foam.
Holes for fittings in the substrate are sealed as described in section 6.12.

Due to the light reflection from two sides, the corner radii of square basins in solid-coloured decorative designs appear lighter than the adjacent surfaces.
This visual effect occurs regardless of material and colour shade (e.g. also with stainless steel, quartz).

6.12 Sealing holes for fittings in wooden substrates

Holes for fittings in wooden substrates should be sealed against moisture before fittings are installed to avoid swelling of the substrate caused by moisture. A 2-component epoxy cast resin is best suited for this, carried out as per Abb. 6-34. Alternatively, a solid block of glued REHAU I HANEX (with minimum dimensions 55 x 55 for standard fittings) in the thickness of the substrate may be inserted using 2-component acrylic adhesive (Abb. 6-34).

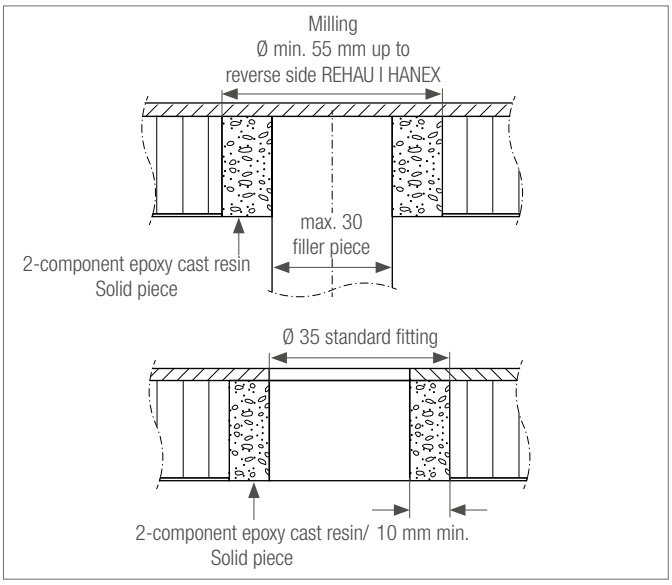


Abb. 6-30 Sealing holes for fittings

6.12.1 Sink base

Dxf files for the CNC milling cutter or templates for the router are available for all sinks. The sinks are installed from below into a rebate.

Milling tools
CNC milling cutter or high-performance router with min. 10 mm collet chucks

When using a router
Template with 30 mm thrust ring, 54 mm push-on sleeve and 18 mm milling tool for the cut-out
Template with 30 mm thrust ring and 18 mm milling cutter for the rebate
Radius cutter for the cut-out edge: R3.

Mounting underneath REHAU I HANEX 6 mm
If mounting the sink underneath REHAU I HANEX 6 mm mill it down to 3 mm (Abb. 6-36).

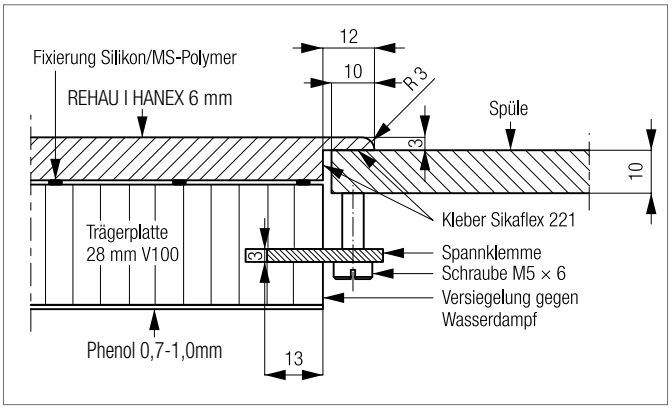


Abb. 6-31 REHAU I HANEX 6 mm base

With a 3 mm groove cutter, mill three grooves into each of the longitudinal sides and one groove into each into the transverse sides for the tension clamps.

Check the fit of the sink in the cut-out by placing it in. Sand the adhesion surface on top on the edge of the sink all around at a width of 8 mm with grain size P80. Clean the adhesion surfaces of the sink and REHAU I HANEX sheet with acetone or spirit and do not touch them with bare hands afterwards.
Allow the cleaned surfaces to air for min. 10 min.

Apply the enclosed, permanently elastic adhesive Sikaflex-221 from company Sika, insert the sink, and centre it with veneer strips. Tighten the screws of the tension clamps only until the adhesive continuously emerges all around the top of the visible side. Use the adhesive to seal the joint between the sink edge and substrate as well as the tension clamp grooves.

Use only Sikaflex-221 adhesive, as only with this adhesive can the leak-tightness of the joint be permanently guaranteed when the sink is subjected to thermal loads.

Seal any open areas on the top surface of the adhesive edge with Sikaflex adhesive.
Spray the visible joint with a releasing agent and remove excess adhesive with a plastic scraper. Remove any surplus adhesive on the surface with releasing agent. Following this, clean the surface of the sink with spirit if required.

Seal the cut-out edges of the substrate against moisture using PU adhesive, silicone or acrylic.

Silicone or acrylic sealing compound is not suitable for bonding REHAU I HANEX sinks!

Caution! Due to the risk of cracks in the adhesive joint and damage to the substrate caused by moisture, we strongly advise against the flush installation of the sinks.
Gluing the sink in the rebate below the worktop prevents water running onto the worktop.

Due to the light reflection from two sides, the corner radii of square basins in solid-coloured decorative designs appear lighter than the adjacent surfaces.
This visual effect occurs regardless of material and colour shade (e.g. also with stainless steel, quartz).

6.12.2 Sink unit base

The individual AQUASINO sinks are installed below REHAU I HANEX sheets (details see also section 6.11) 12 mm into a rebate (Abb. 6-37). Grooves can be milled into the sheet during the installation underneath REHAU I HANEX
12 mm for the water drain/dishes draining boards.

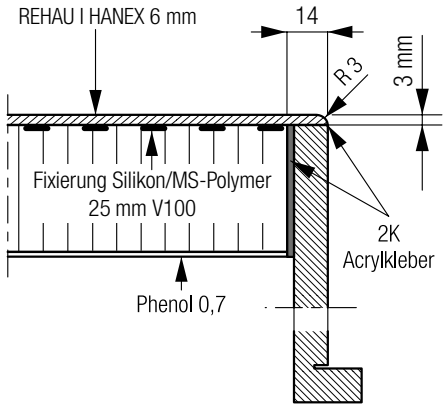


Abb. 6-32 Sink base

Due to the light reflection from two sides, the corner radii of square basins in solid-coloured decorative designs appear lighter than the adjacent surfaces.
This visual effect occurs regardless of material and colour shade (e.g. also with stainless steel, quartz).

7 THERMOFORMING REHAU I HANEX

When thermoforming REHAU I HANEX and other solid surface materials, there are considerable differences in comparison to the post-forming of HPL (high pressure laminate).

Stress cracks in the solid surface material due to incorrect in-depth processing do not always occur immediately during processing, but can also subsequently arise.

Comparison between post-forming of HPL / thermoforming of REHAU I HANEX

Post-forming HPL	Thermoforming REHAU I HANEX
Partial heating permitted	Partial heating is not permitted, warming of the entire surface and even heating of the sheet thickness is required.
Heat source radiant heater/fan heater permitted	Radiant heater/fan heater not permitted. Use heating rails for strips, e.g. edges or heating stages for sheets. The heating stage dimension must correspond to the REHAU I HANEX format, which is supposed to be shaped.
High temperature permitted	Temperatures above 160 °C not permitted as this will thermally damage REHAU I HANEX. Damage: discolouration, rough surface.
Very short temperature increase	Heating time at 140-160 °C for 6,12,19 mm thickness approx. 45 min./, approx. 25 min. using heating elements on both sides. Always shape with a positive and negative mould.

Heating tools

- Heating rail to shape edge strips
- Heated table or oven (convection) to shape surfaces, (press with heating plates above 150°C can also be used)
- The REHAU I HANEX strips or sheets must be warmed up evenly through the entire thickness of the material and the entire shape (Abb. 7-1 and Abb. 7-2)

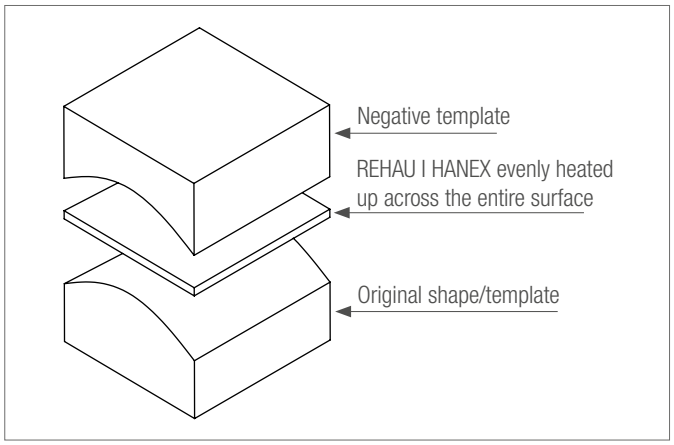


Abb. 7-1 Heating appliance and sheet

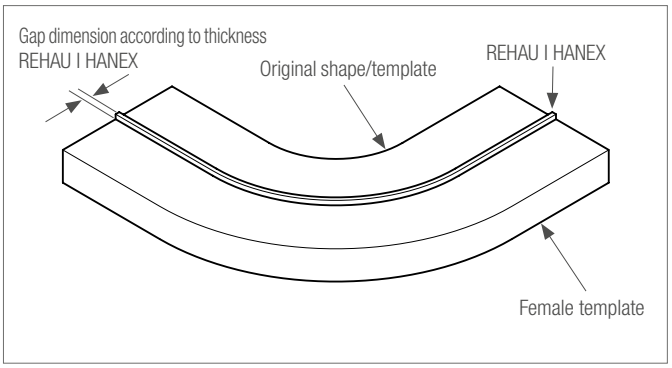


Abb. 7-2 Thermoforming

The smallest bending radius is approx. R70 for 6 mm sheets, for 12 mm sheets approx. R111. This statement is a non-binding guide value and must be checked by the fabricator with his heating elements, in particular for dark decorative designs and rough decorative designs. Different designs require different heating times, so these specifications can serve only as reference values. Check the ductility several times during heating or test in advance on a spare piece of material.

A positive and a negative template is generally required for shaping (original component and counterpart). A gap dimension must be observed between the templates, which corresponds to the sheet thickness of the REHAU I HANEX material to be shaped (Abb. 7-1 and Abb. 7-2).
Cooling period: Only remove the parts fixed in the templates once the temperature has cooled to min. 70 °C (check by hand). If the parts are removed from the templates at too high a temperature, there is a risk of the shaped pieces returning to the original shape.
If the colour lightens after forming, this is an indication that the warming time was too short or the radii too small. If the colour changes after being heated, this is an indication that it took too long to heat up or that the heating temperature is too high.
Neither of these defects can be corrected retrospectively.
The use of fan heaters or partial heating is not permitted as these cause tension in the REHAU I HANEX material, which will result in cracks (Abb. 7-3).

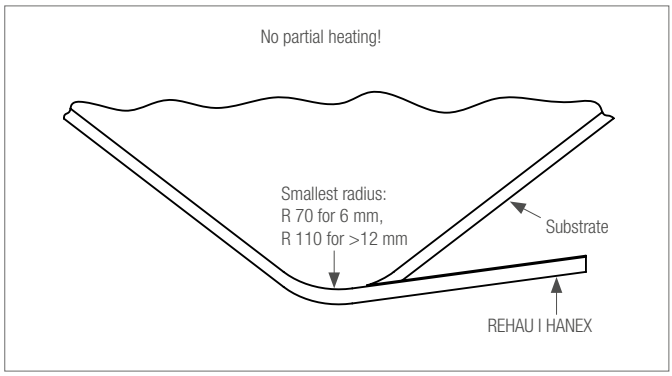


Abb. 7-3 Cracks resulting from the use of heater fans or partial heating

Stress cracking in the solid surface material as a result of incorrect thermal processing will not always appear immediately but can also subsequently arise (e.g. caused by a shock load or thermal load).

8 SCREW CONNECTIONS

- Never directly screw into REHAU I HANEX materials in a cutting manner (notching effect) (Abb. 8-1)

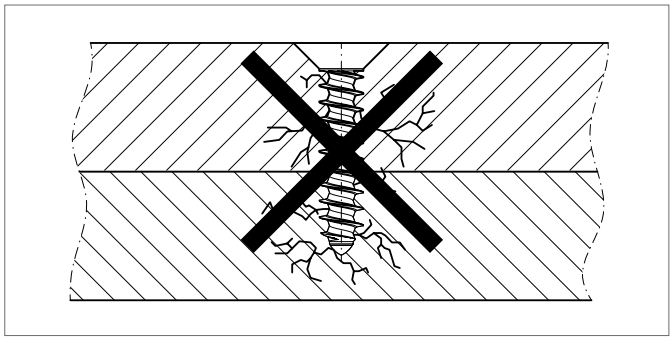


Abb. 8-1 Never screw in directly in a cutting manner

- In a similar way to glass, the diameter of the hole in REHAU I HANEX must be considerably greater than the diameter of the screw.
- Use thread inserts (e.g. polymer or brass sleeves) for required screw connections in REHAU I HANEX (Abb. 8-2)

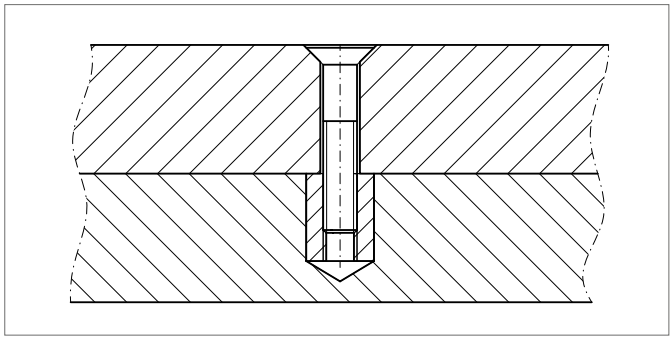


Abb. 8-2 Correct screw connections

9 REPAIR

Scratches or minor damage can be removed with repeated sanding. In the case of more extensive damage, REHAU I HANEX surfaces may be routed out and repaired with a piece of REHAU I HANEX (left-over piece from the same sheet batch). Joints are barely visible.
A joint between the routed-out damaged section and the repair insert of max. 0.1 m all around, a continuous connection with 2-component acrylic adhesive between the repair insert and the routed-out damaged section is required.
Every fabricator produces their own templates to precisely match them to the relevant milling tools and their tolerances. The material for these templates should not absorb any moisture (e.g. foamed PVC or ABS sheets). The material thickness for the templates must be greater than the router's thrust ring.
Round templates ensure a repair that is not easily visible to the eye, as long as the repair insert has a Ø of approx. 100 mm.
Repairs may be carried out on site at the customer.
Rout out the damaged area using a negative template
(the milling cutter's thrust ring is guided along the inner contour). Fix the template over the damaged area using double-sided adhesive tape (Abb. 9-1).

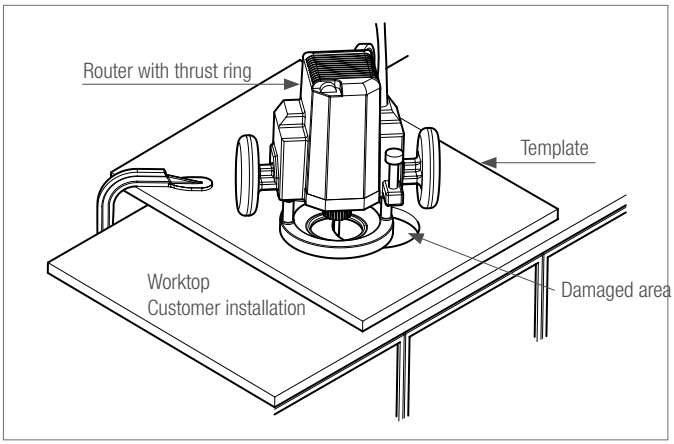


Abb. 9-1 Routing out the damaged area

For repairs, a left-over piece of REHAU I HANEX from the same sheet batch should be enclosed with every consignment and the customer should be informed.
Rout out the repair insert from the left-over piece of REHAU I HANEX using the positive template (the router thrust ring is guided on the outer contour)(Abb. 9-2).

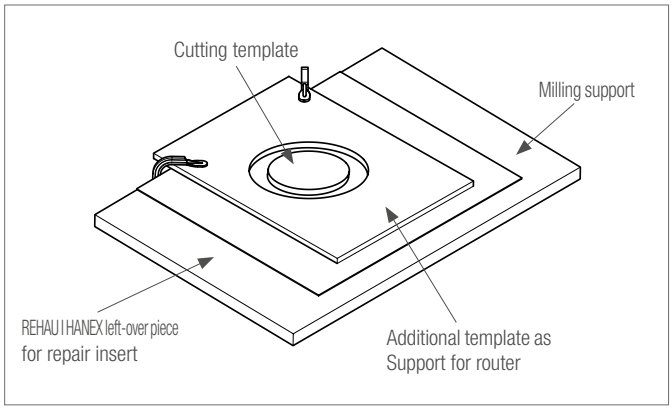


Abb. 9-2 Routing out the repair insert

Mill a slightly deeper recess into the repaired area than the thickness of the repair insert.
Drill at least one hole into the substrate (not right through) in the damaged area in order to avoid that air becomes entrapped in the repair area and any surplus adhesive can drain off. Clean all adhesion surfaces with acetone or spirit and do not touch them with your hands after this.
Apply REHAU I HANEX 2-component acrylic adhesive, which matches the relevant decorative design of the sheet, to the surface in a wave shape and apply an entire adhesive bead along the edge of the milled section. Apply two softwood blocks to the repair insert with contact adhesive, both of which should project 3-4 cm beyond the edge of the circular area. This ensures that the height is precisely fixed in relation to the sheet surface (Abb. 9-3).

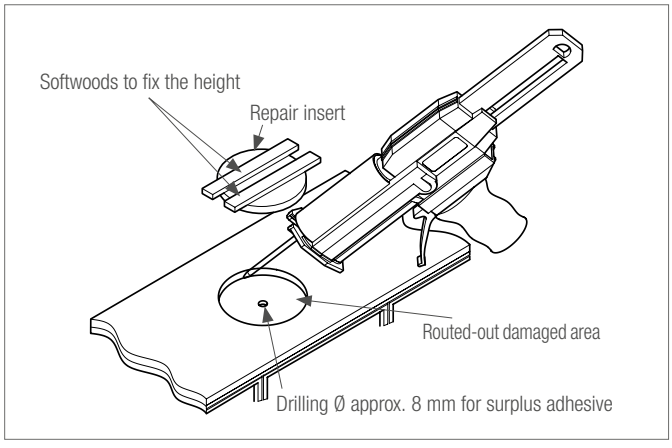


Abb. 9-3 Prepared repair insert and damaged area

Insert the repair insert into the damaged area, turning and twisting it until the adhesive emerges from the joint without interruption and the decorative design pattern perfectly matches the sheet's decorative design and apply weight to the bond.

After the adhesive has cured, carefully remove the wooden blocks. Sand down the protruding adhesive bead and the softwood's fibres with a belt sander (P150) until smooth. The finishing of the repair area must be carried out with the corresponding sanding equipment used for the end finish of the original sheet in order to avoid the need to re-sand the entire surface.

Sanding the joint in the repair insert or refinishing the surfaces with the 3M Finesse-it wet sanding set no. 60475 is customer-friendly and dust-free.

10 SANDING/END FINISH

REHAU I HANEX sheets are delivered with a top surface pre-finish of grain size P600 (satin matt) and a bottom surface end finish of grain size P80.
The end finish for the visible surfaces is produced manually by the fabricator using a random orbital sander, as this is the only way to achieve a directionless sanding appearance. Sand with a low contact pressure in order to prevent overheating of the solid surface sheet.

10.1 Sanding equipment

- Random orbital sander, min. speed 2,000-6,000 rpm, stroke 3, hard sanding pad for surfaces, soft sanding pad for curves
- Swarf extraction (increased service life of the sanding tools)
- Microfinish sandpaper for solid surface materials at the requested sanding stages for “super matt’”, “matt”, or “satin matt” finishes
- Microfinish sandpaper, polishing fleece, polishing felt and polish for “high gloss” finish
- Cleaning cloths for intermediate cleaning between the individual sanding stages
- Sanding materials, which are used damp, create a better sanding appearance and a stronger depth effect with the REHAU I HANEX decorative designs

The selection criteria for choosing decorative design colours and surface finishes depend on the application purpose.

The customer should be advised in detail regarding the advantages and disadvantages prior to processing and installation.

10.2 Gloss level end finishes

3M super matt wet finish, especially for dark worktops
334U-P240 334U-P400

3M super matt finish, especially for dark worktops
60 Mic (P240)/40 Mic (P360)/red fleece 7447 wet

Festool super matt finish, especially for dark worktops
Granat P240/Granat P400

useit (Jöst) super matt finish, especially for dark worktops
P150/P220 wet

3M matt wet finish, especially for worktops
334U-P240, 334U-P400, 260L-P600

3M matt finish , especially for worktops
100 Mic (P150)/60 Mic (P220)/30 Mic (P500)/red fleece 7447 (wet)

Festool matt finish, especially for worktops
Granat P180/Granat P240/Granat P400

Useit matt finish, especially for worktops
P150/P220/SG 240 or SG 600 (wet)

3M satin mat wet finish
334U-P240/334U-P400/260L-P600/443SA Trizact P1000

3M satin matt finish
100 Mic (P150)/60 Mic (P220)/30 Mic (P500)/grey fleece 7448/ paper or cotton cloth

Festool satin matt finish
Granat P180/Granat P240/Granat P400/Platin 2–S1000

Useit satin matt finish
P150/P220/SG 600/SG 1200

3M high gloss wet finish, especially for decorative surfaces
334U-P240/334U-P400/260L-P600/443SA Trizact P1000/443SA Trizact P3000/Finesse-it and polishing fleece

3M high gloss finish, especially for decorative surfaces
100 Mic/60 Mic/30 Mic/15 Mic (P1200)/9 Mic (P1800)/Finesse-it and felt pad

Festool high gloss finish
Granat P180/Granat P240/Granat P400/Platin 2–S500/Platin 2–S1000/ MPA 5000 polish

useit high gloss finish, especially for decorative surfaces
P150/P220/SG 600/SG 1500/SG 2000/SG 3000

The 3M sanding system Finesse-it no. 60475 works on wet surfaces without producing dust saving both time and material.

Information on sanding materials for solid surface materials:
3M, Neuss, Tel.: +49 (0)2131-1422710,
Fax: +49 (0)2131-143856, www.3m.com

Festool, Wendlingen, Tel.: +49 (0)7024-80424110,
Fax: +49 (0)7024-80429699, www.festool.com

Company Jöst useit, Wald-Michelbach, also sanding belts for machine finishing, Tel.: +49 (0)6207-94100, Fax: +49 (0)6207-2463, www.joest-abrasives.com

Distributor of useit products: Company Würth, Künzelsau,
Tel.: +49 (0)7940-150, Fax: +49 (0)7940-151000, www.wuerth.de

Company Mirka, Sulzbach, Tel.: +49 (0)6196-76160,
Fax: +49 (0)6196-7616149, www.mirka.de

Information on 'Glanz-Profi' ('gloss pro.') detergents and 'Ambra Top' care products:
Company Ambratec, Mainz Tel.: +49 (0)6131-583930, Fax: +49 (0)6131-5839334, www.ambratec.net

Careful sanding is required in order to produce a uniform and cloud-free surface finish. In order to achieve this, sand in narrow strips (30% overlapping) four times per sanding stage:
First and third sanding process in south-north direction (Abb. 11-1).

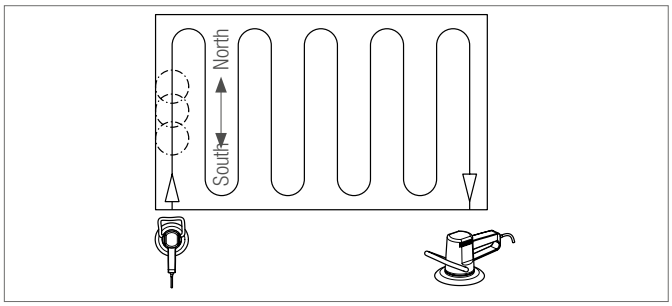


Abb. 10-1 Sanding direction south-north

Second and fourth sanding process in west-east direction (Abb. 11-2).

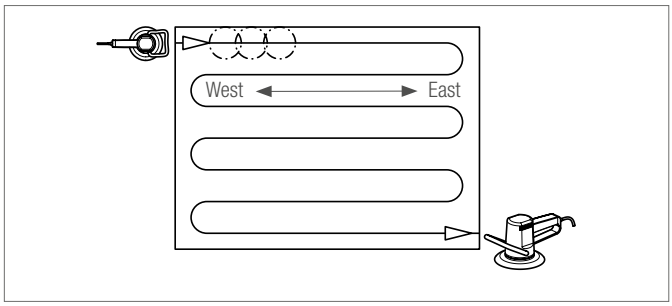


Abb. 10-2 Sanding direction west-east

11 ASSEMBLY GUIDELINES REHAU I HANEX

1. Transport unfabricated sheets and fabricated boards elements only lengthwise on the original delivery pallet.
2. Never unload/load pallets with a forklift from the longitudinal side, but always from the transverse side of the pallet.
3. Always store unfabricated sheets and fabricated boards on the original pallet.
4. Do not store unfabricated sheets and fabricated boards in damp rooms nor directly on the ground.
5. Do not store unfabricated sheets and fabricated boards in the open air, nor in areas with strong UV light sources.
6. Never carry unfabricated sheets and fabricated boards horizontally. Always carry them upright.
7. Allow fabricated boards to acclimatise for at least 24 hours at room temperature (min. 18 °C), and for at least 48 hours if the temperature on delivery is below 0 °C. Every single element should have contact on all sides to the air in the room.
8. For indoor applications, not for outdoor applications.
9. Materials and components must be checked for damage or defects prior to processing/installation.
10. Prior to installation, only store elements in their original packaging, protected from frost in closed rooms.
11. Position supporting substructures (e.g. base cabinets) for cover sheets and worktops level and horizontally and screw them together so that they cannot be moved.
12. No direct and indirect fastening to the wall, dips in the floor lead to stress cracking.
13. To avoid stress cracking, ensure a tension-free processing and installation.
14. Do not bring the unprotected edges of connecting elements on wooden substrate materials into contact with moisture prior to installation.
15. Seal the joints of connecting elements with wooden substrate materials so that they are watertight and waterproof.
16. Seal all cut-out edges and unfabricated sheet edges of wooden substrates during the installation so that they are watertight.
17. All drill holes in the wooden substrates must be sealed during installation to make them watertight.
18. Do not work with tools directly on the object surfaces.
19. When fitting cover sheets and worktops between two walls, fit a 3 mm expansion joint on both sides and for the window board on three sides.
20. When working with multiple worktops, check that the fit is accurate prior to installation.
21. Install a deflection plate over undermounted appliances that produce warmth, cold or steam.
22. The base in the area of the narrow sheet web in sinks, hobs and cut-outs are sufficiently solid and load-bearing, worktops make full contact and screw base cabinets to the worktop.
23. Strong solvents, special cleaners (e.g. drain cleaners, industrial cleaners) as well as stronger chemical substances may damage the surfaces.
24. Grains of sand or similar objects can cause scratches during cleaning.
25. Do not stand on boards, whether they have been installed or not.
26. Do not stand in sinks or basins, whether they have been installed or not.
27. Do not stand on hobs, whether they have been installed or not.
28. Do not pour boiling water/fat/oil into sinks and basins.

Document at www.rehau.de/rauvisio

Please observe this information in order to maintain the material warranty.

12 INTERIOR DESIGN WITH REHAU I HANEX

12.1 Shower walls

12.1.1 Requirements for walls on the construction site

1. The walls to be covered must conform to the state-of-the-art of acknowledged rules of the trade and be dry.
2. Damp walls require inspection and repair by a construction specialist and, where specified, must be dried if necessary before shower trays and shower wall panels can be fitted.
3. Remove loose paint, check the paint for compatibility with the adhesive that is planned to be used on the shower walls and pre-treat with leaching agent where necessary.
4. Remove loose tiles, pre-treat existing old tile surfaces with leaching agent, level out any unevenness.
5. All adhesion surfaces must be free from dust, dirt and grease.

12.1.2 Storage at the project site prior to assembly

Store the shower wall panel at room temperature, min. 18 °C in the room it is supposed to be installed for at least 48 h prior to installation. After removing the external packaging, store horizontally.

12.1.2.1 Polymer-modified, waterproof thin mortar bed for bonding shower walls with solid surface bases in interiors

- Contains cement, avoid contact with eyes and skin
- On contact with eyes, immediately rinse well with plenty of water and consult a doctor
- Use gloves
- Wash hands with soap after every use
- Store out of reach of children!

1. Processing

- Processing at 5-25°C.
- Base must be dry and free from dust, dirt, releasing agent and paint residues.
- Roughen the surface of the old tiles or pre-treat with leaching agent according to the manufacturer's instructions. Check that the REHAU I HANEX elements are sufficiently adhesive prior to bonding.
- Prime extremely absorbent surfaces with a mixture 1:1 water and adhesive.
- Mix the adhesive homogeneously with 30% water (1.4-1.6 litres of water for 5 kg of adhesive), stir well again after 3 min.
- The mixture should be used within 30 min., do not use excess mortar after this.
- Apply a thin contact layer to smooth surfaces with a smoothing trowel where necessary.
  Evenly apply the adhesive wet-on-wet onto the contact layer with a notched trowel.
- Evenly and thoroughly press down the REHAU I HANEX elements.
- Using water, clean away dirt and clean tools before the mixture dries.
- Keep freshly bonded elements away from drafts.
- Only put pressure on freshly bonded elements after 2 days, at temperatures below 18°C after 3 days.

2. Processability

Sealed containers for 12 months if stored in dry conditions indoors; contents 5 kg.

12.1.2.2 Shower walls

1. Before fitting the shower wall panels, protect the shower tray against scratching/damage from dirt/tools by covering it with strong cardboard.
2. Use leaching agent to pre-treat existing old tile surfaces, which are to be covered.
3. All adhesion surfaces must be free from dust, dirt and grease.
4. Prior to bonding the shower walls, apply EPDM sealing tape along the entire length in the corners vertically and along the entire length horizontally to both transitions to the shower tray.
5. Fit wall collars at the ducts for the water pipes.

12.1.2.3 Bonding shower walls

1. REHAU I HANEX 6 mm shower wall panels on existing tile surfaces across the whole surface with 5 mm permanently elastic PU adhesive, e.g. Sikabond T54 Parquet or similar, uniform application using a notched trowel, bonding within the time specified by the adhesive manufacturer. Evenly press on the elements across the whole surface using a hard rubber roller.
2. 6 mm shower walls (XPS foam + REHAU I HANEX 6 mm) on existing tile surfaces across the whole surface with permanently elastic PU adhesive, e.g. Sikabond T540 or similar or with a specially approved polymer-modified flexible tile adhesive, application with a 5 mm notched trowel.
3. 26 mm shower walls on cement plaster or plasterboard across the whole surface with a polymer-modified flexible tile adhesive.

1. Uniform application and bonding as specified by the adhesive manufacturer, level out any unevenness. Fully and evenly press down and secure mechanically against slipping for min. 8 h. Bond wall corners and element joints with strips of sealing fleece beforehand so that they are watertight.
2. Seal all connecting and expansion joints with fungicidal sanitary silicone, e.g. Ottoseal S130 or similar.
3. Place the stainless steel cover into the frame of the shower drain.
4. Cross-section of the shower walls see Abb. 13-6.

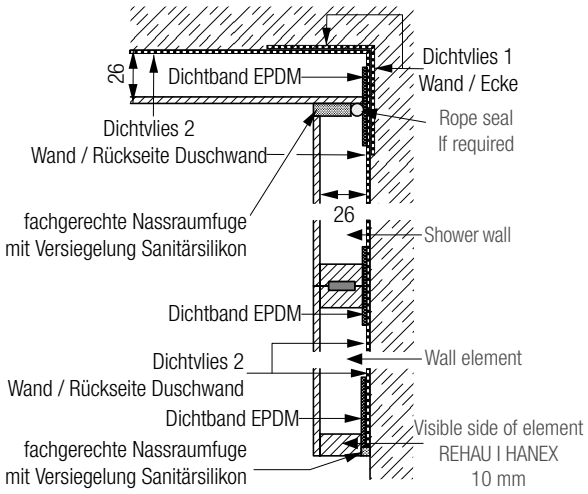


Abb. 12-1 Cross-section shower walls

12.1.2.4 Important general information for constructing wet rooms

1. Apply sealing fleece to the corners with an overlap of min. 10 cm. The use of a sealing tape with an elastic centre part is recommended for heavy loads.
2. For break-free sealing of connecting or expansion joints, the depth and width of the joints are to be matched to one another.
3. A fungicidal sanitary silicone, e.g. Ottoseal S130 or similar (ensure bonding on both sides) is recommended for sealing connecting or expansion joints. Where necessary, insert a rope seal beforehand into the joint to be sealed.
4. Connecting or expansion joints are maintenance joints that have to be checked regularly and replaced where necessary according to the sealant manufacturer's specifications, e.g. OTTO Chemie or similar.
5. Open joints should be avoided in wet rooms to prevent dirt/ waterlogging/mould.
6. When designing floor-level showers, showers with floor drains or showers without a tub design, the entire floor of the room is to be sealed against water ingress. The connection to the sealing fleece around the shower tray must be continued in a watertight and system-compatible manner, see Abb. 13-7 and fig. 13-8 on page 32.

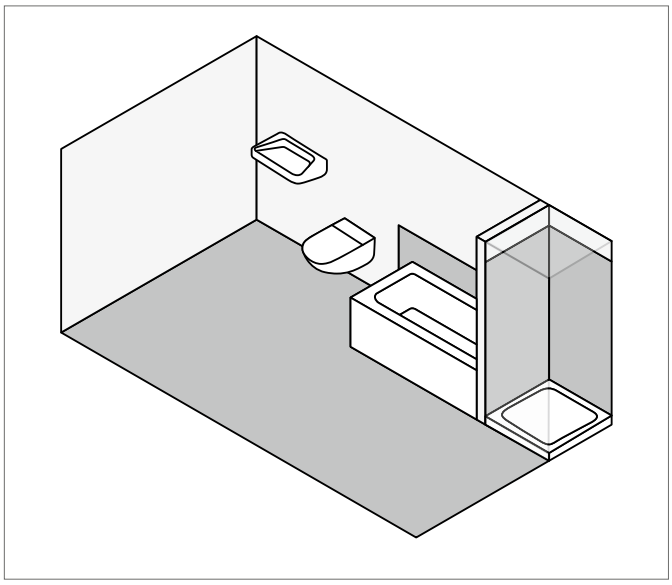


Abb. 12-2 Bathtub without shower, shower tub with shower wall sealed against moisture ingress

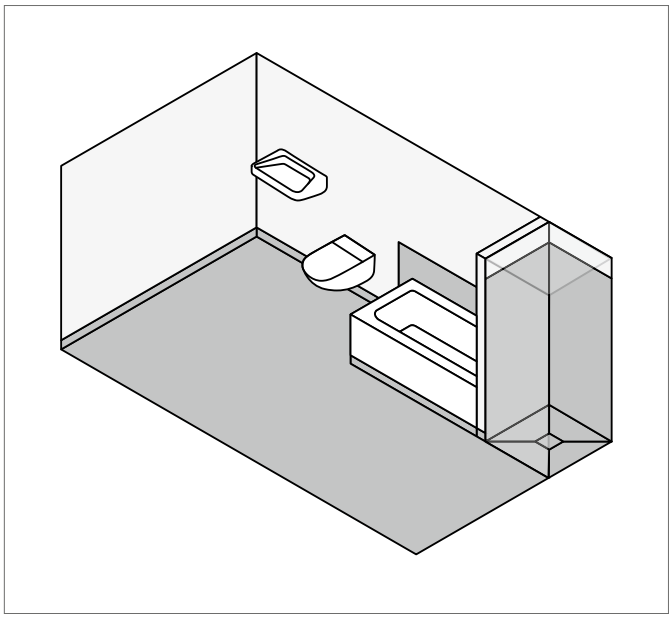


Abb. 12-3 Bathtub without shower, shower walls, shower tray with floor drain and room floors sealed against water ingress

7. The base surfaces in the area of shower walls must also be sealed against water ingress. The connection to the sealing fleece around the shower tray must be continued in a watertight and system-compatible manner.

§ Current information from the German Contractors Federation / Tiles and Natural Stone Association (Zentralverbund Deutsches Baugewerbe / Fachverband Fliesen und Naturstein) for the “installation of bonded waterproofing with coverings made of tiles and boards for indoor areas” must be observed to ensure that water cannot penetrate and cause construction damage.
REHAU accepts no liability for damage resulting from improper and unprofessional processing.

Document at www.rehau.de/rauvisio

12.2 Wall elements

12.2.1 Elements’ surface finish

Dry or wet sanding to a "matt" or "satin matt" finish according to the specifications of TI M53620 using a random orbital sander and micro-finish sandpaper for solid surface materials.

12.2.2 Transport/securing the transport

1. Place two elements each with the visible side facing inwards with a full-surface intermediate layer of paper or cardboard. All external edges with shock protection, e.g. cardboard angle or similar.
2. For elements with the tongue/groove design,secure the grooves against impact breaking across the entire length with a fixed HDF/MDF tongue and packing tape, e.g. 7 x 6 mm tongue for a 7 mm groove depth, see Abb. 13-9.

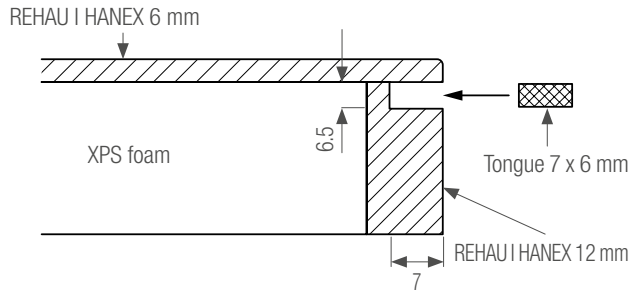


Abb. 12-4 Securing grooves against impact breaking (example)

12.2.3 Storing the elements at the project site prior to installation

Store at room temperature (min. 18 °C) for at least 48 h prior to installation in the room where they are supposed to be installed. After removing the external packaging, store horizontally.

12.2.4 Materials required for the installation

1. Leaching agent for existing tile surfaces as an adhesion surface
2. Elastic PU surface adhesive, e.g. Sikabond T54 Parquet or similar
3. Polymer-modified flexible tile adhesive
4. Sealing fleece min. 10 cm for corners of rooms, floor and ceiling connections and element joints.
5. EPDM sealing tape
6. Rope seal
7. Fungicidal sanitary silicone, e.g. Ottoseal S130 or similar
8. Lubricant, e.g. Otto SP1588 or similar
9. Elastic adhesive MS polymer/hybrid polymer, e.g. Ottocoll M500, Soudaseal 240FC or similar.

12.2.5 Requirements for walls on the construction site

1. The walls to be covered must conform to the state-of-the-art of acknowledged rules of the trade and be dry.
2. Damp walls require inspection and repair by a construction specialist and, where specified, must be dried if necessary before wall elements can be fitted.
3. Remove loose paint, check the paint for compatibility with the adhesive that is planned to be used for the wall elements and pre-treat with leaching agent, where necessary.
4. Remove loose tiles, pre-treat existing old tile surfaces with leaching agent, level out any unevenness.
5. All adhesion surfaces must be free from dust, dirt and grease.

12.2.6 Assembly guidelines for wall elements

1. Prior to fitting the wall elements in the corners of rooms, apply a sealing fleece at least 10 cm wide to the floor and ceiling connections and in the area of the connecting joints of the elements. Bonding should take place with 5 mm polymer-modified flexible tile adhesive applied with a notched trowel. Embed the sealing fleece without creasing.
2. Install the elements at room temperature, min. 18°C

12.2.6.1 Bonding REHAU I HANEX 6 mm elements across the entire surface

On firmly attached old tile surfaces with 5 mm permanently elastic PU adhesive, e.g. Sikabond T54 Parquet or similar, uniform application with a notched trowel, bonding within the time specified by the adhesive manufacturer. Press down the elements fully and evenly with a hard rubber roller and secure mechanically against slipping for min. 8 h.

12.2.6.2 Bonding elements 26 mm (XPS foam + REHAU I HANEX 6 mm) across the entire surface

A On firmly attached old tile surfaces with permanently elastic PU adhesive, e.g. Sikabond T54 Parquet or similar, or with a polymer-modified flexible tile adhesive specially approved for this bonding on tile surfaces. Uniform application with a 5 mm notched trowel, bonding within the time specified by the adhesive manufacturer. Press down the elements fully and evenly and secure mechanically against slipping for min. 8 h.

B On cement plaster or plasterboard across the whole surface with a polymer-modified flexible tile adhesive. Uniform application with a 5 mm notched trowel and bonding within the time specified by the adhesive manufacturer, even out any unevenness. Press down the elements fully and evenly and secure mechanically against slipping for min. 8 h. In corners of rooms and at element joints, seal the wall areas with strips of sealing fleece beforehand so that they are watertight.

12.2.6.3 Bonding 26 mm elements in strips

With MS polymer/hybrid polymer, e.g. Ottocoll M500, Soudaseal 240FC or similar.
Apply beads of adhesive Ø min. 8 mm along the entire length, spacing max. 30 cm,
5 adhesive beads at 1 m element width. Press down fully and evenly and secure mechanically against slipping for min. 8 h.

12.2.6.4 Assembling 26 mm elements to partition wall constructions

Removable elements suspended on the partition wall in the wood or metal construction (e.g. with light design, covering water, waste water, electrical installations or maintenance of installations) with hook-on profiles, fit e.g. Häfele art. 783.50.955 or similar across the whole element width, spacing between the profiles max. 60 cm, 5 rows of hook-in profiles for a room height of 2.60 m.
Attach the hook-on profiles to the XPS sheet with PU adhesive, fix until the adhesive sets e.g. with Spax screws, screwed in manually without any pre-drilling, or with 20 mm double-sided adhesive tape suitable for use on cement mortar, see Abb. 13-10.

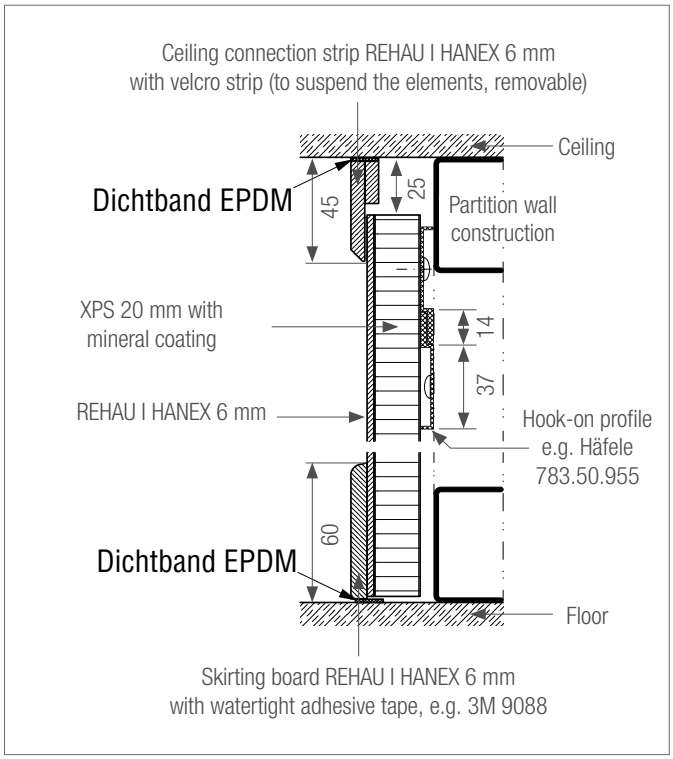


Abb. 12-5 Cross-section of elements on the partition wall construction

12.2.6.5 Element connection designs

Design A
Butt joints glued with MS-Polymer/Hybrid-Polymer, e.g. Ottocoll M500, Soudaseal 240FC or similar across the entire length The adhesive is applied in the adhesive rebate, see Abb. 13-11 / Abb. 13-12.

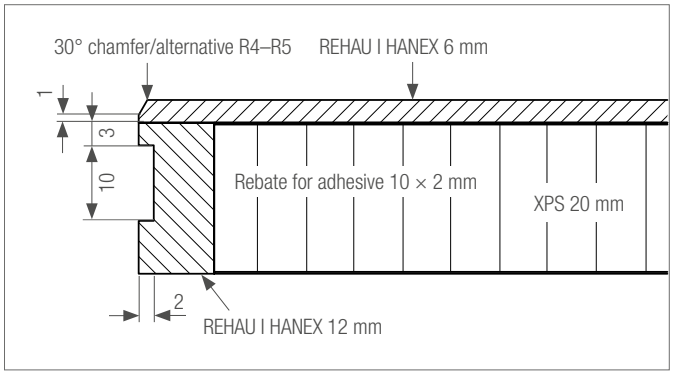


Abb. 12-6 Element design butt joint

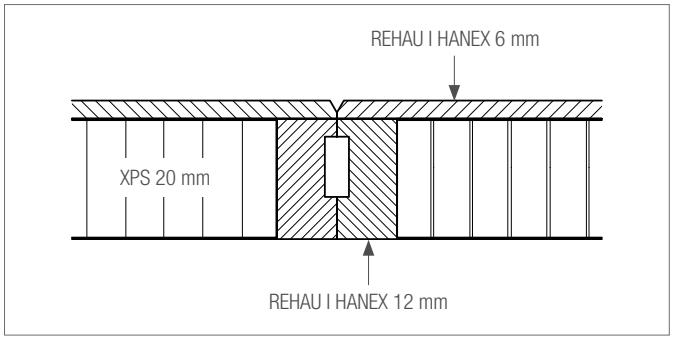


Abb. 12-7 Element connection butt joint

Design B
Tongue/groove connection for design joint, glued on both sides across the entire length with MS-Polymer/Hybrid-Polymer, e.g. Ottocoll M500, Soudaseal 240FC or similar. Adhesive application at the base of the groove, see Abb. 13-13 / Abb. 13-14.

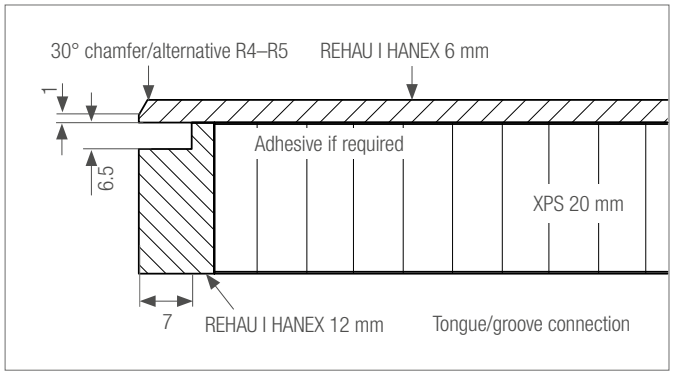


Abb. 12-8 Element design for design joint/lighting elements

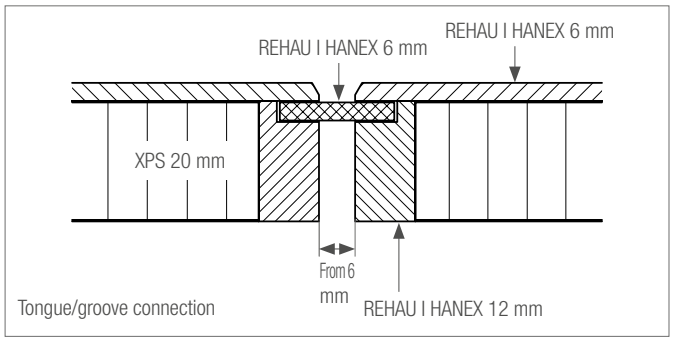


Abb. 12-9 Element connection design joint

Design C
Tongue for removable elements on the partition wall glued with dots at the base of the element groove on one side with MS polymer/hybrid polymer, e.g. Ottocoll M500, Soudaseal 240FC or similar.

12.3 Manufacturing waterproof lightweight elements REHAU I HANEX

Shower walls, wall elements, washstands, worktops

12.3.1 Substrate

- XPS foam core (extruded polystyrene foam with closed cells), protective layers on both sides made from glass fabric coated with polymer cement and fleece covering.

12.3.2 System construction elements

- REHAU I HANEX 6 mm top side
- REHAU I HANEX 12 mm visible edges
- XPS sheets from a thickness of 20 mm
- Underside HPL 0.8 mm (if a smooth surface is requested, e.g. for washstands or worktops, technically not required)
- Composition sheet weights incl. HPL additionally approx. 1.3 kg/m²

12.3.3 Tool requirement

- Approved and sharp sawing and milling tools with HM or diamond tip, cutting machine with diamond tip
  No jigsaws!

12.3.4 Surface bonding

- Bonding REHAU I HANEX (and also HPL 0.8 balancing sheet where necessary) with REHAU I HANEX surface adhesive, double application (REHAU I HANEX on the reverse and fleece coating of the XPS sheet) with a glue roller, application quantity min. 200 g/m², cold pressing with a veneer press, compression pressure max. 1 kg/cm². Compression duration min. 15-20 min., store flat and level for 12 h prior to further processing. Alternative bonding with elastic PU adhesive Sikabond T54 Parquet or similar; apply 3 mm of adhesive evenly with a notched trowel and to achieve an even adhesive joint (flat surface), press in a cold press for approx. 15 min. with 1 kg/cm², alternatively press for min. 12 h stack pressure across the whole surface, min. 30 cm FPY stack (= 200 kg/m²). Store flat and level for 12 h prior to further processing.
- Bonding REHAU I HANEX mechanically (and also HPL 0.8 where necessary) with elastic PU hot-melt, application min. 150 g/m² and throughfeed press, repress in the cold press in the event of waviness.

12.3.5 Surface bonding flame-resistant in accordance with EN 13501-1

- REHAU I HANEX 6 mm of the decorative design group FR
- Flame-resistant dispersion adhesive, e.g. Bindan BR (Bindulin) or Jowacoll 103.60 (Jowat), double application (REHAU I HANEX on the reverse and fleece coating of the XPS sheet) with a glue roller, application quantity min. 200 g/m², cold pressing with a veneer press, compression pressure max. 1 kg/cm². Compression duration min. 15-20 min. Alternatively, press for min. 12 h stack pressure across the whole surface, min. 30 cm FPY stack (=200 kg/m²). Store flat and level for 12 h prior to further processing
- Chipboard substrate fire class D-s2, d0 as per EN 13501-1 or XPS sheet substrate fire class B2 as per DIN 4102-1

12.3.6 Edgebanding

- Bonding the REHAU I HANEX 12 mm edgeband to the XPS sheet with PU adhesive or MS polymer.
- Bonding the REHAU I HANEX 12 mm edgeband to a REHAU I HANEX surface/in rebate below REHAU I HANEX surface with REHAU I HANEX acrylic adhesive in the relevant sheet decorative design of the surface.
- When mounting contoured basins underneath (vacuum-formed basins), heat the REHAU I HANEX 12 mm edge strip prior to bonding and shape according to the contour of the rebate for the basin base.

12.3.7 Work steps for manufacturing elements

1. Format the substrate and apply the edgebands made from REHAU I HANEX 12 mm with PU adhesive/MS Polymer, Abb. 13-18.

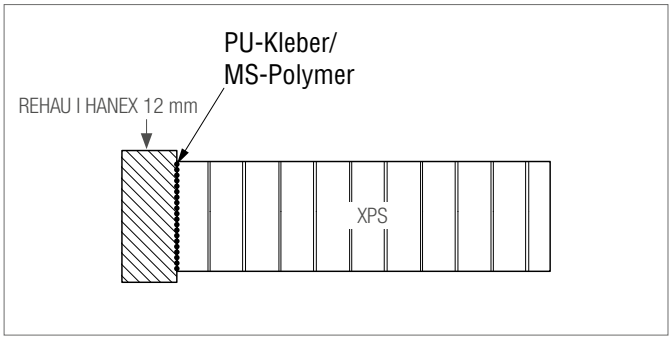


Abb. 12-10 Applying edgeband (XPS)

At the edgeband joint REHAU I HANEX 12 mm to REHAU I HANEX 12 mm apply an acrylic adhesive in the sheet decorative design of the surface at the element corners, Abb. 13-19.

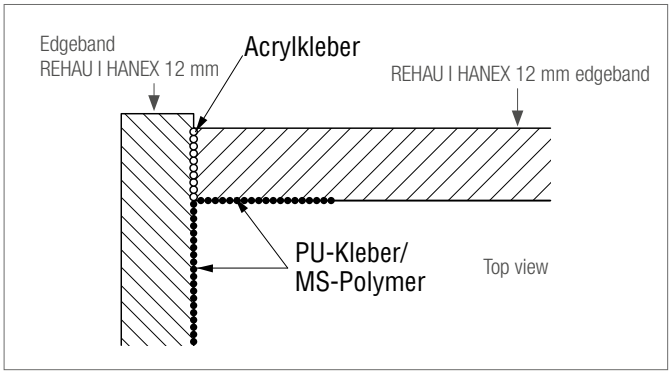


Abb. 12-11 Applying edgeband (REHAU I HANEX 10 mm)

1. Mill the REHAU I HANEX edgebands flush above, below and on the element corners, Abb. 13-20.

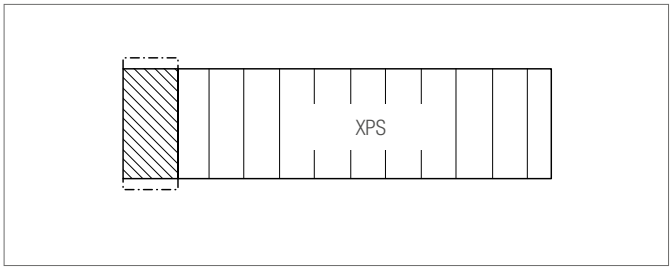


Abb. 12-12 Milling the edge bands flush

2. Apply 3 mm elastic PU adhesive, e.g. Sikabond T54 Parquet, to the surface of the XPS sheet with a notched trowel, alternatively, apply REHAU I HANEX surface adhesive to the reverse of the REHAU I HANEX and fleece top side, min. 200 g/m^2.
   - Apply 2 lines of acrylic adhesive in the sheet decorative design in the area of 10 mm REHAU I HANEX edgebands, Abb. 13-21 and Abb. 13-22.

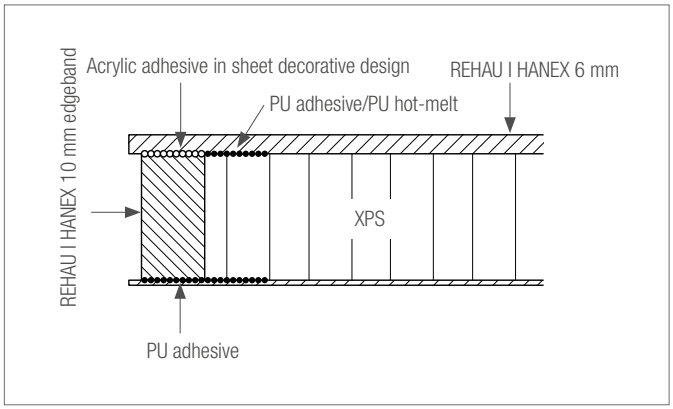


Abb. 12-13 Applying adhesive

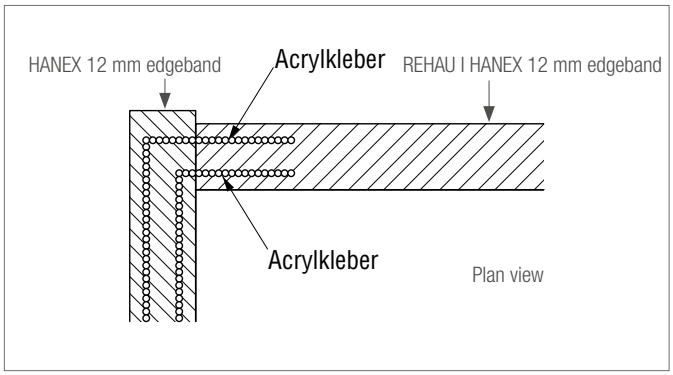


Abb. 12-14 Applying adhesive

3. Press elements for min. 15 min. at 1 kg/cm^2 and store flat and level for 12 h prior to further processing

4. Mill the edges on the elements above and below so that they are flush on all sides and apply a radius, see Abb. 13-23.

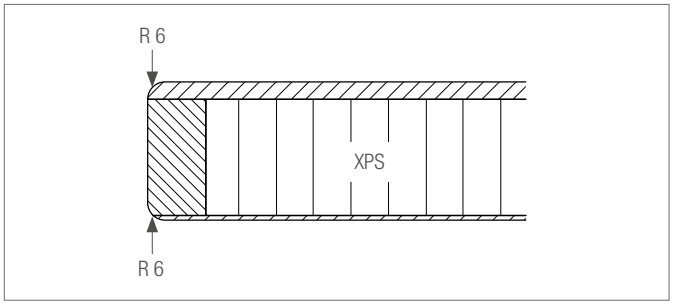


Abb. 12-15 Milling the edge flush and applying a radius

5. Create cut-outs for corner connections and sheet joints
   - Mill a rebate on the XPS sheet.
   - Abb. 13-24Sand the edge strip made from REHAU I HANEX 10 mm on both sides with P80 and, when clean, glue with PU adhesive or MS Polymer to the XPS sheet and glue underneath the REHAU I HANEX surface with 2-component acrylic adhesive in the relevant sheet decorative design.

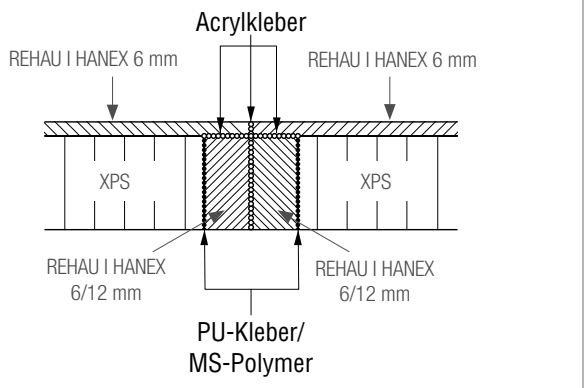


Abb. 12-16 Gluing edge strips underneath the REHAU I HANEX surface

- Store elements flat and level for min. 12 h prior to further processing.
- Mill glue joints flush, apply acrylic adhesive in the decorative design of the REHAU I HANEX surface and move the sheets together with a vacuum clamp until the acrylic adhesive is emerges evenly from the joint, Abb. 13-25.

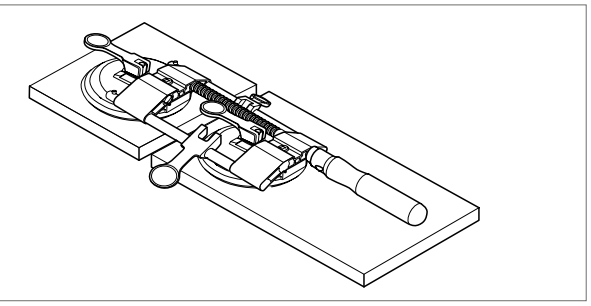


Abb. 12-17 Moving the sheets together

- Sand the glue joint once the adhesive has hardened. First of all with a belt sander in longitudinal direction of the joint, then apply the end finish with a random orbital sander diagonally to the joint.

1. Create cut-outs for the base of square basins
   - Mill a rebate into the XPS sheet at the edges of the cut-out.
   - Sand the edge strip made from REHAU I HANEX 10 mm on both sides with P80 and, when clean, glue with PU adhesive or MS Polymer to the XPS sheet and glue underneath the REHAU I HANEX surface with 2-component acrylic adhesive in the relevant board decorative design.
   - Store elements flat and level for min. 12 h prior to further processing.
   - Glue basins into the rebate from underneath using acrylic adhesive in the surface decorative design and apply weight to the base of the basin.
   - Once the adhesive has set, mill the cut-out edges of the surface flush and apply a R3 radius, Abb. 6-26.

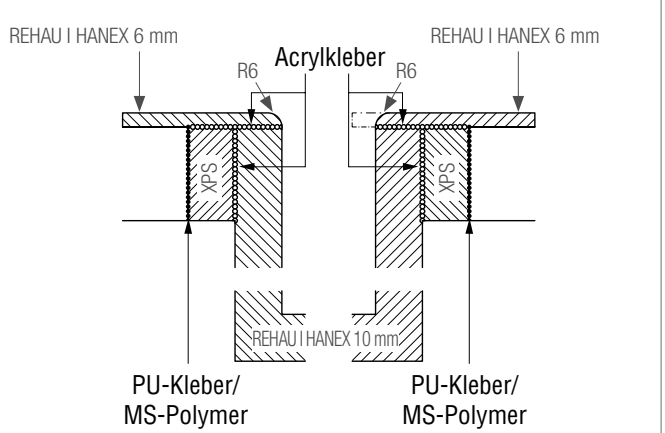


Abb. 12-18 Milling the cut-out edges flush and applying a radius

2. Cut-outs for washbasin bases
   - A REHAU I HANEX 6 mm surface material is required for the base of contoured basins.
   - Mill a rebate at the cut-out edges into the XPS sheet, all the way around 2 mm larger than the outer contour of the basin.
   - Once the adhesion surface has been cleaned, glue the basin with acrylic adhesive in the surface decorative design into the rebate from underneath and apply weight to the base of the basin.
   - Once the adhesive has set, completely fill the cut-out of the XPS sheet with PU foam.
   - Mill the cut-out edge of the basin so that it is flush and apply a R6 radius, Abb. 13-27

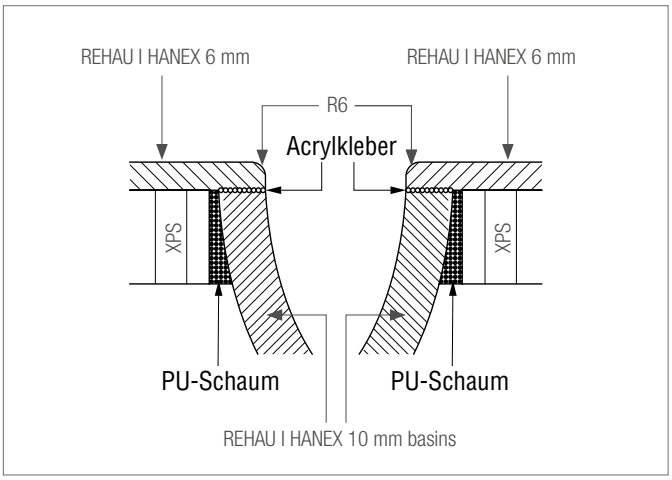


Abb. 12-19 Milling cut-out edge flush and applying a radius

3. Complete end finishing of the surface and visible edges with a random orbital sander.
   Carry out the sanding steps with sanding equipment until the required end finish is achieved in accordance with the specifications in chapter 12 on page 30.

4. Mounting to the base, wall brackets, fittings:
   - Pre-drill the substrate for screw sockets, Abb. 13-28.

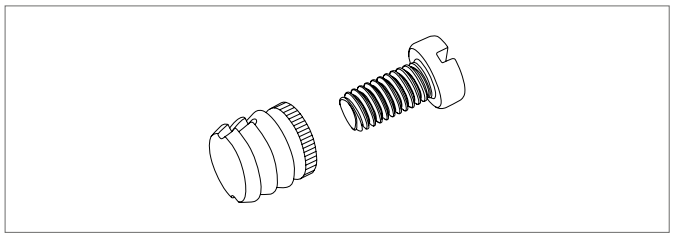


Abb. 12-20 Screw socket and metric screw

- Glue the screw sockets (plastic/metal) in place with PU adhesive
- Fasten with metric screws
- Alternatively, glue in place with silicone/MS polymer applying dots every 30 cm without using screws

Technical data REHAU I HANEX sheets in chapter 14.1 to 14.3.

12.4 Floor elements

Elements for floors/wet room floors can also be manufactured with REHAU I HANEX.
REHAU I HANEX in material thickness 6-12 mm is used to do this. Floor coverings made from REHAU I HANEX can be laid on screed or existing tiled floors.

12.4.1 Requirements for floors on the construction site

1. The floors to be covered must conform to the state-of-the-art of acknowledged rules of the trade and must be dry.
2. Damp floors require analysis and repair by a construction specialist and, where specified, drying if necessary before floor elements can be fitted with REHAU I HANEX/REHAU I HANEX floors.
3. Remove loose tiles, pre-treat existing old tile surfaces with leaching agent, level out any unevenness.
4. All adhesion surfaces must be free from dust, dirt and grease.

12.4.2 Floor covering REHAU I HANEX with XPS sheet

Elements made from the XPS lightweight board and REHAU I HANEX 6 mm are used in the case of requirements for additional thermal and sound insulation or for height compensation for walk-in showers. Using polymer-modified elastic tile adhesive, the elements with the XPS sheet are glued to the screed or tiles sanded with P80 across the entire surface. Evenly apply 5 mm adhesive with a notched trowel and evenly press down the sheets with a suitable tool e.g. metal roller or similar. Observe the adhesive manufacturer's instructions. The bonded surface can be walked on after 24 h, or after 48 h at temperatures below 15°C.

12.4.3 Floor covering REHAU I HANEX without XPS sheet

REHAU I HANEX 12 mm can also be directly glued onto a level surface made of screed or tiles pre-treated with leaching agent across the entire surface with permanently elastic PU adhesive, e.g. Sikabond T54 Parquet (company Sika) or similar. Evenly apply 5 mm adhesive with a notched trowel and evenly press down the sheets with a suitable tool e.g. metal roller or similar. Observe the information in the data sheet and safety data sheet of the adhesive manufacturer. The bonded surface can be walked on after 24 h, or after 48 h at temperatures below 15°C and/or the relative air humidity is below 50%.

12.4.4 Anti-slip design for wet room floors

REHAU I HANEX sheets can be supplied with an anti-slip surface on request.

12.4.5 Cleaning floors with an anti-slip surface

Only clean anti-slip surfaces with cleaning agents that do not contain any water-repellent additives, lubricants, gloss enhancers, wax, silicone or similar. Relevant additives in the cleaners will create a patina and will cause smearing/staining and will make the anti-slip surface ineffective.

12.4.6 General information about designing floors for wet rooms

⚠ 1. When installing walk-in shower trays, it is necessary to create a waterproof seal across the entire surface of the adjacent floor by means of a bonded sealing fleece (joints of the sealing fleece must overlap by min. 10 cm), before the new floor surface is laid.
2. For break-free sealing of joints between sheet elements and of connecting or expansion joints, the depth and width of the joints are to be matched to one another, min. joint width 6 mm.
3. A fungicidal sanitary silicone, e.g. Ottoseal S130 or similar (ensure bonding on both sides) is recommended for sealing joints between sheet elements and connecting or expansion joints. Insert a rope seal into the joints to be sealed beforehand where necessary.
4. Connecting or expansion joints are maintenance joints that have to checked regularly and replaced where necessary, according to the seal manufacturer's specifications, e.g. OTTO-Chemie or similar.

§ Current information from the German Contractors Federation / Tiles and Natural Stone Association (Zentralverbund Deutsches Baugewerbe / Fachverband Fliesen und Naturstein) for the "installation of bonded waterproofing with coverings made of tiles and boards for indoor areas" must be observed to ensure that water cannot penetrate and cause construction damage.
REHAU accepts no liability for damage resulting from improper or unprofessional processing.

13 DATA SHEETS FOR SHEETS

13.1 Technical data 6, 12 and 19 mm sheets

Characteristics	Target	Tolerance/threshold value
Sheet thicknesses	6,12 and 19 mm	±0,3 mm
Sheet widths	760 & 930 mm	+0.5 to 0 mm
Sheet lengths	2490 & 3680 mm	+0.5 to 0 mm

Dirt particles		
Scratches, flow lines	None or below 10 mm length	
Efflorescence	None	
Dirt deposit	None	
Crack	None	

Reverse		
Air bubbles	±0.5mm	max. 3 per board

Surface quality factory finish	
Visible surface	Standard grain size 360 (satin matt)
reverse	Standard grain size 80 or 120

Thermoformability	
Thermoformability	R 70 for 6 mm / R110 for 12mm
Temperature	140 -160°C

All values apply at 20 °C

Product data for special designs and other sheet thicknesses at www.rehau.de/rauvisio

14 TECHNICAL DATA LIGHTWEIGHT ELEMENTS

14.1 Waterproof substrate

- XPS foam core (extruded polystyrene foam with closed cells), density approx. 36kg/m^3, top layers on both sides made from glass fabric with polymer cement and fleece covering
- Thermal conductivity DIN 52612: 0.034
- Weights for sheet thicknesses approx.: 20 mm = 4.8 kg/m^2; 30 mm = 5.3 kg/m^2; 40 mm = 5.8 kg/m^2
- Comparison with chipboard 28 mm: 19.6 kg/m^2
- Format: 2650 × 1000 mm
- Custom dimensions on request

14.2 System construction

- REHAU I HANEX 6 mm top side
- REHAU I HANEX 12 mm visible edges
- XPS sheets from a thickness of 20 mm
- Underside (if smooth surface required) HPL 0.8 mm
- Composite sheet weights incl. HPL additionally approx. 1.3 kg/m^2

14.3 Tool requirements

- Approved and sharp sawing and milling tools with HM or diamond tip, cutting machine with diamond tip
  No jigsaws!

14.4 Adhesive for surface bonding

- Surface bonding REHAU I HANEX manually (and if required, also HPL 0.8) with elastic PU adhesive, e.g. Sikabond T54 Parquet o. REHAU I HANEX surface adhesive, application on REHAU I HANEX/ HPL and fleece covering, application quantity min. 200 g, pressing in the veneer press cold with max. 1 kg/cm^2, min. 20 minutes
- Surface bonding REHAU I HANEX mechanically (and if required, also HPL 0.8) with elastic PU hot-melt, application quantity min. 150 g/m^2.

14.5 Adhesive for flame-resistant surface bonding

- Flame-resistant dispersion adhesive, e.g. Bindan BR (Bindulin) or Jowacoll 103.36 (Jowat), application quantity min. 200 g/m^2.

14.6 Adhesive for edgebanding

- Bonding the REHAU I HANEX 12 mm edgeband to the substrate with PU adhesive, MS Polymer.
- Bonding the REHAU I HANEX 12 mm edgeband to a REHAU I HANEX surface/in rebate below REHAU I HANEX surface with REHAU I HANEX acrylic adhesive in the relevant sheet decorative design of the surface.

15 INSTRUCTIONS FOR USE FOR END USERS

Congratulations on choosing a product made with this high-quality and durable material.

REHAU I HANEX is a solid and through-coloured solid surface material made from natural minerals and acrylic. The non-porous, homogeneous material is hygienic and officially approved for contact with foodstuffs, is resistant to fungal and bacterial growth.
REHAU I HANEX is pleasantly warm to the touch and has an excellent visual depth effect.
REHAU I HANEX is resistant to all household chemicals and disinfectants, prolonged use of aggressive substances can leave marks or damage the material.
Chemical resistance as per table “Chemical resistance (ISO 19712) sheet thicknesses 6, 12 and 19 mm on page 40 Users should check the suitability of the substances not listed here themselves. Refinishing can be carried out by a specialist.
In contrast to the familiar tile and laminate surfaces, the solid surface material REHAU I HANEX can be repaired. Minor notches and scratches or marks left by cigarette burns can be removed with a Scotch-Brite sponge or wet P400 sandpaper. The surface finish can then be restored by a specialist.
The specialist can also repair areas of damage.

Use of cleaning agents

Fully utilise the hygienic properties of REHAU I HANEX in day-to-day use by immediately removing contaminations if possible with a damp cloth.
The basis for any contamination is the result of the water composition, especially the chalk content and a failure to clean consistently.
Do not soak surfaces over a long period of time in aggressive chemical substances, e.g. oven or drain cleaners, hydrogen peroxide, nail polish remover, paint thinners, acetone, turpentine, chlorine or disinfectant.
A specialist can remove damage to the surface caused by chemicals or disinfectants using a suitable sanding stage and refinishing.

Matt surface

Cleaning work surfaces, sinks and sink units with stainless steel bases

Simple cleaning using a soft, wet sponge or microfibre cloth and a degreasing cleaning agent without refattening agents is sufficient.
Grease and oil stains can be removed in the same way.
Stubborn contaminations, dried stains or staining agents (fruit juice, coffee, tea) can be removed with a soft sponge and liquid cleaning lotion (without scouring agent). You can also use dishwasher, ceramic hob or bath cleaners.
Remove heavy stains with a chlorine-based bathroom cleaner or VISS power spray with active bleach and a soft sponge. Observe the manufacturer’s instructions for use.
Remove lime stains with a vinegar-based cleaner, vinegar or a antiliming agent.
Do not use sponges with a scrubber (e.g. Scotch-Brite, scouring pads), as these may cause scratches.
After cleaning, rinse with clean water and rub dry every time.

Satin matt surface

Cleaning worktops and washbasins

Simple cleaning using a soft, wet sponge or microfibre cloth and a degreasing cleaning agent without refattening agents is sufficient.
Grease and oil stains can be removed in the same way.
Remove heavy stains with a chlorine-based bathroom cleaner or VISS power spray with active bleach and a soft sponge. Observe the manufacturer’s instructions for use.
Remove lime stains with a vinegar-based cleaner, vinegar or a antiliming agent.
Do not use liquid cleaner, these cause variations in the gloss level.
Do not use sponges with a scrubber, as these cause scratches.
After cleaning, rinse with clean water and rub dry every time.
Scratches are more clearly visible on satin matt surfaces than on matt surfaces due to the higher gloss level.
Scratches are more clearly visible on dark designs than on light designs due to the heavy colour pigmentation.

High gloss surface

High gloss surfaces are very susceptible to scratching and require a high level of care. These surfaces are suitable for decorative applications, but not for work surfaces.

Use of disinfectants

Only use water-based disinfectants to disinfect surfaces. Observe and implement the manufacturer's information regarding the mixing ratio and application. Do not use any cleaning agents and disinfectants with the label:
‘Unsuitable for acrylates’ or ‘Unsuitable for surfaces or products made of acrylic material’. They may lead to irreparable damages to REHAU I HANEX. Disinfectants for tools or equipment contain strong oxidising agents and should not be used for REHAU I HANEX as they cause irreparable damage.

Refinishing of the surface to restore the original condition can be carried out by your supplier/specialist. Damage on horizontal or vertical surfaces, e.g. including wall elements, can be repaired by a specialist using a repair insert so that it is virtually invisible.

15.1 Treating stains

Stain/Mark	Damp cloth	Warm water and cleaning agent	Liquid scouring cleaner	Spirit
Foodstuff				
Tea	•	•	•	
Coffee	•	•	•	
Milk	•	•	•	
Fruit juice	•	•	•	
Curry	•	•	•	
Mustard		•	•	
Red wine	•	•	•	
Vinegar	•	•	•	
Alcohol	•	•	•	
Lemon juice	•	•	•	
Beetroot	•	•	•	•
Household products				
Oil		•	•	•
Water-soluble dyes	•	•	•	
Solvent-based				
dyes				•
Washable textile dyes		•	•	
Wash-proof textile dyes				•
Shoe polish				•
Wax crayon			•	•
Ball pen ink				•
Lipstick		•	•	•
Nail varnish/remover			•	•
Highlighter			•	•
Hand cream		•	•	•
Liquid soap		•	•	•

- Chlorine-based bathroom cleaner/VISS power spray with active bleach cleans particularly thoroughly.
- Dirt particles appear in colour on lime scale.
- Remove limescale with descaler / limescale remover.

Please observe the following instructions for day-to-day use:

- Do not use any aggressive substances (e.g. drain, oven or grill cleaners nor any strong chemical substances) as these damage the surfaces
- Do not treat the surfaces with water-repelling, colour or gloss-enhancing agents, as these form a patina
- Use a suitable cutting board when cutting on the worktop
- Place hot objects (pots, pans, baking trays) on the worktop only on suitable, heatproof trivets
- Hot objects should not project beyond the cooking area
- Install deflection plates above undermounted appliances that produce warmth, cold or steam
- Do not use any heat radiators (e.g. infra-red to warm meals up) as these cause stress cracks in the material
- The sanded underside of ceramic or porcelain causes scratches on the surfaces
- Do not pour any boiling liquids into basins without stainless steel bases
- Only pour boiling water into sinks or sink units with stainless steel bases when simultaneously also filling them with cold water. Only pour boiling water onto the base of the basin, not the side walls
- Do not pour boiling grease or oil into sinks or sink units. Wait until it has cooled to dispose of it
- Do not stand on sheets that are being stored or that are installed
- Do not stand in sinks or basins
- Do not stand on hobs

Please note this information in order to maintain the material warranty.

NOTES

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„Our verbal and written advice with regard to usage is based on years of experience and standardised assumptions and is provided to the best of our knowledge. The intended use of REHAU products is described comprehensively in the technical product information. The latest version can be viewed at www.rehau.com/TI. We have no control over the application, use or processing of the products. Responsibility for these activities therefore remains entirely with the respective user/processor. Where claims for liability nonetheless arise, they shall be governed exclusively according to our terms and conditions, available at www.rehau.com/conditions, insofar as nothing else has been agreed upon with REHAU in writing. This shall also apply for all warranty claims, with the warranty applying to the consistent quality of our products in accordance with our specifications. Subject to technical changes."

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