
ResinBau
Unyielding **Strength**
Certain **Stability**
ResinBau: Injection Resin **Technology**
We Design and **Manufacture**
Solutions You Can Rely On

More than a product. A partnership built on expertise.

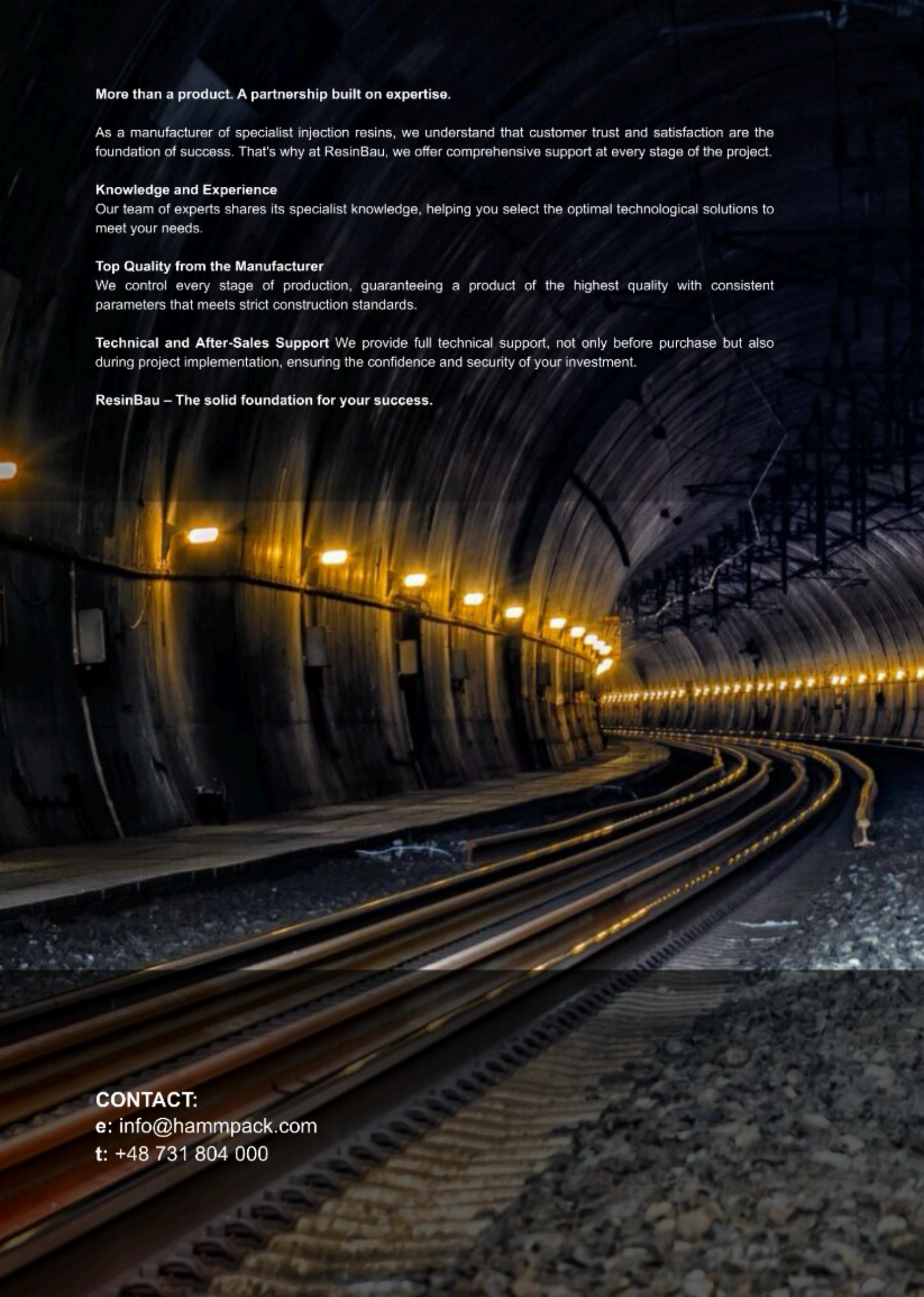
As a manufacturer of specialist injection resins, we understand that customer trust and satisfaction are the foundation of success. That's why at ResinBau, we offer comprehensive support at every stage of the project.

Knowledge and Experience
Our team of experts shares its specialist knowledge, helping you select the optimal technological solutions to meet your needs.

Top Quality from the Manufacturer
We control every stage of production, guaranteeing a product of the highest quality with consistent parameters that meets strict construction standards.

Technical and After-Sales Support We provide full technical support, not only before purchase but also during project implementation, ensuring the confidence and security of your investment.

ResinBau – The solid foundation for your success.



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MADE IN THE EU

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Structural Injection

PU 1K – Hydrophobic Blocking Foam

Hydroactive, closed-cell polyurethane resin with a catalyst, primarily intended for the rapid **sealing of active, high-pressure water leaks**. Upon contact with water, it expands intensely, multiplying its volume and forming a semi-elastic, watertight foam that mechanically blocks the leakage. A key feature of the product is the adjustable reaction time, which can be set by adding a catalyst (accelerator), allowing precise control of the process depending on the water pressure.

It is typically used as the first emergency stage in a two-step injection system, preparing the crack for final flexible sealing. An additional convenience is the dedicated mixing calculator available at www.resinbau.com.

WaterStopper

- Rapid stopping of pressurized water leaks.
- Sealing cracks and fissures in concrete and masonry.
- Waterproofing foundations, basements, and underground garages.
- Repair of engineering structures such as tunnels, bridges, and tanks.
- Filling voids and leaking construction joints in structures.

- **Fast and intensely** expanding resin.
- **Semi-elastic** foam structure.
- Adjustable reaction time.
- Very high expansion rate.

- **Mixing ratio:** 1 + (2-7% catalyst)
- **Pot life (+20°C):** 120 min
- **Mixture viscosity (+20°C):** 95 ± 10 mPas
- **Expansion with 18% water:** ~2200%
- **Reaction time with 18% water (+20°C) – adjustable:**
  Start: 6 s | 18 s
  End: 48 s | 171 s



PU 1K – Hydrophobic Flexible Foam

A truly single-component (1K) closed-cell polyurethane resin that does not require mixing with an accelerator, significantly simplifying application. Unlike typical aggressively foaming hydroactive resins (such as WaterStopper), its main purpose is not the immediate stopping of sudden leaks but creating a **flexible and watertight seal.**

It reacts with moisture in a more controlled way, forming a uniform, elastic closed-cell foam. This elasticity allows the seal to "gently work" together with the structure, compensating for vibrations and minor thermal movements of the crack without losing its tightness.

EasyInject

- Sealing "gently moving" cracks and fissures in concrete whose width may vary over time.
- Filling and sealing construction joints and cold joints in concrete structures.
- Flexible stopping of minor leaks.

- **Truly single-component.**
- **Flexible:** After curing, it forms an elastic foam that compensates for movements and vibrations in the crack.
- **Excellent adhesion.**

- **Mixing ratio:** ready to use
- **Pot life (+20°C):** 40 min
- **Mixture viscosity (+20°C):** ~450 mPas
- **Expansion with 10% water:** ~830%
- **Reaction time 10% water, +23°C:**
  Start:: 25 s
  End: 120 s



CE

PU 1K – Hydrophilic Flexible Resin

A specialist, single-component polyurethane resin with a hydrophilic (water-attracting) character. Its fundamental feature, which distinguishes it from other resin groups, is the way it reacts with water. This material is designed to react with a significant **amount of water**, forming not a rigid foam but an **extremely elastic, soft, and swelling mass with a gel- or rubber-like consistency.** After curing, the product remains permanently flexible and plastically deformable.

The resin can be applied using a 2K pump in a 1:1 ratio with water.

HydroGum

- **Sealing cracks and fissures** in structures exposed to very high dynamic loads, vibrations, or cyclic movements (e.g., in tunnels and bridges).
- **Filling large voids and cavities** in the structure.
- **Repairing leaks** at interfaces between different materials.
- Sealing expansion joints and construction joints with a high range of deformation.

- **Hydrophilic:** Reacts with large amounts of water.
- **Extremely flexible:** Forms a flexible polyurethane foam with a gel/rubber-like consistency.
- **Self-sealing:** Capable of automatically "repairing" leaks.

- **Mixing ratio:**
  ready to use
- **Pot life (+20°C):**
  120 min
- **Mixture viscosity (+23°C):**
  370 ± 30 mPas
- **Expansion with 100% water:**
  ~400%
- **Reaction time with 100% water (+20°C)**
  Start: 40 s
  End: 150 s



CE

PU 2K – Hydrophobic Flexible Resin for Structural Injection

The key feature that sets it apart from all previous resin groups is that it is a **two-component system.** This means that before use, the two components (resin A and hardener B) must be precisely mixed, after which they undergo a controlled chemical reaction. **Its curing is independent of water**—it expands only minimally and does not require moisture to set. **The resin fills the crack with a 100% uniform, permanently flexible material.**

Its purpose is to provide durable, flexible sealing of cracks and joints in concrete and masonry.
The flexible seal accommodates movement while maintaining watertightness.

CrackFlex

- **Flexible sealing of cracks** and joints in concrete and reinforced concrete.
- Injection of cracked masonry and stone walls.
- **Sealing dry and damp cracks** (without pressurized leaks).
- Filling voids and gravel nests.
- Injection via injection hoses.

- **Two-component (2K)**
- **Permanently flexible:** Accommodates structural movements and vibrations.
- **Low viscosity.**
- **High adhesion:** Provides a strong bond with concrete.

- **Mixing ratio:**
  1 : 1 (by volume)
- **Pot life (+20°C):**
  30 min
- **Mixture viscosity (+20°C):**
  ~140 mPas
- **Reaction time with 5% water (+23°C):**
  Start: 90 s
  End: 450 s



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Structural Injection

4K Acrylic Gel – Hydrophilic Injection Gel

Four-component acrylic injection resin with **extremely low viscosity** comparable to that of water. After mixing the components, it reacts to form **a soft, highly elastic, and tacky hydrogel.** The product is designed for **creating durable, flexible seals, closing the finest cracks, and performing structural and curtain injections.**

A key advantage is the ability to precisely adjust the reaction time—from several seconds to several minutes—allowing the material to be adapted to the temperature and conditions on-site. The gel's capacity to swell and shrink depending on the presence of water is a reversible process. An additional convenience is the dedicated mixing calculator available at www.resinbau.com

AcrylGel

- **Sealing expansion joints** and construction joints with a high range of deformation.
- **Sealing structures and tunnels.**
- **Curtain injections.**
- **Structural injections.**
- Reinforcing and sealing excavations.
- Horizontal barriers.
- **Sealing cracks and fissures** (e.g., in tunnels and bridges).

- Extremely low viscosity.
- Adjustable reaction time.
- Forms a flexible hydrogel.
- Reversible swelling process.
- High water retention capacity.
- Excellent adhesion.

- **Mixing ratio:** 1 : 1 (by volume)
- **Pot life (+20°C):** depends on reaction time
- **Mixture viscosity (+20°C):** 5-15 mPas
- **Water absorption:** 33%
- **Adjustable reaction time:**
  Minimum: ~20 s
  Maximum: ~12 min



CE

EP 2K – Epoxy Resin for Structural Bonding Injection

Two-component, low-viscosity epoxy resin designed for the structural repair of cracked elements. It cures through a chemical reaction, forming a rigid, **monolithic bond with high strength properties.**

The primary purpose of this type of product is to **forcefully bond and fill cracks and voids, restoring the original load-bearing capacity and structural integrity of the repaired element.** This injection "bonds" the crack, allowing the structure to once again behave as a unified monolith. The sealing function is, in this case, a natural consequence of fully filling the crack structurally.
An additional convenience is the dedicated mixing calculator available at www.resinbau.com.

EpoxPower

- **Forceful bonding** and structural joining of cracks in concrete, reinforced concrete, and masonry structures.
- **Structural reinforcement** and stabilization of weakened building elements.
- Filling voids, cavities, and gravel nests to restore structural continuity.
- Anchoring rods and anchors in concrete.

- **High mechanical strength.**
- **Rigid, hard bond:** creates a monolithic structure.
- **Low viscosity.**
- Chemical bonding.
- **Moisture resistance:** can be applied in dry and slightly damp conditions.

- **Mixing ratio:** A:B = 4:1 (by weight)
- **Pot life (+20°C):** 10 min
- **Mixture viscosity (+20°C):** 350 mPas
- **Compressive strength:** min. 50 MPa
- **Curing time (+20°C)**
  Start: 10 min.
  End: 6 h



PU 1K + CAT – Resin for Soil Consolidation and Sealing

A modern, **single-component** polyurethane injection system with a catalyst (+cat), specially developed for **soil consolidation and creating vertical waterproof barriers.** Thanks to its exceptionally low viscosity, it penetrates even very dense soils, ensuring effective performance.

The product requires water to react and activates upon contact with moist substrates, forming a hard, hydrophobic barrier. It features an **adjustable reaction time**, allowing adaptation to varying soil conditions, and is **applied using a 1K pump.**

SoilConsolid

- **Soil stabilization** to create a compact, durable, and strong substrate.
- Creating horizontal and vertical waterproof barriers in soils.
- **Injection into very dense soils thanks** to exceptionally low viscosity (25 mPas).
- Deep penetration into the soil ensured by reaction with water.
- **High compressive strength** (12 MPa after 6 weeks).
- **No shrinkage** after curing.
- **Free expansion up to 200%.**
- **Adjustable reaction time.**
- **Excellent adhesion** to mineral building materials.
- **Non-toxic and non-flammable.**
- **Mixing ratio:** 1 + (0,5-2% catalyst)
- **Pot life (+20°C):** 60 min
- **Mixture viscosity (+23°C):** 25 mPas
- **Expansion with 10% water:** ~200%
- **Reaction time with 10% water (+20°C):** Start: 2 min. | 3 min. End: 9 min. | 11 min.



2K Silicate Resin – Resin for Soil Stabilization and Slab Leveling

Two-component polyurethane–polyurea–silicate resin designed for soil injection. Its key feature is a very short processing and curing time, enabling rapid completion of stabilization work. After curing, it forms a rigid mass resistant to moisture and varying climatic conditions.

The material is highly tolerant of moisture in the substrate and **does not foam or expand.**

Product application **requires the use of a 2K pump.**

GeoStabil

- Soil stabilization.
- Injection filling and stabilization under slabs.
- Stabilizing, sealing, and reinforcing injections for masonry and other building structures.
- No expansion.
- **Compressive strength:** min. 50 MPa
- **Flexural strength:** min. 25 MPa
- **Elastic modulus: min.** 650 MPa
- **Adhesion to concrete:** min. 2.0 MPa
- **Impact resistance:** min. 15 Nm
- **Mixing ratio:** 1 : 1 (by volume)
- **Pot life (+20°C):** 2 min ***(2K pump)***
- **Mixture viscosity (+20°C):** 250 mPas
- **Curing time (+20°C):** Start: 2 min. End: 15 min.



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Soil Injection

PU 2K – Polyurethane Foam for Lifting and Stabilization

Two-component structural closed-cell polyurethane foam system designed for rapid action in geotechnical applications. Its chemical **reaction starts immediately—within 9 seconds—and reaches full expansion in under one minute.** The intense expansion generates force capable of non-invasively lifting and leveling heavy structures such as slabs and foundations.

The material forms a **high-density foam with excellent mechanical strength** that, after rapid curing (surface tack-free time: 60 seconds), creates a durable and load-bearing support for the stabilized soil or lifted structure. Thanks to its closed-cell structure and resistance to moisture, it can be effectively used in wet substrates while maintaining its properties.

GeoPolymer.55

- Soil stabilization.
- Leveling and lifting structures.
- Void filling.
- Sinkhole repair.

- High mechanical strength.
- Accelerated, instant reaction time.
- High foam density.
- Excellent adhesion to various substrates.
- No shrinkage after curing.

- **Mixing ratio:** 1 : 1 (by volume)
- **Pot life (+20°C):** 9 s ***(2K pump)***
- **Mixture viscosity (+20°C):** ~250 mPas
- **Expansion:** ~2000%
- **Curing time (+20°C):** Start: 9 s End: 60 s



Special-Purpose Swelling Tape

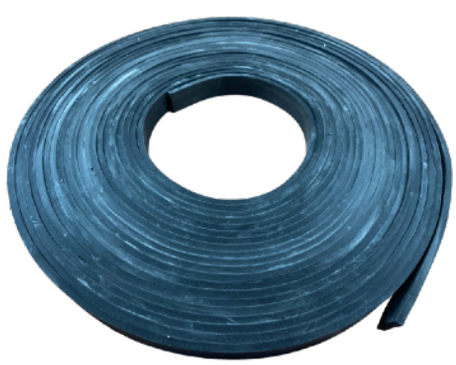
Flexible, swelling sealing tape based on high-quality elastomers, designed for sealing construction joints, structural gaps, and service or pipe penetrations. Upon contact with water, the tape expands up to three times its original volume, tightly filling voids and creating a barrier that prevents water from penetrating into the structure.

It is resistant to constant and variable water pressure up to 2 BAR, and its hydrophilic properties are durable and reversible—the material does not lose activity when dry and will re-expand upon rehydration. The tape contains no bentonite, so it does not leach or contaminate the water environment. It can be applied to dry or slightly damp surfaces, and its flexibility and adhesion enable easy installation even in hard-to-reach areas.

HydroTape

- **Expands up to 300%** of its volume upon contact with water.
- Resistant to water pressure up to 2 BAR.
- **For sealing construction joints, expansion joints, and pipe penetrations.**
- Maintains its shape without tearing or cracking.

- Contains **no bentonite**—does not leach or degrade in water environments.
- **Flexible, durable,** and easy to install on various substrates.
- **Available sizes**: 5×10 mm and 5×20 mm.



Eco-Friendly Cleaner for Polyurethane Resins

Eco-friendly cleaner designed for effective removal of unreacted polyurethane resins from tools, equipment, and work surfaces. The product has been developed for professional applications where not only performance but also user safety and environmental care are essential.

Thanks to its innovative, biodegradable formula, it is an excellent alternative to traditional solvents containing harmful substances. It performs reliably both on construction sites and in workshops, ensuring uncompromising cleanliness.

PI-Cleaner

- Effectively removes unreacted polyurethane resins.
- Biodegradable, safe for the user and the environment.
- Ready to use, gentle on most surfaces.
- Free from chlorinated and aromatic solvents.
- Low VOC (volatile organic compounds) emissions.
- Ready to use, no dilution required.



Injection Pump Maintenance Agent

Specialist agent designed to protect and provide long-term maintenance of injection pumps and equipment after working with polyurethane resins. It is applied after the system has been cleaned with a technical cleaner to protect the interior components against corrosion, drying of residual reactive materials, and mechanical damage.

The product forms a protective layer on metal parts and provides proper lubrication, safeguarding seals, valves, and pumping components. As a result, it significantly extends the service life of the equipment and keeps it ready for use—even after prolonged downtime.

PI-Saver

- Protects the pump system against corrosion, moisture, and seizing.
- Provides long-lasting lubrication of moving parts and seals.
- Reduces the risk of resin residues curing in hard-to-reach areas.
- Facilitates quick startup of the pump after extended downtime.
- Ready to use—no dilution required.
- Safe for metals, plastics, and elastomers.



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Cementitious Mortars

Fast-Setting Cement – Mounting Mortar

Single-component, fast-setting cement mortar designed for sealing joints between concrete elements, cracks, and openings in concrete, brick, and stone structures. The product features a very short setting time (approx. 5 minutes) and achieves high mechanical strength in a short period (10 MPa compressive strength after just 1 hour).

Thanks to its plastic consistency and excellent adhesion to cement-based substrates, it is easy to apply and highly effective. The mortar is resistant to low temperatures as well as to sulfates and petroleum-based products, making it suitable for use both indoors and outdoors.

CrackOn.5

- For rapid installation and anchoring of steel elements in concrete.
- **For filling cracks and openings in concrete.**
- Repair works in sewer infrastructure, industrial construction, and hydraulic engineering.
- Applications on vertical, horizontal, and overhead surfaces.
- Fast setting within 5 minutes.
- High strength – 38 MPa compressive strength after 28 days.
- Excellent adhesion to cement-based substrates.
- Plastic consistency for easy application.
- Does not cause corrosion of metal components.
- Resistant to sulfates and petroleum-based products.



Water-Stopping Mortar

Waterproof cement mortar designed for the instant stopping of water leaks. It hardens upon contact with water, forming a **durable bond within seconds.**

The product can be applied manually by rubbing the dry powder into damp surfaces or by forming a ball and pressing it directly into the active leak.

It is resistant to frost, road salt, weather conditions, as well as sulfates and petroleum-based products.

LeakFix

- Instant stopping of leaks in basements, underground garages, tunnels, elevator shafts, and rainwater tanks.
- Sealing leaks in sewer, hydraulic, and energy infrastructure.
- Repairs in wastewater treatment plants, concrete pipes, culverts, and dam walls.
- Ultra-fast setting time: approx. 10 seconds.
- Sets underwater.
- Resistant to salt, sulfates, and petroleum-based products.
- Does not cause corrosion of steel components.
- Fire reaction class A1.
- **Compressive strength:** Class R1.
- **Adhesion:** ≥0.8 MPa.
- **Chloride ion content:** ≤0.05%.
- **Swelling:** <0.1%.



Mineral Mortar – System for Anchoring and Strengthening Masonry

Single-component, cement-based mortar with a plastic consistency, specially developed for anchoring spiral rods in the reinforcement of cracked masonry structures. Thanks to excellent adhesion to masonry materials and high mechanical strength, it ensures durable and effective bonding.

The product is designed for machine application, which greatly facilitates and speeds up work on vertical and horizontal surfaces. The mortar is resistant to low temperatures and sulfates and does not cause corrosion of metal components.

AnkerBau

- Strengthening cracked walls.
- Anchoring spiral ties in masonry.
- Restoration works in historic buildings.
- Applications on horizontal and vertical surfaces.
- General and industrial construction.

- Excellent adhesion to the substrate.
- **Plastic consistency** and excellent pumpability.
- Does not cause corrosion of metals.
- Resistant to sulfates.
- Easy to apply.

- **Pot life (+25°C):** 40 minutes
- **Consumption:** 1.80 kg/l
- **Compressive strength** (after 28 days): 40 MPa
- **Flexural strength** (after 28 days): 8.0 MPa
- **Resistant to low temperatures** (200 freeze/thaw cycles)



Injection Cream – Horizontal Barrier

Ready-to-use silane-based injection cream designed to block capillary moisture rising in masonry. After being introduced into the injection holes, the cream penetrates deeply into the substrate, where it reacts with moisture to form a durable and stable damp-proof barrier.

It is effective in structures with moisture levels up to 95% and does not negatively affect the vapor permeability of the wall. The product can be applied using either pressure or gravity methods.

InjectCream

- Creation of horizontal waterproof barriers inside and outside buildings to cut off capillary water transport.
- For use in walls made of brick, clinker, concrete blocks, stone, hollow blocks, aerated concrete, and sandstone.

- High active substance content (80%).
- Effective in walls with up to 95% moisture.
- Deeply and effectively penetrates the substrate.
- Does not negatively affect vapor permeability.
- Ready to use and easy to apply.

- **Base:** Silane
- **Consistency:** Cream
- **Color:** White / transparent when dry
- **Density:** 0.88 g/cm³
- **Application temperature:** +5°C to +30°C



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Crack Injection

Crack Injection **Knowledge**

Proper Drilling **Knowledge**

Crack Drilling **Calculator**

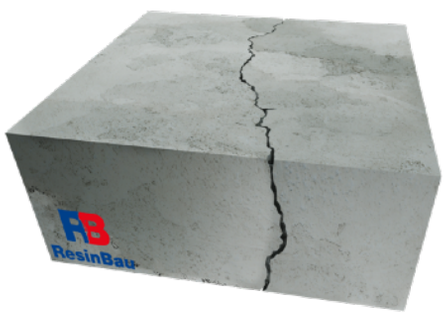
For repairing dry structural cracks, **EpoxPower** epoxy resin is used.

For sealing dry and damp cracks, the best choice is **CrackFlex**—a two-component resin with a stable structure and high adhesion, chemically curing, not recommended for active pressurized leaks if hydrostatic pressure cannot be balanced.

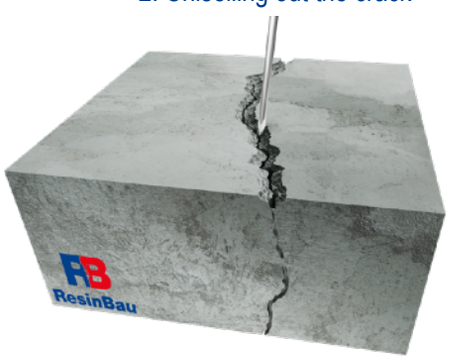
In the case of cracks with pressurized water ingress, a two-stage injection is performed: first, fast-foaming **WaterStopper**, followed by secondary injection with **CrackFlex**.

HydroGum can also be used (including in a 1:1 mix with water for dry cracks) or **EasyInject** (in damp cracks). In selected cases, **AcrylGel +Polymer** can be applied instead of **CrackFlex**; however, **CrackFlex** remains the most universal and effective solution.

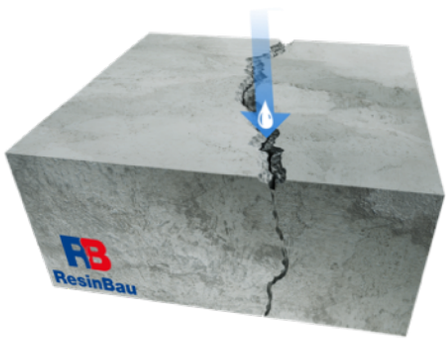
1. Crack inspection



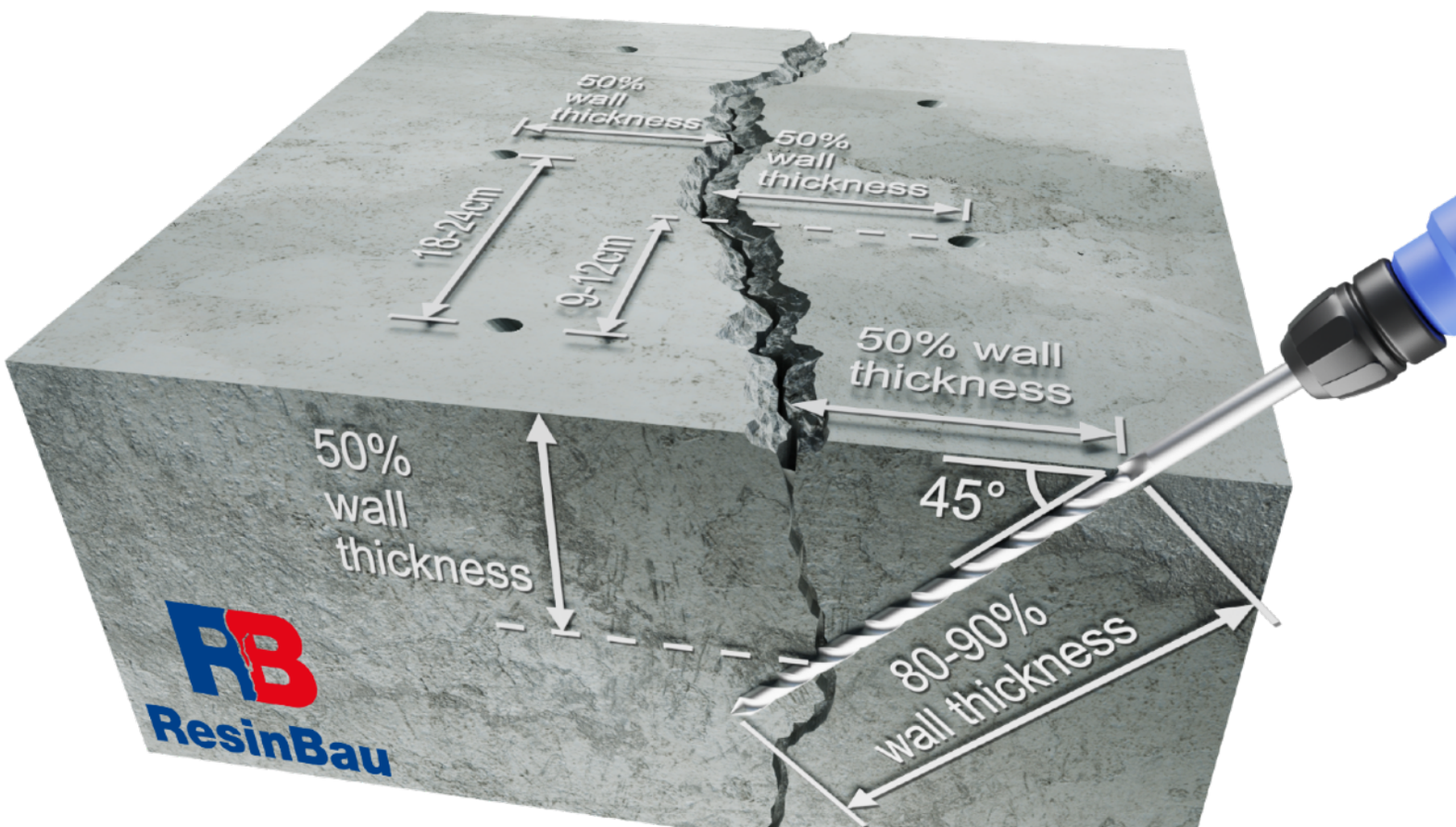
2. Chiselling out the crack



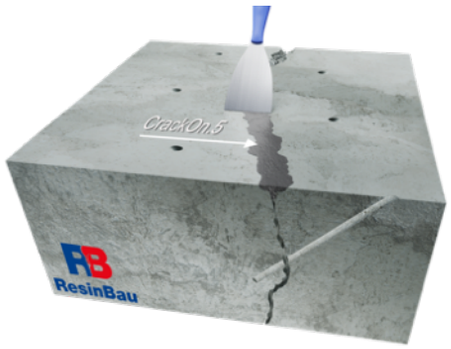
3. Cleaning the crack face



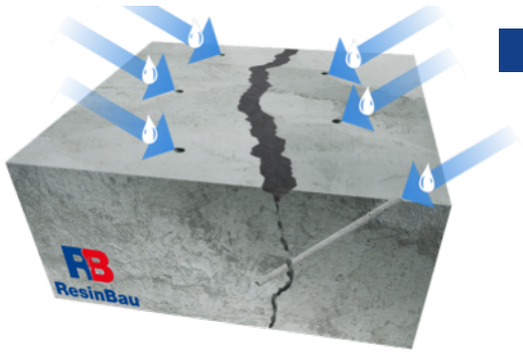
4. Proper drilling along the crack



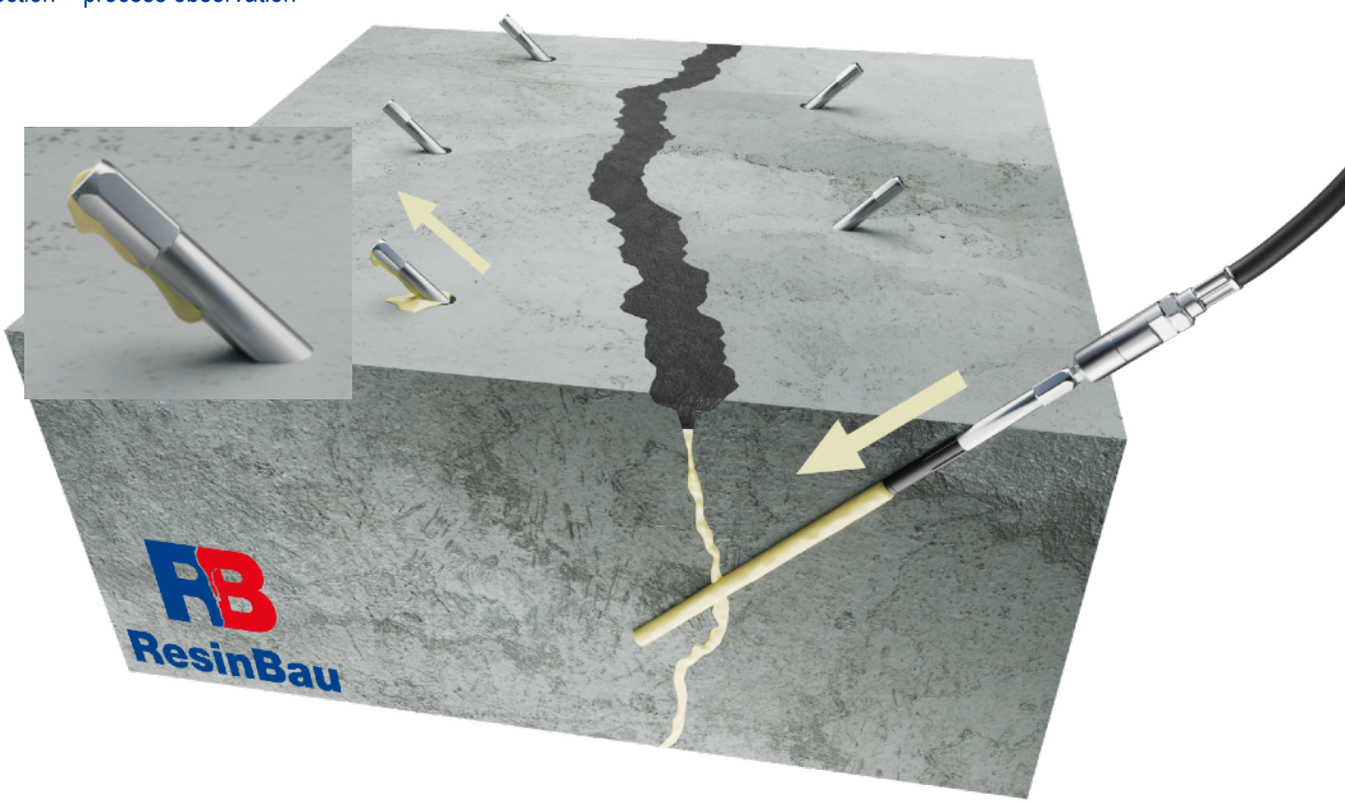
5. Sealing with CrackOn.5



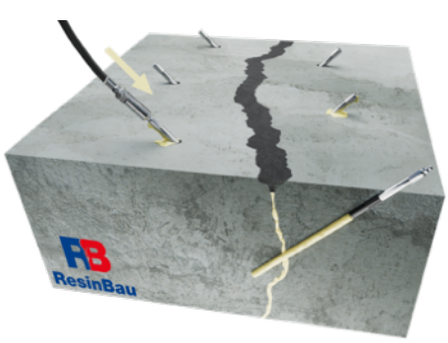
6. Flushing the holes



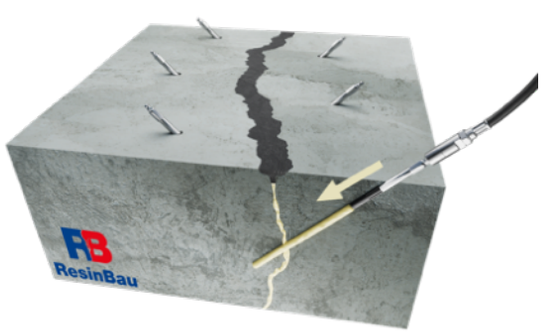
7. Injection + process observation



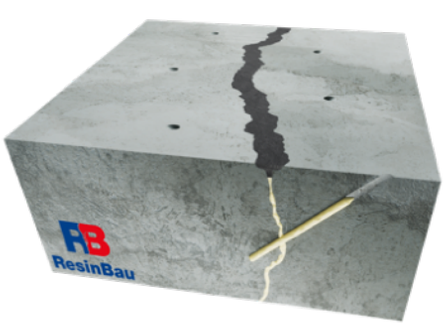
8. Continuing the injection



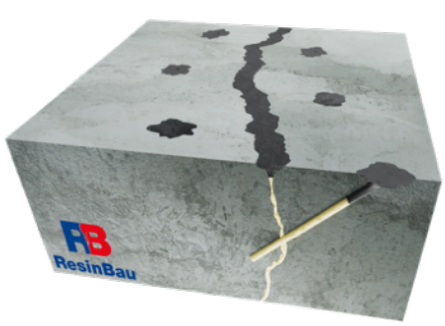
9. Secondary injection for compression (while fresh)



10. Removing packers after resin curing



11. Sealing the holes with CrackOn.5



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Joint Injection

Joint Drilling
Calculator

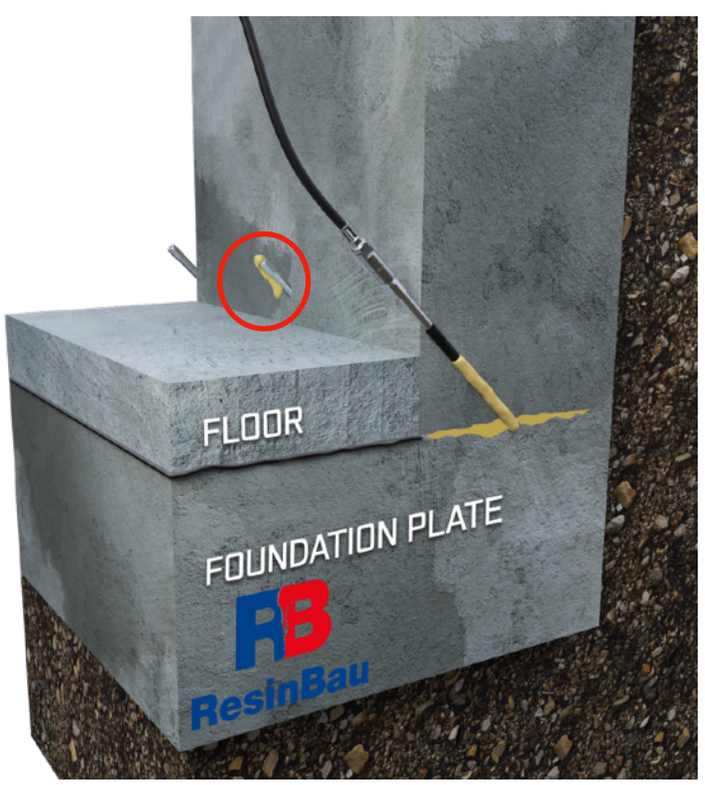
Injection of construction joints requires flexible resins due to micro-movements and the variety of materials used in construction. The best results are achieved with **CrackFlex**, **HydroGum**, or **AcrylGel + Polymer**. For heavy leaks, **HydroGum** is recommended, as it penetrates well and bonds effectively even in joints between concrete and stone or brick.

In dry or periodically damp conditions, use **CrackFlex** or **AcrylGel +Polymer**. **HydroGum** should be mixed 1:1 with water when it is uncertain whether the structure contains sufficient moisture. Although some contractors use **EasyInject**, we recommend **CrackFlex**, **HydroGum**, or **AcrylGel +Polymer** as the most effective solutions.

Examples of leaking joints

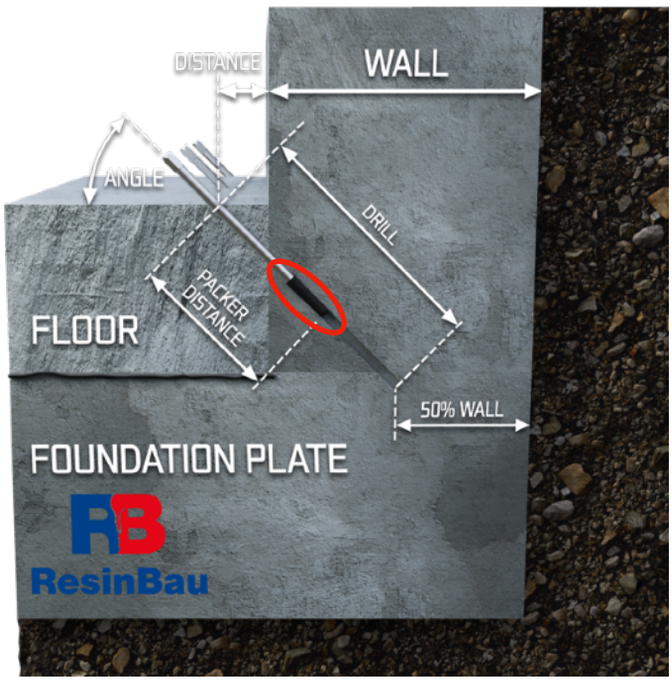


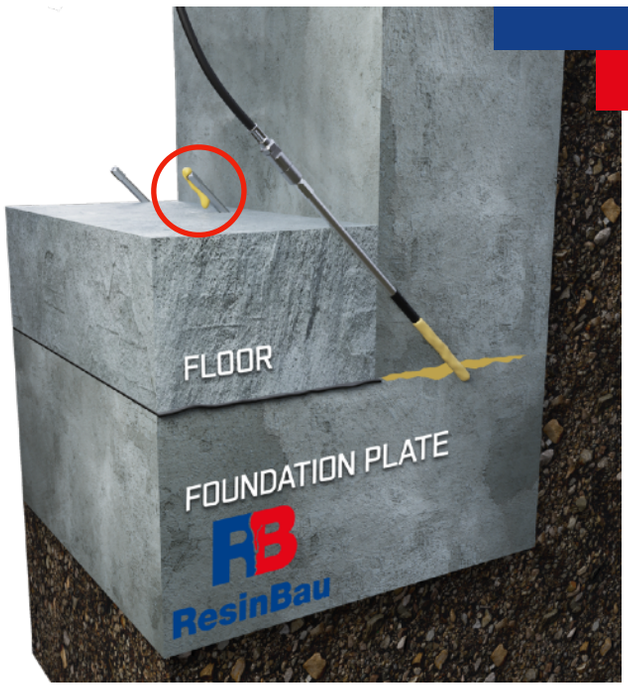




- Drilling angles and calculations for situations where the floor slab is poured directly onto the foundation slab and has moderate thickness. In this case, it is possible to reach the joint while bypassing the floor layer.

- During the test injection, resin appeared in the next packer—this indicates the connection is effective. Removing the floor is not necessary.





- Example of a very thick floor compared to the wall thickness. This requires drilling through the slab all the way to the joint and placing the packer in the wall—not in the floor itself.

- During the test injection, resin appeared in the next packer—this indicates the connection is effective. Removing the floor is not necessary.

1. Score the top layer of the floor slab



2. Break off the floor slab



3. Make precise drill holes



4. Cut a groove for the fillet



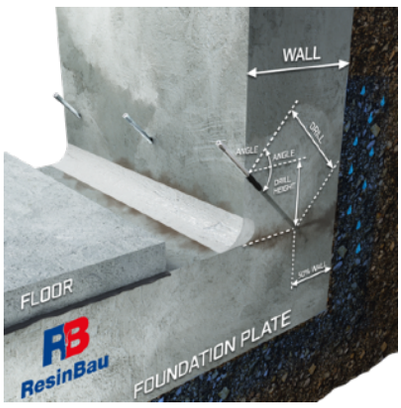
5. Form the fillet with CrackOn.5



6. Flush the injection holes



7. Install the injection packers



8. Observe resin flow – monitoring



9. Continue injection



Possible fluctuations



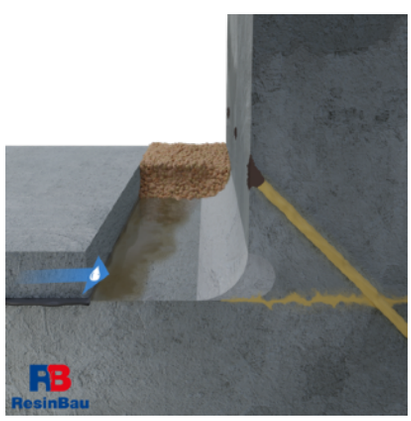
10. Additional injection while fresh



Backfilling with gravel or expanded clay aggregate

A quick and aesthetic solution, often used in garages and technical rooms. It facilitates inspection – simply move the gravel aside to check for potential leaks. Allows the investor to see whether the problem originates at the joint or from other water sources.



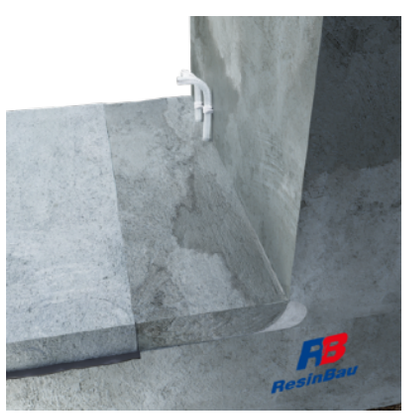




Reconstructing the floor slab (pouring concrete)

Consider installing an injection hose as a preventive measure – a low-cost solution that allows for quick resealing in case of future leaks.





Structural Injection
Knowledge

Horizontal Injection
Knowledge

Structural Injection

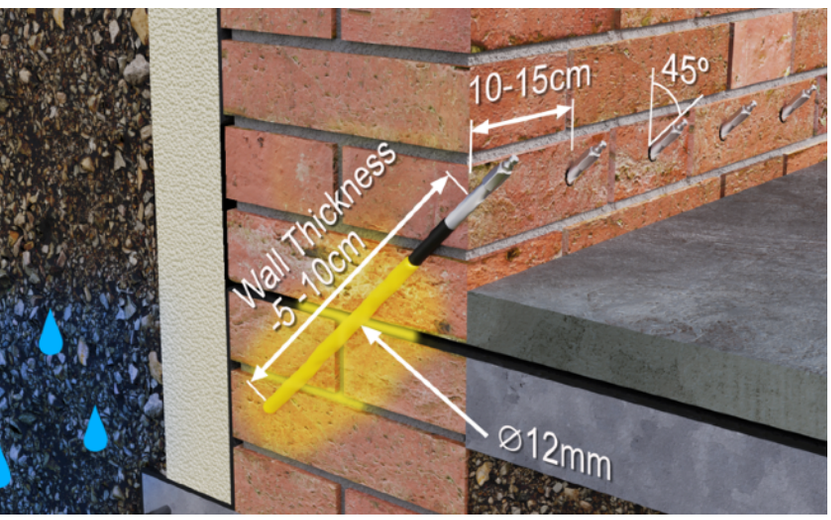
Structural Injection (Material Saturation) – A method that saturates concrete, brick, or mixed structures with polyurethane resin or acrylic gel to provide permanent sealing and block capillary water transport. The injection acts both as waterproofing and damp-proofing at the same time.

The most commonly used materials are: **CrackFlex** (low viscosity, two-component reaction with moisture and chemically, fast curing), **AcrylGel +Polymer** (very good penetration of the structure).

In some cases, **EasyInject** or **HydroGum** can also be used, depending on the moisture level and substrate structure.The quantity of material is selected individually depending on the thickness and absorbency of the wall.

In typical solid brick masonry or monolithic concrete, recommended consumption is approx. 5–15 kg/m² of cross-section.

Horizontal Injection – Single Row



Horizontal Injection – Double Row

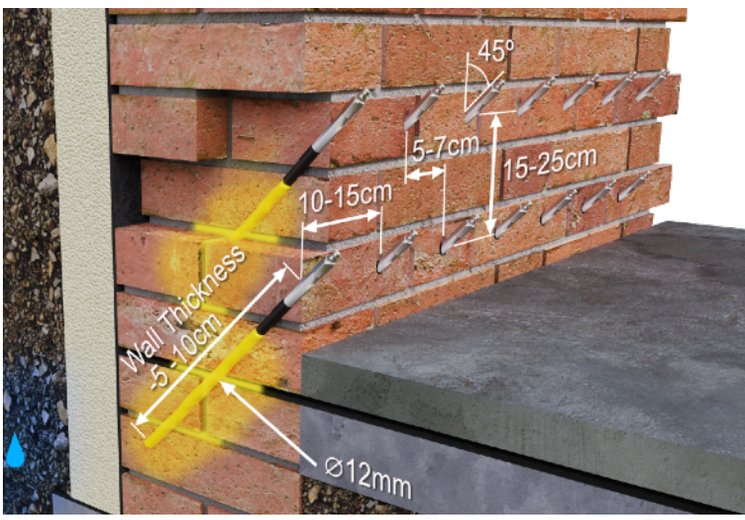
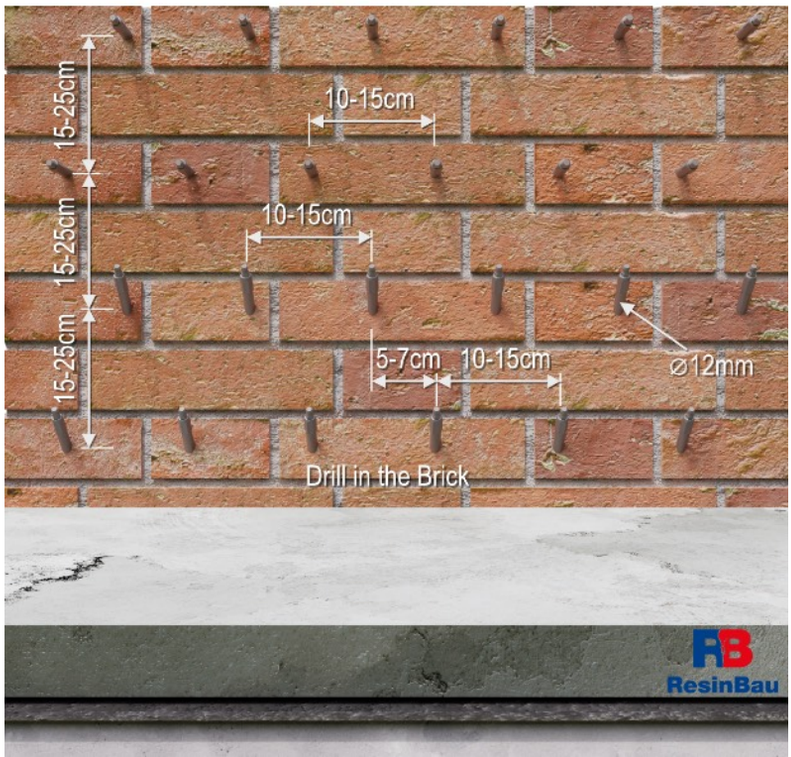


Diagram of the arrangement and positioning of injection holes for structural injection. In the case of brick walls, it is recommended to drill into solid bricks rather than joints to ensure uniform saturation and effective sealing of the structure.





ResinBau

Curtain Injection

Curtain Injection (Sealing Curtain) – A method involving the creation of a flexible waterproof barrier on the exterior side of the structure, most often behind the foundation wall or within a construction joint. Primarily, **AcrylGel** or **HydroGum** are used, as their low viscosity and high penetration capability effectively fill voids and substrate porosity.

In the case of heavy leakage or the presence of large cavities, it is possible to first stop the water or create a preliminary layer that limits material outflow using **WaterStopper resin** – this reduces gel consumption and enables a more economical filling. **AcrylGel** can also be mixed with water (instead of polymer), further lowering the cost of the curtain while maintaining effective sealing performance.

The quantity of material is determined individually – approximate consumption is about 10–25 kg/m² of curtain surface.



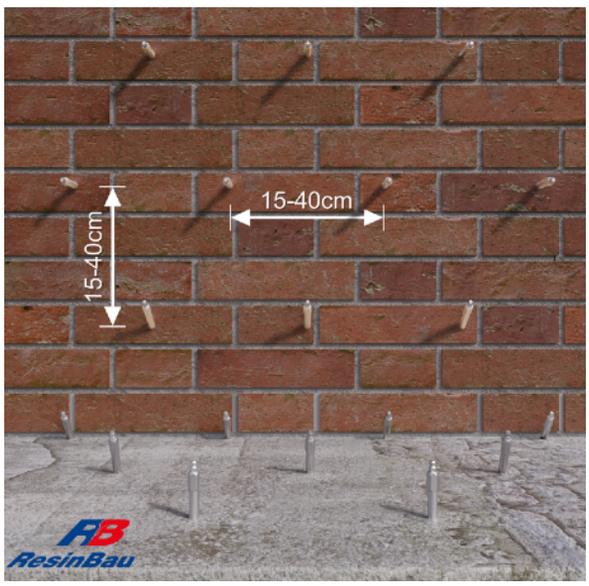
Drilling injection holes

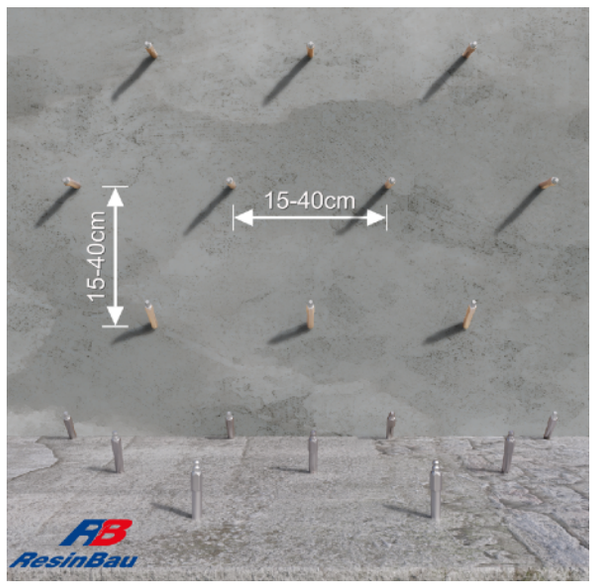


Flushing the holes with pressurized water

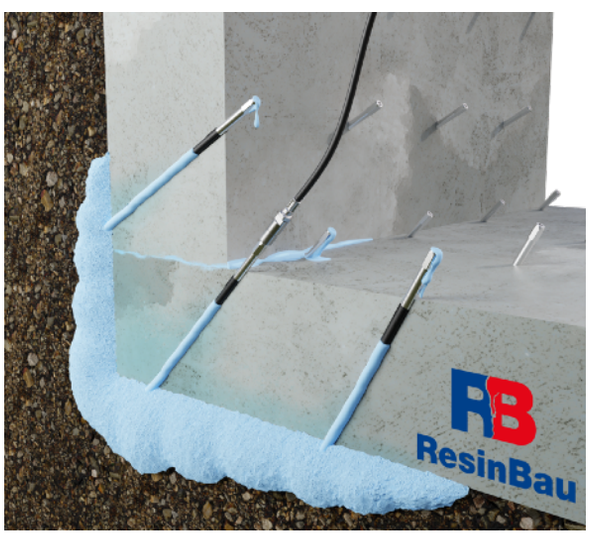


Diagrams of the arrangement and positioning of injection holes for structural injection – in the case of brick walls, it is recommended to drill into solid bricks rather than joints to ensure uniform saturation and effective sealing of the structure.

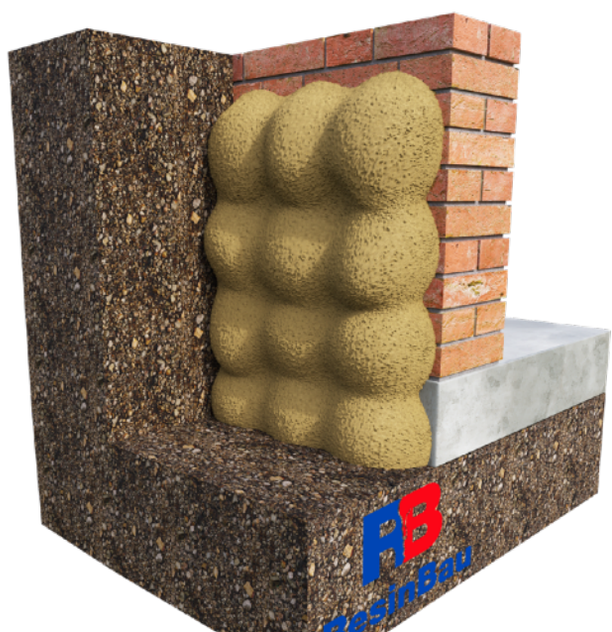




Working with open packers allows observation of material flow and control of resin distribution. In curtain injection, continuous monitoring and proper dosing during the reaction time are essential.



Characteristic radial spreading of the material when the curtain is correctly executed. It is crucial to pause the pump and control the gel injection rate.



Joint Injection

Mixing **Calculator**

L ⇄ KG Calculator

Joint Volume **Calculator**

Joint Injection (Flexible Sealing) – Effective repair of construction joints requires, first of all, thorough cleaning of the gap from dirt, remnants of old compounds, and loose fragments. For filling, **AcrylGel +Polymer** is used, which, thanks to adjustable reaction time and high elasticity, creates a durable, tight seal across the entire joint cross-section. In the case of larger voids or intense leakage, the material can be injected in stages – first using gel with a faster setting time, then with a slower reaction time to ensure complete distribution. It is recommended to create a joint sealing strip approx. 12 cm wide, which ensures uniform sealing and protection against renewed drying or water migration.

Chipping off loose cement layers and cleaning the joint manually or mechanically.



Thorough cleaning of the joint surfaces.



Removing dust and material residues with high-pressure water.



Mixing AcrylGel and testing reaction time – combining components A1 + A2 and B1 + B2 according to the planned setting time. It is important to check the reaction time on a small test sample before application.





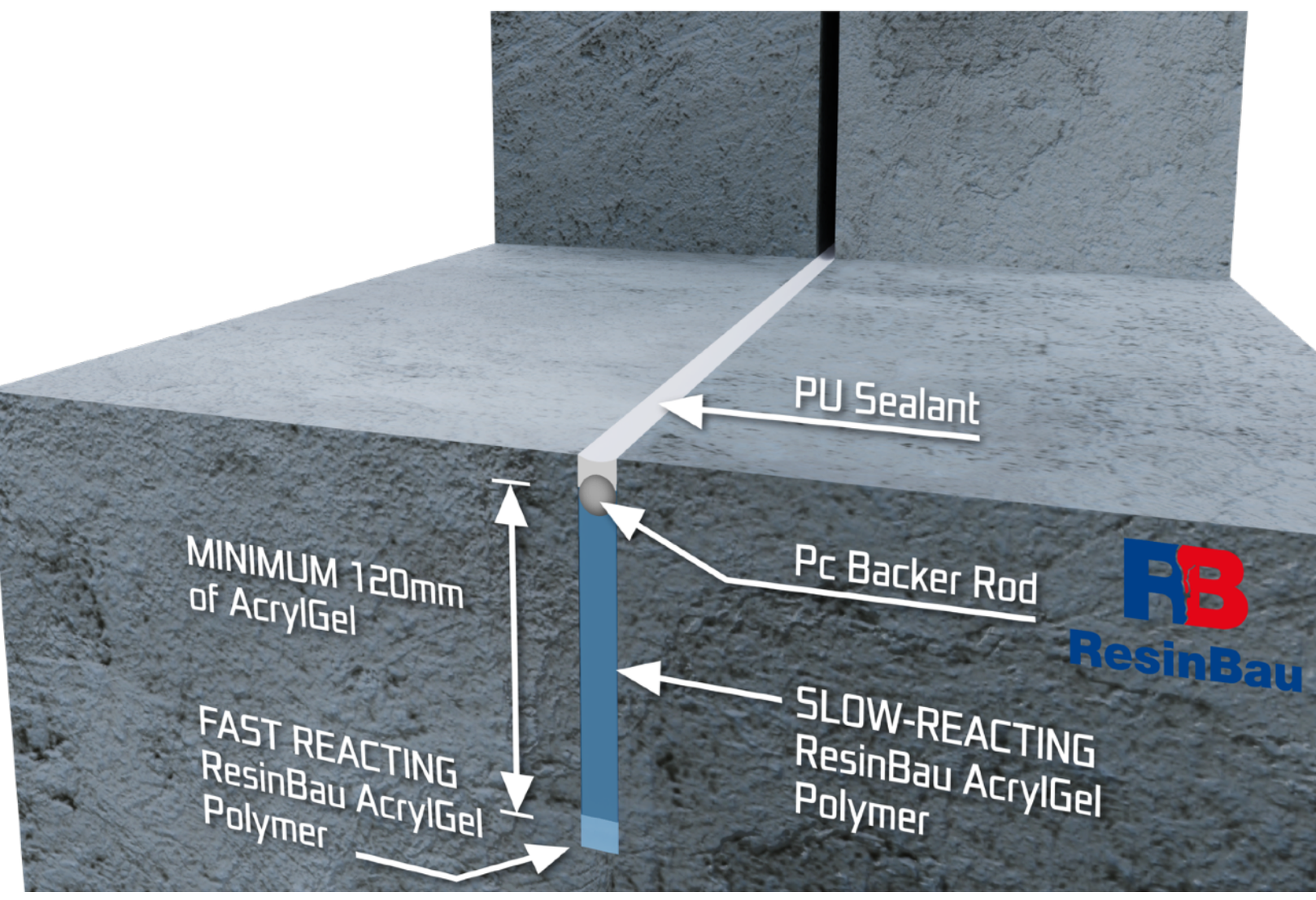
Preliminary layer injection – applying fast-reacting gel in the bottom part of the joint using the gravity method.



Filling layer injection – applying slow-reacting gel to ensure uniform distribution.



Layer arrangement diagram – layout of the preliminary and filling layers during gravity injection.



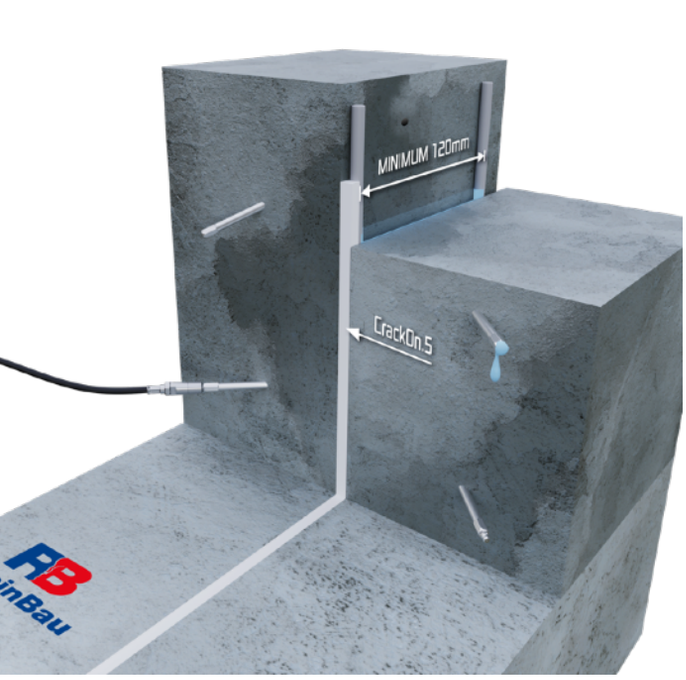
Drilling injection holes

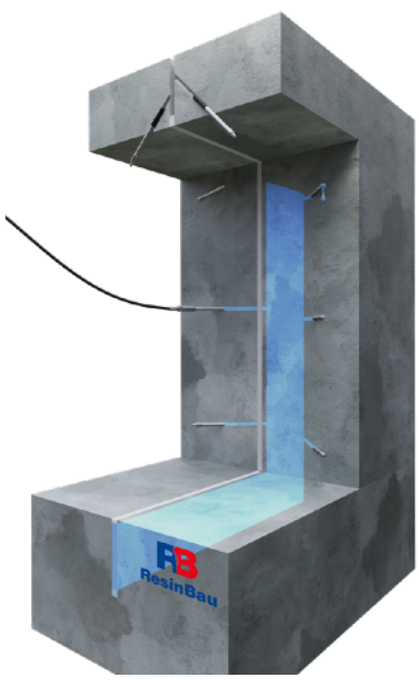


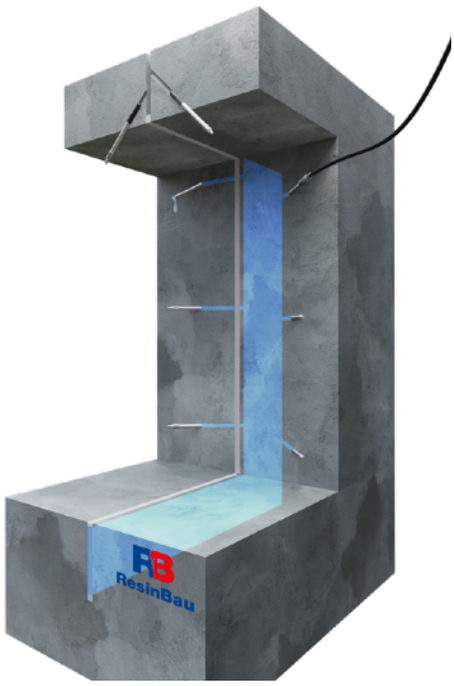
Flushing injection holes



Joint filling diagram in a wall – injection holes arranged to allow observation of acrylic gel flow between sections and ensure complete filling. A polypropylene rod is placed both deep inside the joint and at the wall face, with the entire area sealed during injection using **CrackOn.5** mortar. Packers remain open during injection to monitor material distribution. The last hole is drilled at a steep angle to seal the joint fully to the end of the cross-section. The recommended minimum sealing width is 12 cm.

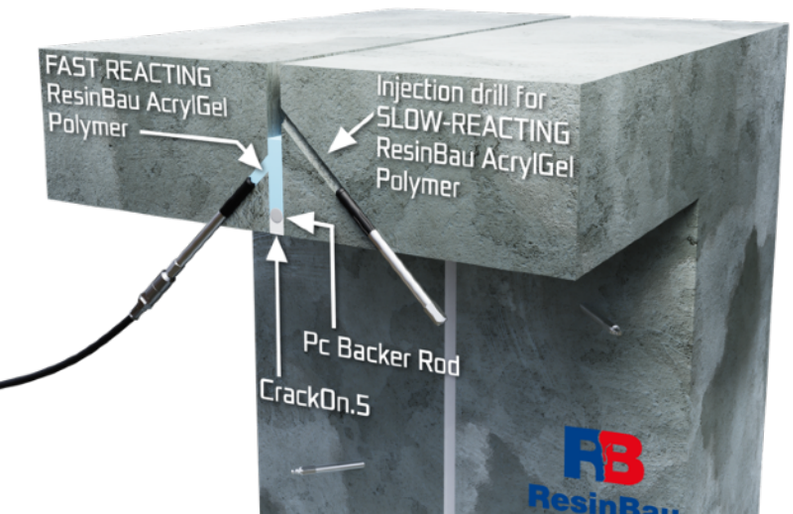


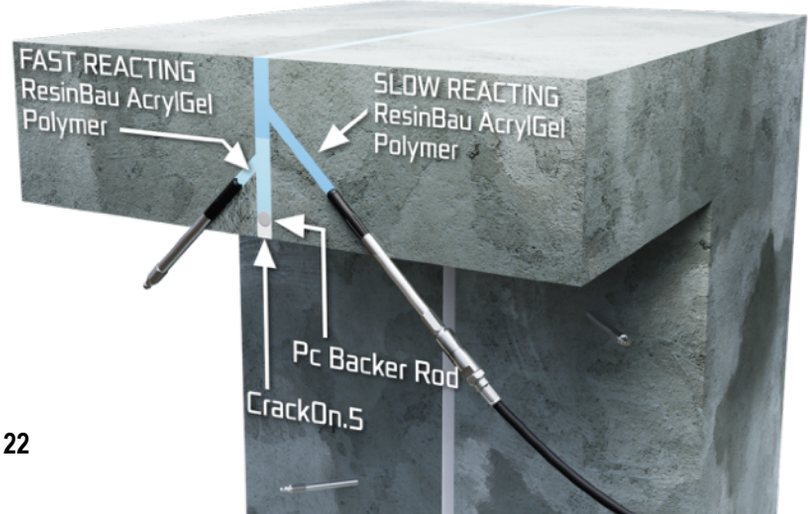




Initial ceiling joint injection – applying fast-reacting acrylic gel through the first, shallower hole to create a protective layer and monitor flow in observation sections.

Main layer injection – applying a larger volume of gel through the second, deeper hole and pilot holes, allowing complete and uniform filling of the joint in three dimensions.





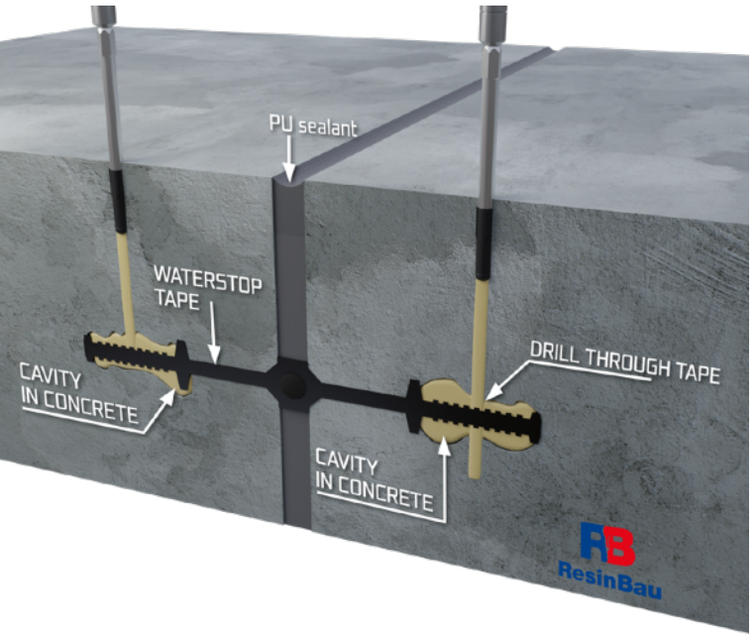
Removal of temporary mortar – Breaking off the layer of **CrackOn.5** cement mortar used to maintain tightness during joint injection.



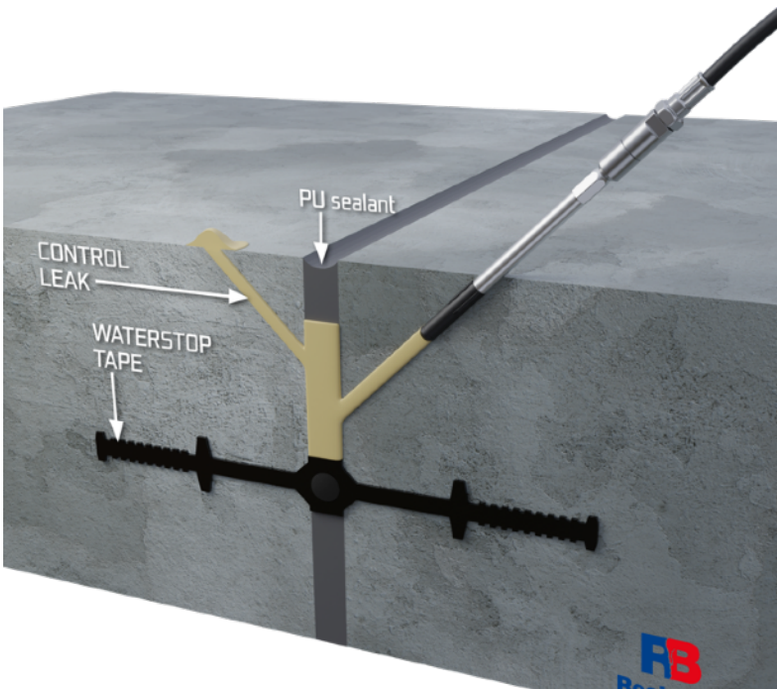
Joint finishing – Removal of packers and filling of the holes with **CrackOn.5**. Cleaning the surface and sealing with PU-40 type polyurethane sealant.



Injection through sealing tape – Example of joint repair by drilling through the tape and filling cavities with injection material. **HydroGum**, **EasyInject**, or **AcrylGel +Polymer** can be used depending on site conditions and contractor preference. This solution allows sealing the tape area and adjacent voids.



Supplementary injection and surface sealing – Example of packer injection to reseal a joint with an existing or new PU sealant and to control material flow along the sealing tape.



Injection of Pipe Penetrations

L <=> KG **Calculator**

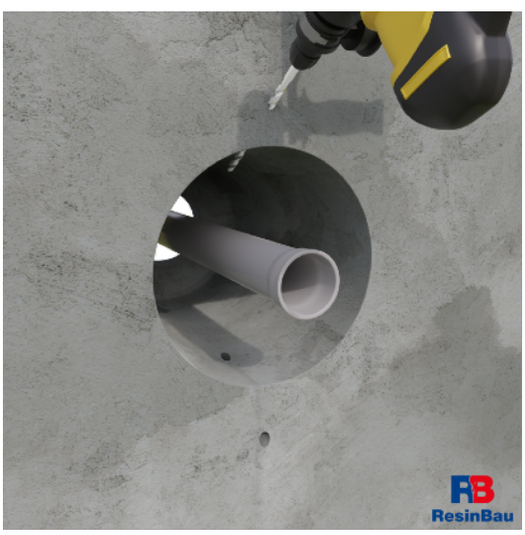
Pipe Volume **Calculator**

Repair of leaking pipe penetrations – Leakage repair in penetrations is performed by drilling appropriate holes around the circumference and securing the surface with **CrackOn.5** mortar. The most commonly used products are **CrackFlex** or **AcrylGel +Polymer**, which, thanks to their low viscosity and flexibility, effectively fill the space around the penetration. **HydroGum** can also be used; however, it requires precise water dosing and careful substrate preparation.

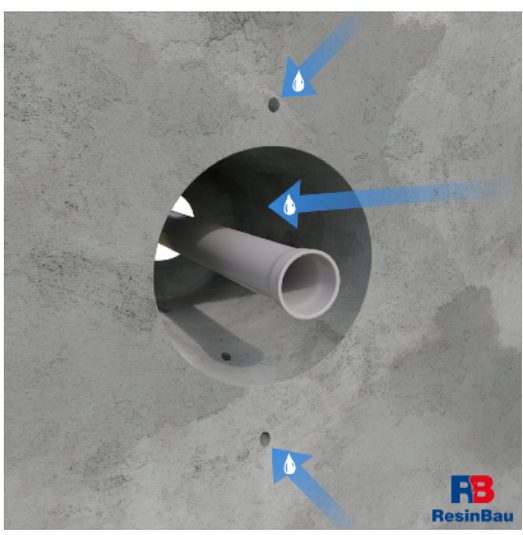
Cleaning the penetration surface: Removal of dirt and loose parts using a wire brush.



Drilling around the penetration: Arranging holes around the circumference to enable resin injection.



Flushing the holes with water: Thorough rinsing of the drill holes before installing the packers.



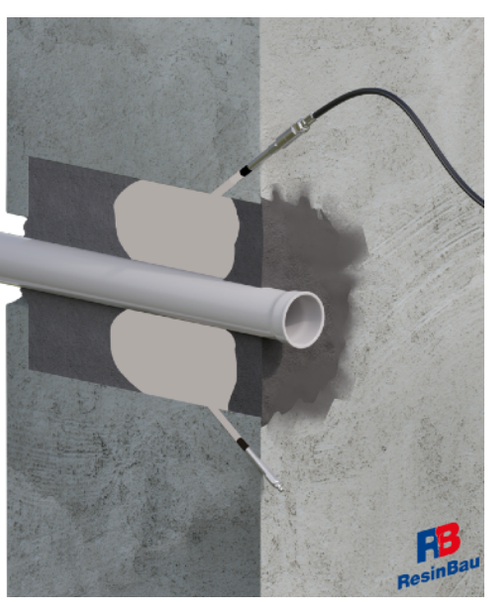
Securing the surface: Applying **CrackOn.5** mortar to initially seal the area around the pipe.



Injection of sealing material: Injecting resin or gel through the packers to fill the penetration space.



Final sealing and inspection: Completing the injection in any remaining zones and verifying tightness.



Tunnel and Underground Structures

Tunnel construction and the execution of underground structures require the use of specialized methods for sealing and soil stabilization. Due to high groundwater pressure, complex geometry of structural elements, and diverse materials (concrete, precast segments, segment joints, diaphragm walls), the selection of appropriate injection products should take into account the specifics of each area.

1. Sealing of Tunnel Segments and Segment Joints

Precast segments used in tunnel linings constructed with TBM technology require the sealing of joints to prevent water migration. Depending on leakage intensity and crack activity, the following are recommended:

- **AcrylGel +Polymer** / **HydroGum** – for creating an elastic, durable barrier in cases of seepage and leaks. Thanks to very low viscosity, the gel penetrates deep into segment joints and seals microcracks.
- **WaterStopper** – used as an initial injection to stop heavy water inflow before performing the final curtain injection or sealing.
- **CrackFlex** – for areas requiring reinforcement of sealing with excellent adhesion to concrete, or as a second injection stage.

2. Sealing of Prefabricated Joints and Diaphragm Wall Connections

Diaphragm walls and prefabricated joints require additional sealing of construction joints and vertical dilatations.
Recommended solutions:

- **AcrylGel +Polymer / HydroGum** – for creating an elastic barrier along diaphragm wall joints.
- **EasyInject** – for filling cracks and capillaries in concrete with lower water activity.
- **SoilConsolid / GeoPolymer.55** – for soil consolidation beneath diaphragm walls or filling voids in adjacent ground.

3. Sealing Excavations and Stabilizing Soil Under Tunnel Foundations

When constructing launch shafts, deep excavations, or securing tunnel foundations and retaining walls, stabilizing and consolidating materials are used:

- **SoilConsolid** – a single-component resin for consolidation and creating waterproof barriers in the soil, applied with a 1K pump.
- **GeoPolymer.55** – for rapid void filling, lifting, and stabilizing the load-bearing substrate under structures.

4. Sealing of Joints and Utility Penetrations

Tunnel structures often include cable penetrations, pipelines, and technical passages:

- **AcrylGel +Polymer / HydroGum / CrackFlex** – for sealing around penetrations and between tunnel segments.
- **WaterStopper** – in active leaks where rapid flow reduction is necessary.

5. Curtain Injection for Tunnel Wall Protection

In the case of intensive seepage through the structure or substrate, curtain injections are performed:

- **AcrylGel +water** – cost-effective creation of an elastic gel barrier on the soil side.
- **HydroGum** – for higher flow rates and larger voids.

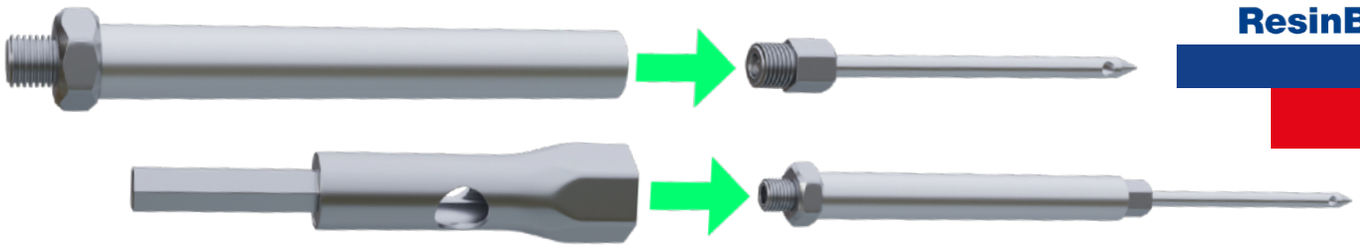
Before selecting a material, it is essential to:

- Carefully assess leak activity and water pressure levels.
- Determine the type of structure and substrate.
- Consider the available injection technology (1K pump, 2K pump, or gel injection sets).

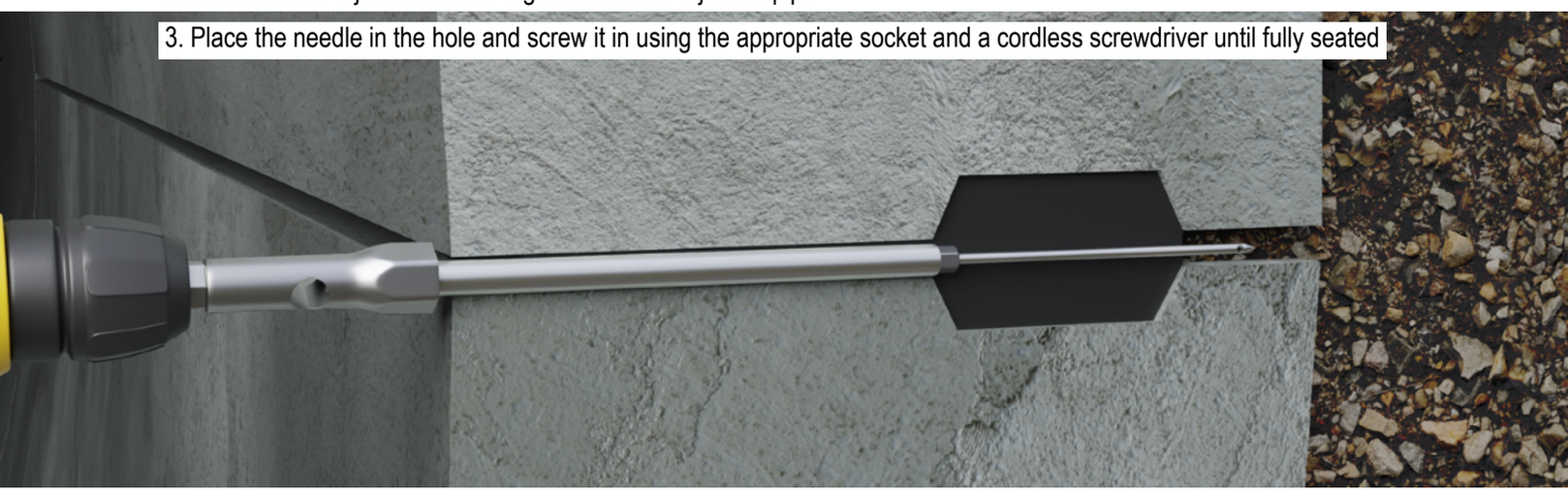
Example of sealing tunnel segment sections using Hammpack® injection needles:

ResinBau

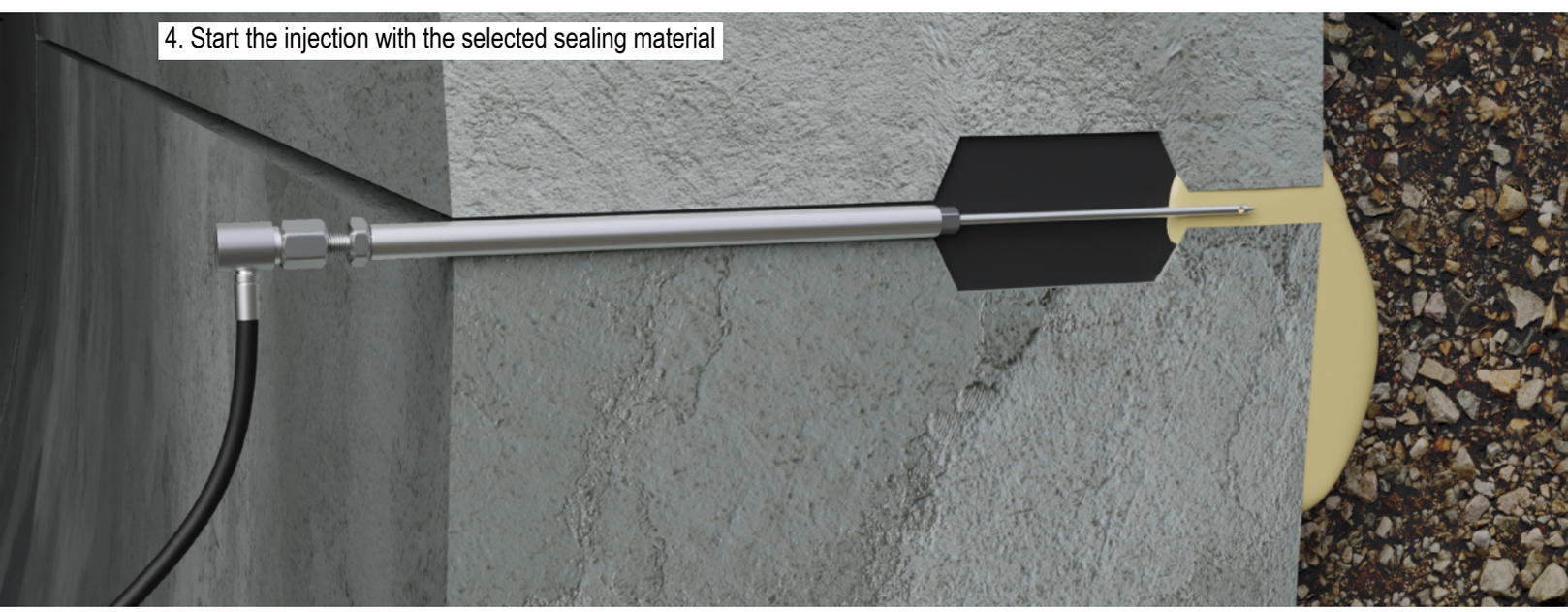




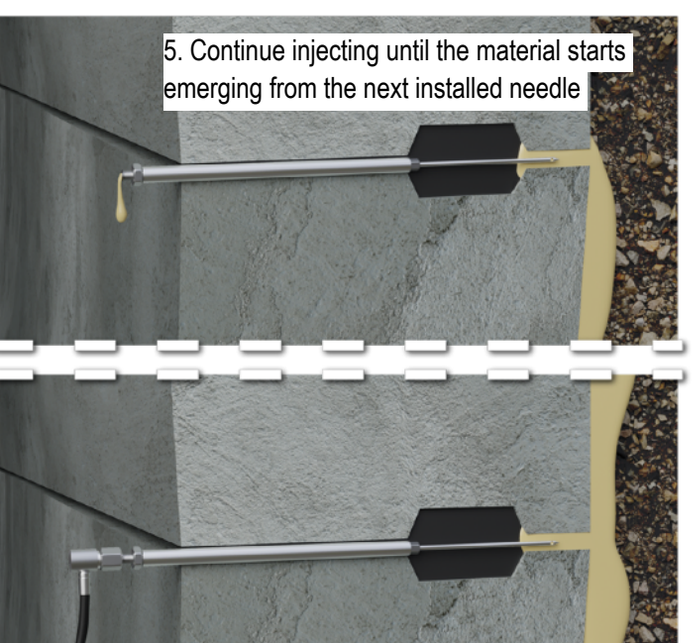
2. Assemble the injection needle together with the injection pipe



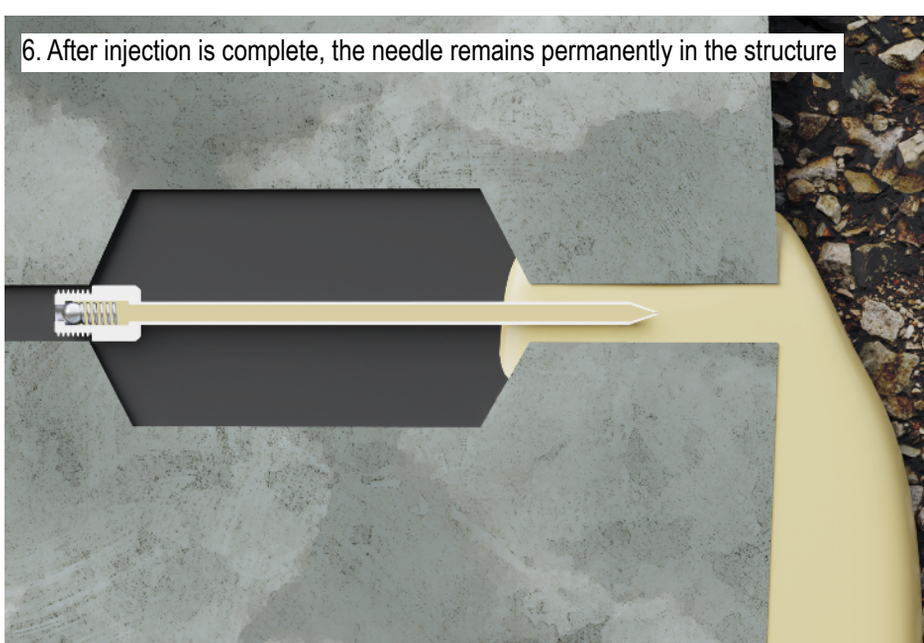
3. Place the needle in the hole and screw it in using the appropriate socket and a cordless screwdriver until fully seated



4. Start the injection with the selected sealing material



5. Continue injecting until the material starts emerging from the next installed needle



6. After injection is complete, the needle remains permanently in the structure

Injection Hoses
Knowledge

ResinBau

Injection Hoses

Recommended ResinBau injection materials for injection hoses:
The selection of the appropriate injection material for use in injection hoses depends on three key factors:

- The volume and intensity of the leakage,
- The available injection equipment,
- The site-specific execution conditions.

The most commonly recommended solution is the use of ResinBau **AcrylGel +Polymer**, due to its ultra-low viscosity and excellent ability to disperse inside injection hoses. It is particularly effective in situations such as:

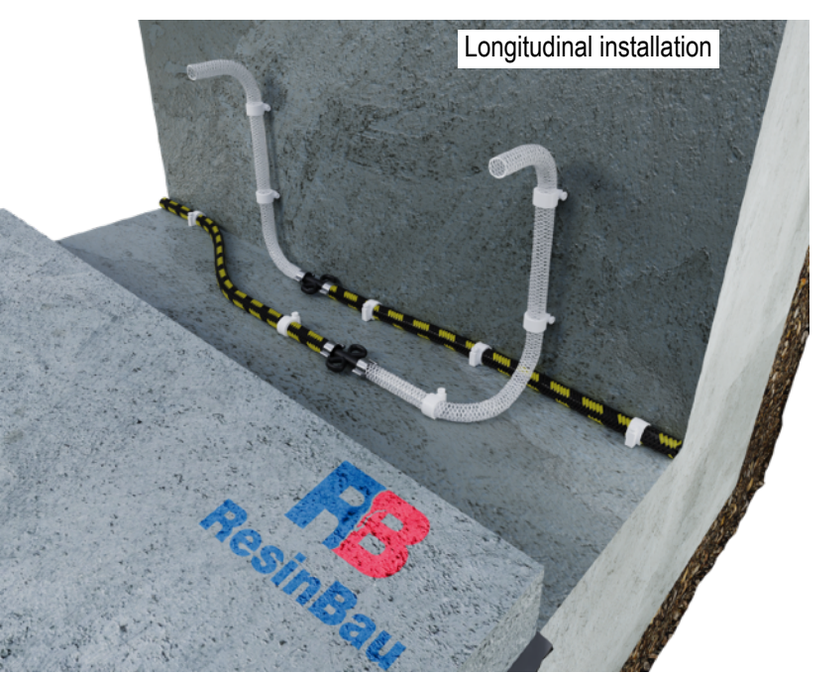
- Preventive sealing,
- Small but potentially active leakages,
- Well-compacted concrete with narrow cracks and minor voids.

Due to the relatively fast and vigorous reaction of the acryl gel components, the use of two-component pumps is recommended. Only in cases where the applicator team has sufficient experience and when using gel with extended reaction time, the use of a single-component pump is permitted—but it should be noted that this solution carries a higher risk of material curing inside the 1K pump. In such cases, the operator assumes full responsibility for the correct execution of the process.

The second recommended product is the two-component polyurethane resin ResinBau **CrackFlex**, which has a very low viscosity (although slightly higher than the acryl gel) and forms a durable, elastic seal. CrackFlex is especially suitable where resistance to structural movement and higher-pressure leakages is required.

In cases of:
- Poorly vibrated, porous concrete,
- Large voids within the structure,
- High-volume leakages,
- Situations where the consumption of standard materials (e.g., AcrylGel or CrackFlex) would be economically excessive or there is a risk of wash-out before the material can set,

Consider using:
- **ResinBau HydroGum**
- **ResinBau EasyInject**



Longitudinal installation


Double-cross (criss-cross) installation

ResinBau

Soil Injection

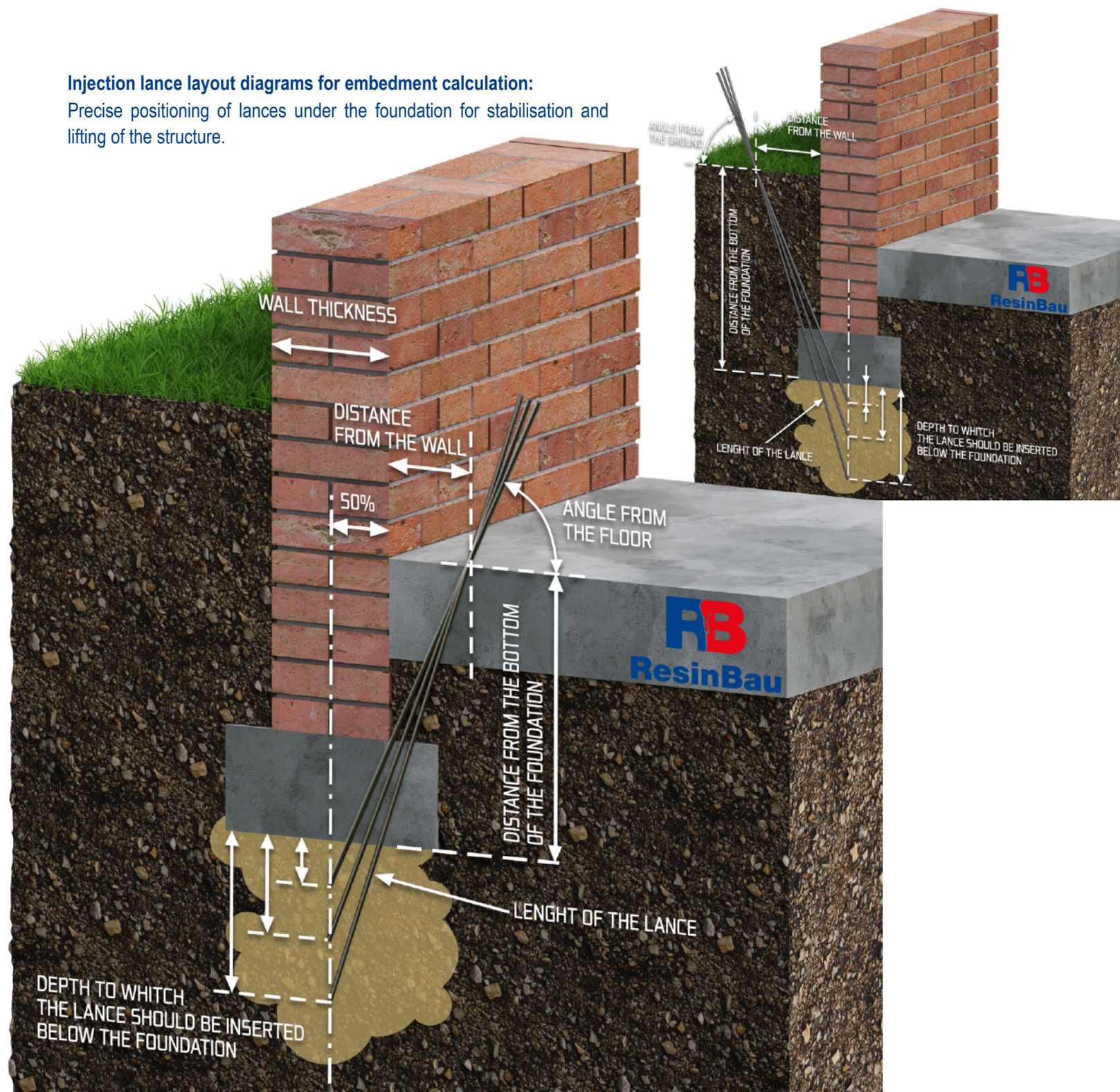
Foundation Drilling **Calculator**

Soil Injection – For lifting foundations and floor slabs, high-expansion polyurethane foams such as **GeoPolymer.55** are used. These materials rapidly increase their volume, enabling the elevation of structures.

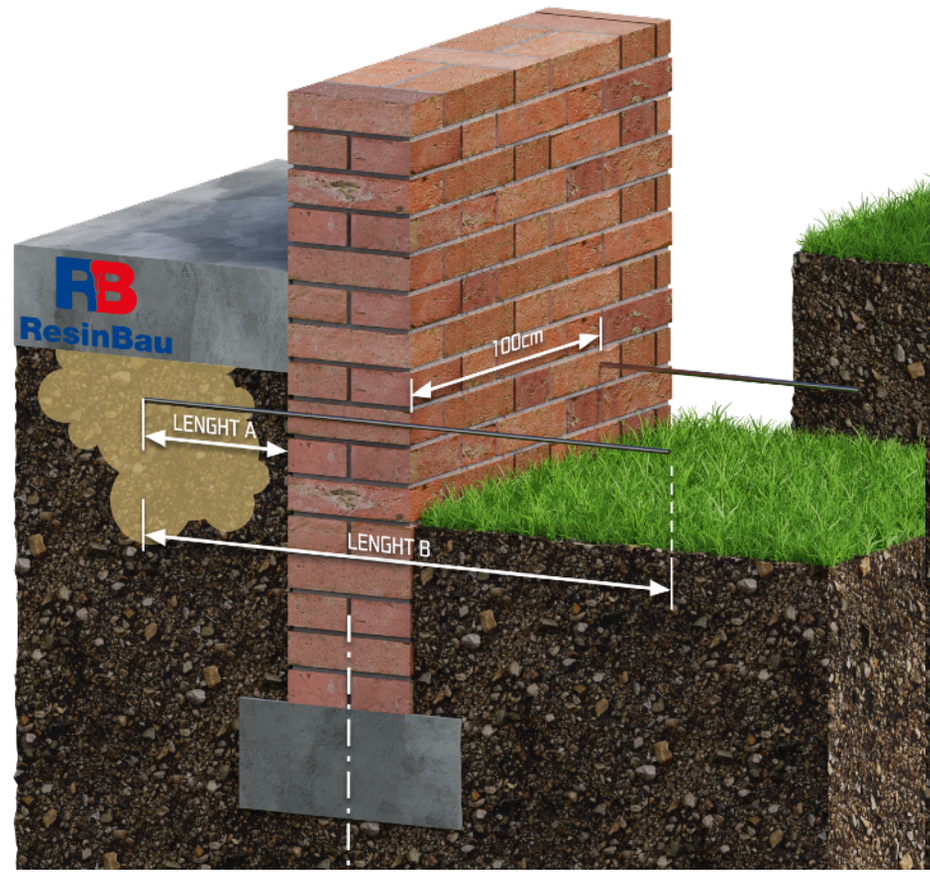
In compact soils and when stabilising rocking slabs, **GeoStabil** resin is recommended. It is characterised by limited expansion and high mechanical strength, which allows better process control.

For creating waterproof barriers, consolidation, and soil sealing, **SoilConsolid** is applied. It is distinguished by low viscosity and the possibility of application using a single-component pump. Material selection depends on the soil type, the extent of settlement, and the reinforcement objective.

Injection lance layout diagrams for embedment calculation:
Precise positioning of lances under the foundation for stabilisation and lifting of the structure.



Slab stabilisation from the outside using horizontal lances.



Slab stabilisation from the inside by drilling through the slab.

Diagram of the operation of a lance with a shooting tip.



Diagram of the operation of a perforated lance.



ResinBau

Spiral Anchors

Mortar **Calculator**

Masonry Repair **Knowledge**

Repairing cracked walls with spiral anchors (Ankerbau mortar)

The method of reinforcing structures with spiral anchors using **Ankerbau** mortar is designed for the permanent repair of cracks in load-bearing and partition walls, strengthening lintel zones, beams, slabs, and securing detached facade layers. This solution allows effective stabilisation of deformed masonry and restores continuity and load-bearing capacity of the structure with minimal invasiveness. **Ankerbau** mortar is characterised by excellent adhesion to brick and concrete, enabling secure anchoring of spiral rods and fast filling of the cavity space.



Groove parameters for spiral anchors:

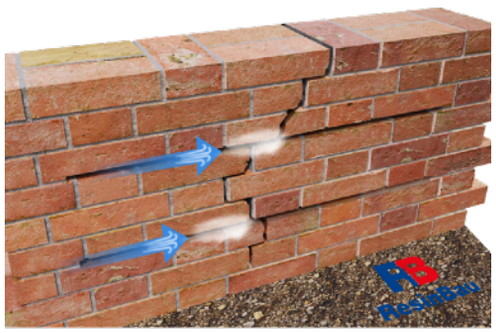
- Distance from the crack for brick walls: minimum 500 mm from the crack
- *(For concrete walls: minimum 300 mm)*
- The groove should have the same length on both sides of the crack
- Groove width must be no less than the rod diameter + 4 mm
- Groove depth should be between 35 mm and 70 mm
- Spacing between anchors: 300–450 mm

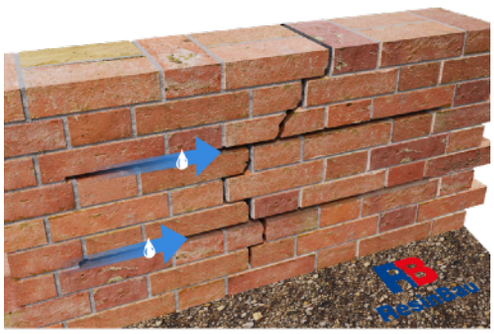


Groove cutting

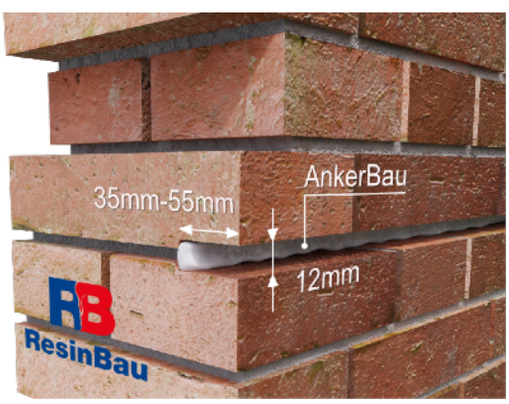


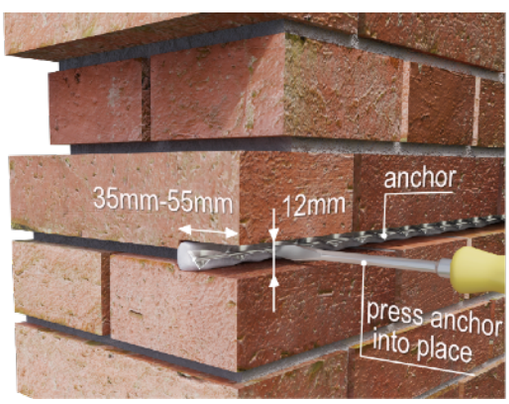
Cleaning the gaps and preparing the surface.

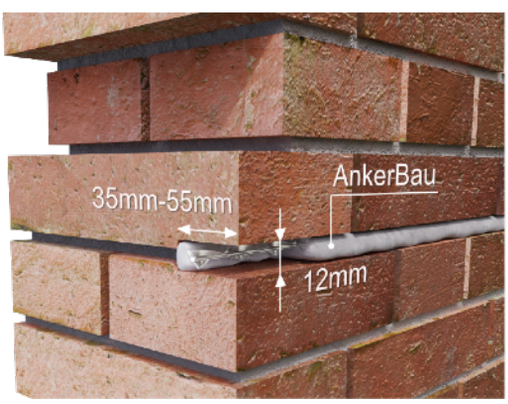




Filling the groove with the first layer of **Ankerbau** mortar approx. 10 mm thick, placing the pre-cut spiral anchor, and applying the second layer of mortar. Smoothing the joint with a spatula. Open cracks should be filled with **ResinBau CrackOn.5** mortar. After approx. 24 hours, once the mortar has cured, the surface can be plastered.







Anchoring in corners: Groove length minimum 500 mm from the crack.

Corner anchor: Length minimum 500 mm, drilling angle 45°.





ResinBau

Cream Injection

Cream Injection **Knowledge**

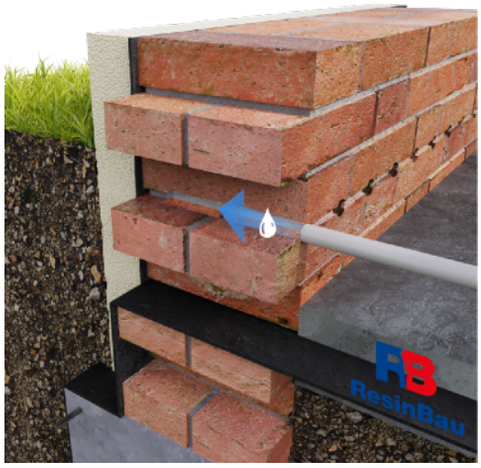
Cream Consumption **Calculator**

InjectCream is a silane-siloxane injection cream designed to create an effective moisture barrier in masonry walls made of brick, mixed materials, foundation blocks, hollow blocks, clinker, and sandstone. The product penetrates deeply into the substrate, cuts off capillary water transport, and works even in structures with moisture levels up to 95%. Application is quick and simple – it can be performed with either pressure or gravity methods. **InjectCream** does not reduce water vapour permeability, allowing the wall to maintain a healthy microclimate.

Before use, it is essential to identify the source of moisture, repair any leaks in installations, and remove old plaster up to the dampness height plus 80 cm. After injection, it is recommended to apply renovation plasters and vapour-permeable paints and ensure adequate ventilation of the rooms. **InjectCream** prevents capillary rising damp but does not protect against pressurised water ingress.

Hole layout and injection diagram





Flushing the holes with water



Drilling and injection:
- Wall thickness – minus 4 cm
- Injection performed while gradually retracting the injection pipe

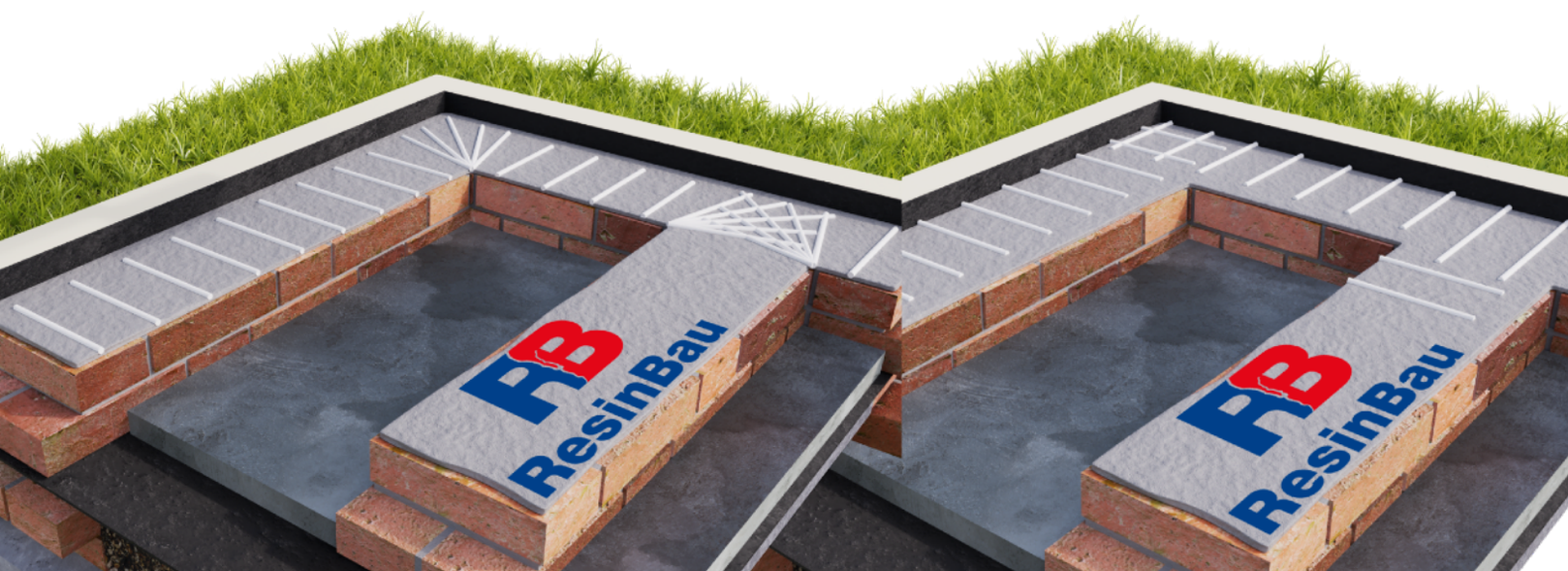


Cream action diagram

Preparation diagram: Drill horizontally in the lowest mortar joint, holes every 10 cm, diameter ⌀12–14 mm, depth equal to the wall thickness minus 2–4 cm. For low-absorption masonry, double-row injection is recommended, with the second row shifted upwards by 8–10 cm. After injecting each hole, seal it with **ResinBau CrackOn.5** mortar and level the surface.



Corner injection diagrams



ResinBau

Pump Cleaning

Cleaning
Knowledge

For cleaning resins such as:
HydroGum, CrackFlex, WaterStopper, EasyInject, EpoxPower, GeoStabil, GeoPolymer.55, SoilConsolid
use **Pi-Cleaner** – an eco-friendly, odourless cleaner that effectively removes residual material and is safe for the environment. The product should be used before and after work by thoroughly flushing the entire pump system, regardless of its type (1K or 2K).

For **AcrylGel +Polymer** acrylic gel, **InjectCream** and **AnkerBau** mortar,
cleaning with **water** alone is sufficient.

After using **Pi-Cleaner**, it is recommended to apply the **Pi-Saver** preservation agent, which protects the pump against corrosion, drying of residues, and seizing, while maintaining lubrication of the components. If water has entered the system, first flush the pump with **Pi-Saver**, and only then with **Pi-Cleaner**.

It is also advisable to lubricate the pump regularly to extend its lifespan and ensure trouble-free operation.

CLEANING



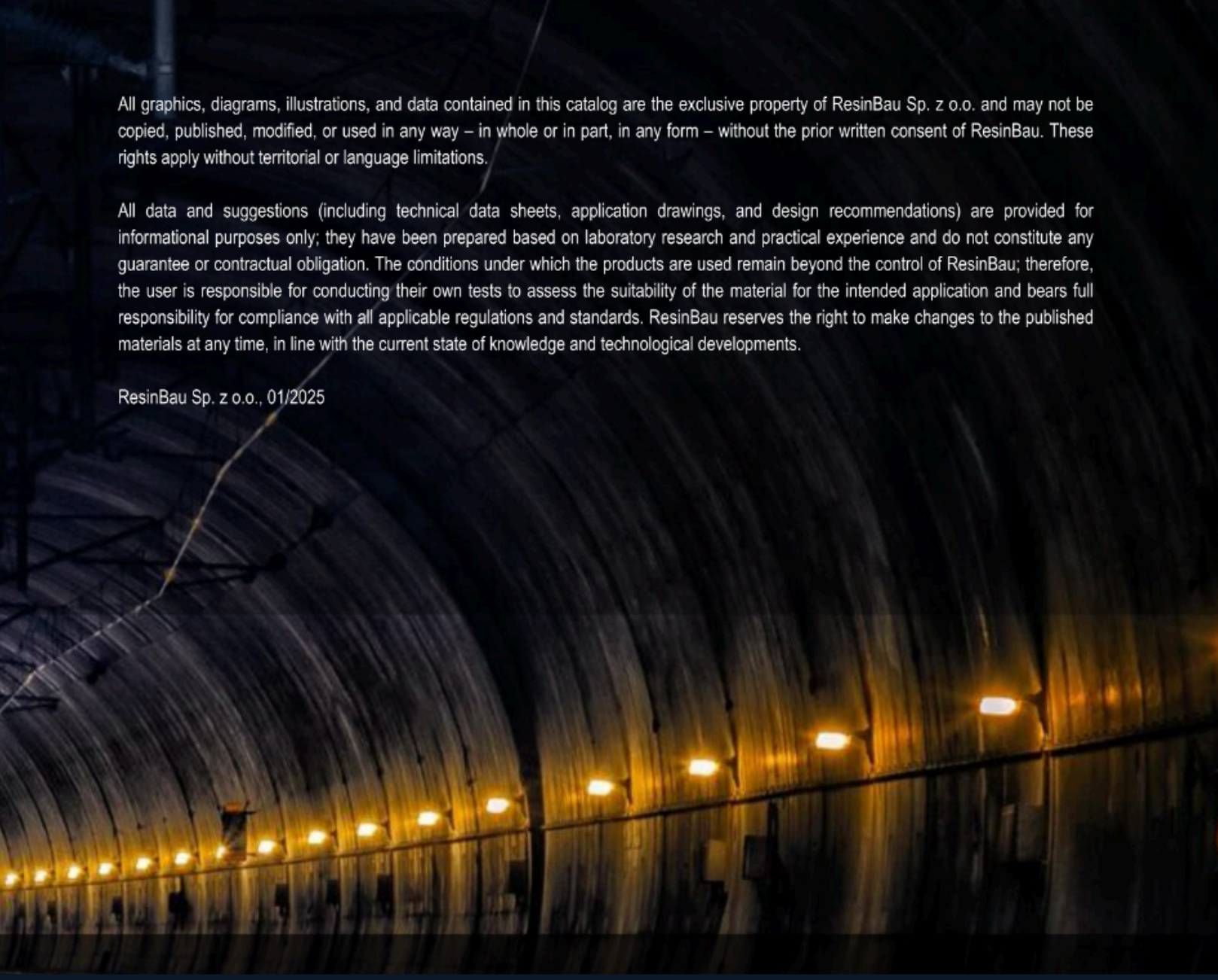
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