Sealing of Masonry

Contents

This brochure mainly deals with sealings in masonry structures made from different mineral building materials. These also include porous concrete and stamped concrete. Another WEBAC Brochure deals with the sealing of cracks in reinforced concrete.

NOTE

Please observe all existing regulations and the instructions in the technical data sheets on the respective WEBAC Products.

If you have any queries or specific problems, please do not hesitate to contact us.

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WEBAC®

Damp Masonry

More than a visual shortcoming – moisture-related damage to bases and basement walls is one of the most common building defects in structural engineering. This damage can have different causes.

Moisture-damaged masonry

Structural elements with ground contact are exposed to varying moisture stresses such as seepage water, soil moisture and ground water. Plinth areas are also exposed to stress caused by splashing water, ice, de-icing salt and to thermal stresses due to temperature fluctuations.

Professionally constructed buildings are provided with sealings which prevent moisture from penetrating the structure. However, building defects, changing conditions and aging of the building materials used lead to temporary or permanent moisture damage time and time again.

The consequences of moisture penetration are varied:

- The thermal insulation value of the wall is getting poorer, resulting in higher heat losses
- Spores, algae and fungi find an ideal breeding ground
- Salts penetrate the structural elements and cause efflorescence to form, leading to chipping.

This may impair the stability of the building in the long term. This is why effective measures against moisture penetration are necessary to safeguard the building's usability and to protect its structure.

Reasons for **wet walls**

- Capillary rising moisture
- Cracks and leaking joints in wall structures
- Leaks at floor/wall junctions
- Defective vertical sealings
- Defects in atmospheric environment (insufficient ventilation, defective insulation)
- Salt-related hygroscopic dampness
- Damaged drainage, supply and return lines
- Changed moisture-related stress due to ground water or penetrating surface water

Damage Diagnosis

Building State Analysis

‣ A thorough analysis of the state of the building is necessary for a suitable repair scheme and a sound refurbishment plan.

General examinations

- General information on building as age, structural state
- Use of adjacent rooms
- Air humidity and temperature in rooms
- Ground water conditions
- PH value of ground water, reference to acids (increased salt load)
- Assessment of foundation soil

Core removal from brickwork

Construction

- Type of masonry (e.g. sand-lime brick, quarry stone, solid bricks, vertically perforated bricks, concrete, mixed brickwork)
- Wall thicknesses
- Masonry structure (single- or multi-shell, with or without air cushion)
- Wall homogeneity, strength, density and porosity
- Existing cracks and cavities, movements of structural element, if any
- Structure and position of foundation
- Supply lines
- Static assessment/stability
- Existing barriers, their position and nature
- Repair work already carried out

Large-format cyclopic brickwork with large-pored joints

Natural brickwork with loam mortar joints

Moisture analysis

The distribution of moisture in the structural elements must be analyzed to determine the cause of damage and to develop a suitable refurbishment scheme.

Well calibrated, spatially resolved moisture determinations by means of moisture tomography have proved successful for non-destructive examinations of the building structure. More accurate values can be determined by taking masonry samples or removing cores, for example following the Darr method. The samples are analyzed to assess the actual moisture penetration gradient (MPG) at different structural elements depths. The moisture penetration gradient (MPG) indicates the ratio between existing moisture and maximum saturation moisture. The open pore and capillary volume can also be determined and the quantity of injection material required can be roughly estimated.

The WTA (International Association for Science and Technology of Building Maintenance and Monument Preservation) has in its Code of Practice 4-4 defined the three categories 60/80/95% MPG, according to which injection materials can be tested and certified. In combination with pressureless or pressure injection, six variations arise for effectiveness checks. For certain injection materials, additional pretreatment measures

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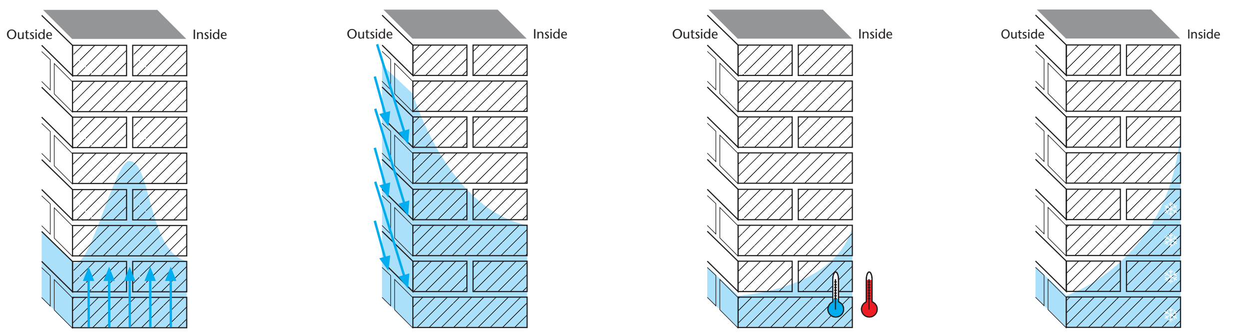
Building State Analysis

such as drying of the masonry (e.g. for paraffin or certain alkali silicate preparations), alkaline activation or reaction phase up to the water load (e.g. silicon micro-emulsion concentrates) are required. Thanks to such complex pre-treatment measures these injection materials can also be used at higher moisture penetration gradients.

The alternative test procedure according to BuFas (BuFAS Engineering Code of Practice IM-01/2009) is based on the determination of the distribution and hydrophobic effect of injection materials in masonry and mortar by means of wetting angle measurement and drop tests. With this procedure no MPG classes are preset, but the conditions actually prevailing during the test and the effectiveness of the injection material obtained in so doing are attested. Depending on the conditioning of the test samples, higher stress levels such as pressurized in-situ water can also be tested.

Moisture distribution at different moisture-related stresses

Causes of moisture-related stress on masonry according to the WTA



Capillary rising moisture

Vertically penetrating moisture

Condensate formation due to falling short of dew point temperature

Hygroscopic moisture caused by salts absorbing moisture from ambient air

Rising **moisture**

Moisture spreads within the masonry because of the capillary absorptivity of the building materials mortar and bricks. They absorb the water like a sponge and distribute it within the structural elements.

The extent to which the water spreads in the structural element mainly depends on the diameter of the capillaries. The smaller the pores the higher the capillary absorptivity and the higher the moisture can rise in the masonry. If the pores are very small and unconnected (micropores or gel pores), for example in standard-compliant concrete, there is no capillary water transport. Disruptions in the capillaries, for example due to pores, prevent or delay the capillary moisture transport.

If the capillaries are very wide, with pore radii larger than approx. 1 mm, no capillary water transport is possible either because the pores act as "capillary-breaking layers". Large quantities of moisture can penetrate into the structure through these wide areas in the case of pressing water.

Moisture due to **salt-related stress**

Due to their hygroscopic (water-attracting) effect, water-soluble salts such as nitrates, ammonium, chlorides, carbonates and sulfates may significantly increase the moisture content in the masonry. The salts crystallize on the surface of the structural elements and cause efflorescence to form. This transition from the solved to the crystalline state is related to a strong increase in volume and crystallization pressure, which may cause damage to plaster or masonry. The salts can be analyzed according to type and quantity and the distribution of the most important salts damaging the masonry can be determined by means of samples from the masonry.

Calculating **moisture penetration gradient**

$$MPG = \frac{GF - GT}{GS - GT} \times 100\%$$

MPG Moisture penetration gradient
GF Mass of damp sample
GT Mass of dry sample
GS Mass of water-saturated sample

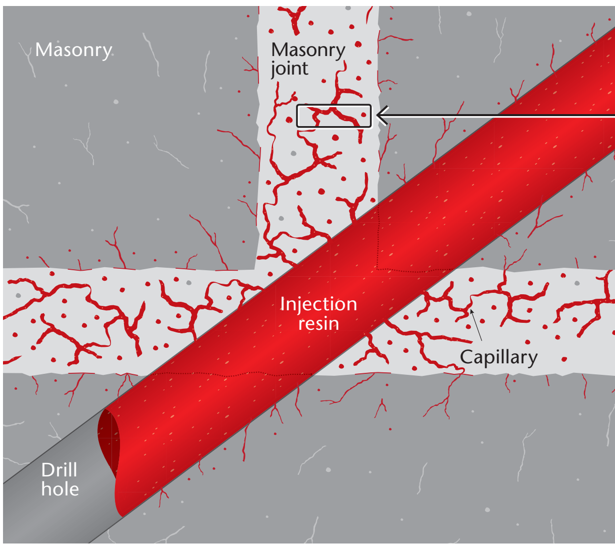
Effects of Different Injection Materials

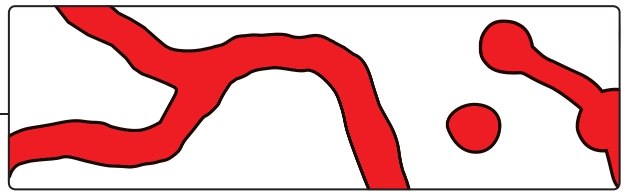
Besides a capillary network, the structure of plinths and basement walls usually also has cavities, gaps, cracks and large pores. Masonry joints are generally characterized by the greatest porosity. Water penetrating into structural elements through this structure and spreading thus causes moisture damage.

Pressure injections with PU resins and acrylate gels can be carried out, above all into the masonry joints, to put a stop to capillary water transport preventing the moisture from spreading and rising. A moisture equilibrium is then established in the masonry above the sealing level.

Thanks to the capillary-obstructing filling process the injection material cannot be washed out. In case of higher stress levels (up to pressurized in-situ water), these materials are often the only suitable sealing solution.

The effects of different injection materials are illustrated (standing below).

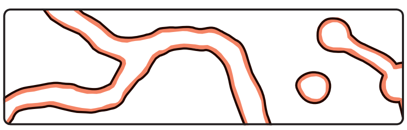




1 – Obstruction

The capillary/pore structure is entirely filled, putting a stop to all capillary water transport in the long term, regardless of the moisture penetration ratio.

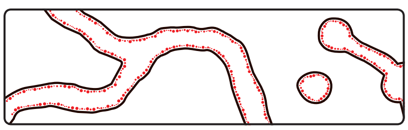
Injection materials: e.g. polyurethane, paraffin (restriction: system-related pre-drying), acrylate gels (restriction: shrinkage during the drying process)



2 – Contraction

The capillary/pore structure is contracted by reducing the capillary absorptivity. The drying effect is obtained due to the higher evaporation speed than the capillary transport speed.

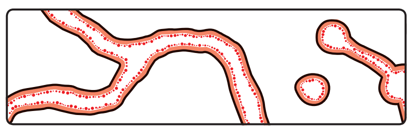
Injection materials: unknown



3 – Waterproofing

Water-repellent compounds deposit on the capillary walls, so that the water rises to a lesser extent in the capillaries, impeding the water transport. The pore structure remains largely intact.

Injection materials: e.g. silicon micro-emulsion, silanes, siloxanes



4 – Waterproofing/Contraction

Combination of 2 – Contraction and 3 – Waterproofing

Injection materials: combinations of alkali silicate and siliconate (e.g. modified silica sols)

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Products

▸ The success of an effective damp-proof course (dpc) mainly depends on the selection of the right injection material. A description of WEBAC Products and their areas of application and properties is agiven below.

PU injection foam resins (SPU)

Quick-foaming polyurethane injection foam resins (SPU) are specially designed to fill the essential parts of masonry full of gaps and cavities. Upon contact with water, the resins form a foam of fine cellular structure during a very quick reaction which fills all free volumes and also displaces the water from the building structure. Thanks to the intensive mixing process, a barrier forms very quickly and the water transport is stopped, especially with pressing water.

Preliminary injection of a PU injection foam resin into masonry with cavities

Technical data*	WEBAC® 150	WEBAC® 151	WEBAC® 157
Mixing ratio	1 : 1 parts by volume	1 : 1 to 1 : 10 parts by volume	1 : 1 parts by volume
Mixing viscosity (23 °C / 73 °F)	≈ 600 mPa·s	1 : 1 ≈ 1,130 mPa·s 1 : 5 ≈ 300 mPa·s 1 : 10 ≈ 240 mPa·s	≈ 400 mPa·s
Expansion with 10% water	≈ 40-times	1 : 1 ≈ 10- to 15-times 1 : 5 ≈ 30- to 35-times 1 : 10 ≈ 25- to 30-times	≈ 15-times
Foam reaction (20 °C / 68 °F) with 10% water Start • End	≈ 14 s • ≈ 65 s	1 : 1 ≈ 8 s • ≈ 30 s 1 : 5 ≈ 15 s • ≈ 70 s 1 : 10 ≈ 20 s • ≈ 100 s	≈ 20 s • ≈ 80 s
Application temperature	> 5 °C / 41 °F	> 5 °C / 41 °F	> 5 °C / 41 °F
Properties	• Universally applicable, reliable application • Fast and highly expanding foam • Adjustable reaction time (accelerator **WEBAC® B15**)	• Universally applicable • Adjustable reaction time	• Elastic foam structure • Low expansion pressure • Adjustable reation time (accelerator **WEBAC® B15**)

* The specified data are values determined under laboratory conditions and are subject to certain fluctuation. Deviations are possible in practice depending on the respective object situation.

Products

PU combi injection resins

PU combination injection resins **WEBAC® 155** and **WEBAC® 1500** stop pressing water quickly while ensuring a permanent sealing.

WEBAC® 155 with its fast development of a closed-cell, elastic foam structure is preferably used for waterstopping.

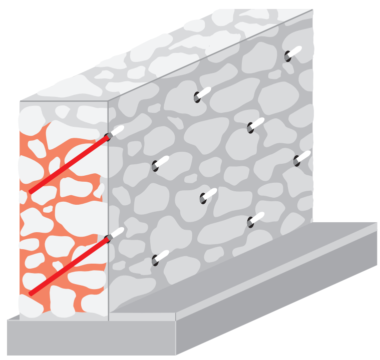
WEBAC® 1500 is characterized by the rapid formation of a permanently dense resin film, especially at higher water loads.

Filling of cavities/voids

Technical data*	WEBAC® 155
Viscosity (23 °C / 73 °F)	≈ 255 mPa·s
Expansion with 10% water	≈ 22-times
Foam reaction (20 °C / 68 °F) with 10% water, Start • End	≈ 20 s • ≈ 130 s
Application temperature	> 5 °C / 41 °F
Properties	• Moisture-reactive 1C PU foam resin, permanent sealing effect due to a waterproof resin layer • Water contact required for foam reaction and curing • High elasticity and adhesion • Adjustable reation time (accelerator **WEBAC® B15**)

Technical data*	WEBAC® 1500		
Mixing ratio	1 : 1 parts by volume		
Mixing viscosity (23 °C / 73 °F)	450 mPa·s		
Pot life (20 °C / 68 °F)	20 °C / 68 °F		12 °C / 54 °F
	WEBAC® EasyPro ≈ 15 min	**WEBAC® IP 1K-F3** ≈ 20 min	≈ 30 min
Expansion with 10% water	≈ 10-times		
Foam reaction (21 °C / 70 °F), with 10% water, Start • End	≈ 55 s • ≈ 3.5 min		
Application temperature	> 3 °C / 37 °F		
Properties	• Fast curing with and without water • Fast sealing foam structure upon contact with water (pressing water) • Low viscosity • Elastic foam structure • Fast curing – permanent sealing • **WEBAC® B15** for a fast foam reaction • Also suitable for use at low temperatures		

* The specified data are values determined under laboratory conditions and are subject to certain fluctuation. Deviations are possible in practice depending on the respective object situation.



Filling of cavities/voids in masonry

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Restoration

Products

PU injection resins (PU) – WEBAC® 14**

Capillary obstruction is achieved by pressure injection of solvent-free, low-viscosity, 2C PU injection resin. This material is suitable for almost any type of masonry and can also be used for water-saturated structural elements. PU injection resin spreads in gaps, cavities, cracks and pores, fills these completely and adheres very well to the mineral building materials.

Moreover, the functionality of the material is not impaired by existing salts. PU injection resins do not bring any additional water into the masonry but, upon contact with water, form small pores which are incorporated in the resin matrix. This way PU injection resins have a positive effect on the heat balance of the masonry and reduce the formation of thermal bridges.

Technical data*	WEBAC® 1401	WEBAC® 1403	WEBAC® 1404
Mixing ratio	3 : 1 parts by volume	1 : 1 parts by volume	3 : 1 parts by volume
Viscosity of mixture (23 °C / 73 °F)	≈ 45 mPa·s	≈ 80 mPa·s	≈ 110 mPa·s
Pot life (23 °C / 73 °F)	≈ 120 min	≈ 90 min	≈ 60 min
Application temperature	> 5 °C / 41 °F	> 5 °C / 41 °F	> 5 °C / 41 °F
Moisture penetration gradient	max. 95%	all	all
Properties	• Capillary obstruction, solidifying • Extremely low viscosity • Low foam development • Good penetration • Long pot life • Mainly based on renewable raw materials	• Capillary obstruction, solidifying • Quick-seal foam structure upon contact with water • Low viscosity • Universally applicable, reliable application • Adjustable reaction time (accelerator **WEBAC® B14**)	• Capillary obstruction, solidifying • Very economical use • Mainly based on renewable raw materials
Effectiveness tested	WTA Code of Practice 4-4	BuFAS Engineering Code of Practice IM-01/2009	

Technical data*	WEBAC® 1405	WEBAC® 1420	WEBAC® 1440
Mixing ratio	2 : 1 parts by volume	3 : 1 parts by volume	3 : 1 parts by volume
Viscosity of mixture (23 °C / 73 °F)	≈ 150 mPa·s	≈ 300 mPa·s	≈ 250 mPa·s
Pot life (23 °C / 73 °F)	≈ 50 min	≈ 100 min	≈ 120 min
Application temperature	> 5 °C / 41 °F	> 5 °C / 41 °F	> 5 °C / 41 °F
Moisture penetration gradient	all	all	all
Properties	• Very high elasticity • Low foam formation • Good adhesive power, high edge adhesion to concrete, steel, polymer • High shear strength • Resistance to bitumen, coal tar, existing sealings • Adjustable reaction time (accelerator **WEBAC® B14**)	• High chemical resistance also to biogenic sulfuric acid • Very flexible • Quick-seal foam upon contact with water • Compatible with bitumen	• Capillary obstruction, solidifying • Tear resistant foam structure • Resistant to mechanical stress • Dynamically stabilizing • Quick-foaming
Effectiveness tested		Tested microbiologically (W 270 test according to DVGW regulations)	

* The specified data are values determined under laboratory conditions and are subject to certain fluctuation. Deviations are possible in practice depending on the respective object situation.

Products

PU injection resins (PU) – WEBAC® 16**

For surface injections within the masonry structure, a stabilizing effect can be obtained in addition to the sealing effect when filling cavities. The polyurethane resins described above (**WEBAC® 14****) are used for sealing structures against moisture and have only secondary sealing properties. The new generation of compression-proof polyurethane resins, **WEBAC® 1610** and **WEBAC® 1660**, is adapted to the compressive strength of the masonry.

WEBAC® 1610 can be used for consolidation in the entire masonry, **WEBAC® 1660** should only be used in supporting structures. This increases the stability of the masonry without affecting the structure.

The water reactivity of solid polyurethane resins is responsible for an accelerated curing process in masonry exposed to moisture, even at very low temperatures of down to 1 °C (34 °F). Thanks to the micro foam formation upon contact with water, cross-linking of the injection material is quicker and often obviates the need for patching measures.

Technical data*	WEBAC® 1610	WEBAC® 1660		
Mixing ratio	1 : 1 parts by volume	1 : 1 parts by volume		
Viscosity of mixture (23 °C / 73 °F)	≈ 285 mPa·s	≈ 450 mPa·s		
		20 °C / 68 °F		12 °C / 54 °F
Pot life	≈ 30 min	**WEBAC® EasyPro** ≈ 20 min	**WEBAC® IP 1K-F3** ≈ 25 min	≈ 45 min
Application temperature	> 5 °C / 41 °F	> 1 °C / 34 °F		
Compressive strength 7 d (21 °C / 70 °F)	≈ 22 N/mm²	≈ 67 N/mm²		
Properties	• Sealing, stabilizing • Tough and solid • Very good penetration • Fast curing with and without water • Slight foam formation upon contact with water • Adjustable reaction time (accelerator **WEBAC® B16**) • With accelerator also suitable for use at low temperatures	• Sealing, stabilizing • Very high compressive and bending tensile strength • Fast curing with and without water • Slight foam formation upon contact with water • Adjustable reaction time (accelerator **WEBAC® B16**) • With accelerator also suitable for use at low temperatures		

* The specified data are values determined under laboratory conditions and are subject to certain fluctuation. Deviations are possible in practice depending on the respective object situation.

Damages in mixed masonry

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Restoration

Products

Acrylate gels

Acrylate gels are usually aqueous 3C injection materials with a very low viscosity of < 10 mPa·s. The materials are particularly suitable for thick structural elements and obstruct the capillaries in the masonry like PU injection resins. They can also be used in case of salt-related stress and high moisture penetration gradients. Acrylate gels are also suitable for surface sealings within open-pored building structures. The material can reversibly absorb and discharge water and should therefore only be used in areas with ground contact.

Acrylate gels **WEBAC® 240/WEBAC® 250**

For product properties and detailed technical information, please see the Technical Data Sheets on webac-grouts.com

WEBAC® 240

WEBAC® 250

Positioning of packers in wall and floor area

Alkali silicate/alkali siliconate

Alkali silicate and alkali siliconate are so-called silification materials which are still widely used, but their application and functionality are very limited. In masonry with a maximum moisture penetration gradient of 50% and largely free of salt-related stress, these diluted waterglass solutions initially increase the moisture penetration gradient and finally contribute to a certain capillary contraction during the drying process.

To start the "silification" process, cross-linking of the silicic acid must be activated by CO_2 from the air. This results in a discharge of additional salt in the form of alkali carbonate within the masonry which remains on the masonry surface as efflorescence during the drying process. Thick masonry cross-sections cannot be reached with this method.

The frequently used siliconate additive has a certain waterproofing effect. Even if the bottles for alkali silicates are still a common sight, an adequate distribution of silicic acid over limited masonry cross-sections can only be achieved by pressure injections.

Silicate injection grout **WEBAC® 2100**

For product properties and detailed technical information, please see the Technical Data Sheets on webac-grouts.com

WEBAC® 2100

Further products

Injection silane **WEBAC® 2130**

For product properties and detailed technical information, please see the Technical Data Sheets on webac-grouts.com

WEBAC® 2130

Restoration

Technical Items

WEBAC 1C injection pumps

When applying PU/epoxy injection resins by using single-component pumps, both components are mixed beforehand and then filled into the pump's hopper.

WEBAC® IP EasyPro

WEBAC® IP 1K-F4

WEBAC® IP 1K-F3

WEBAC® HP 100

WEBAC® HP 250

WEBAC® HEP 1001

WEBAC 2C injection pumps

When using 2C pumps both components are introduced to the mixing head separately and mixed there.

- **WEBAC® IP 2K-F2** is specially recommended when applying large quantities of very quick-reacting injection materials.
- **WEBAC® IP 2K-F1** is specially recommended for applying of acrylate gels.

WEBAC® IP 2K-F2

WEBAC® IP 2K-F1

WEBAC injection packers

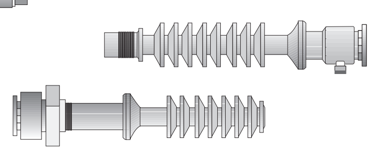
Injection packers are filler necks which connect the structural component to the injection pump during the injection process.

Drill-hole packers

- Are cylinder-shaped injection packers which are installed and tightened in drill holes made for this purpose.
- Depending on the type of installation a distinction is made between mechanical packers and hammer-in packers.
- **WEBAC® Mechanical Packers** are anchored in the drill holes by screwing.
- **WEBAC® Hammer-in Packers** are installed into the drill holes (providing sufficient strength of the structural element).

WEBAC® Mechanical Packer

WEBAC® Mechanical Packer with button head fitting



WEBAC® Hammer-in Packers

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Injection

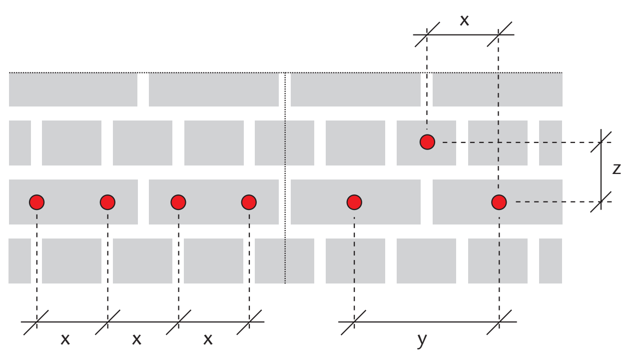
- Polyurethane injection resins and acrylate gels are applied by pressure injection via drill hole packers. The distribution of the injection material is more even and the penetration depth and efficiency are much higher than in the case of non-pressure injections.

Positioning of packers

Drill hole spacing and diameter

The distance between and the size of the drill holes depend on the structural conditions and the packers used. A distance of 10 – 12.5 cm between drill holes has proven effective. Differences are possible depending on the situation on-site (for example with irregular masonry). The drill hole depth should reach at least 3/4 of the wall thickness (see scheme).

With higher wall thicknesses, the packers should be positioned in two rows to facilitate the distribution of the injection material. The drill holes should be positioned approx. 8 cm above the first drill hole level, staggered by half of the drill hole distance. The drill holes should cross at least two bed joints to ensure ideal material distribution.



x: 10–12.5 cm (one row)
y: 20–25 cm (two rows)
z: approx. 8 cm (depending on brick format!)

Application

Injection

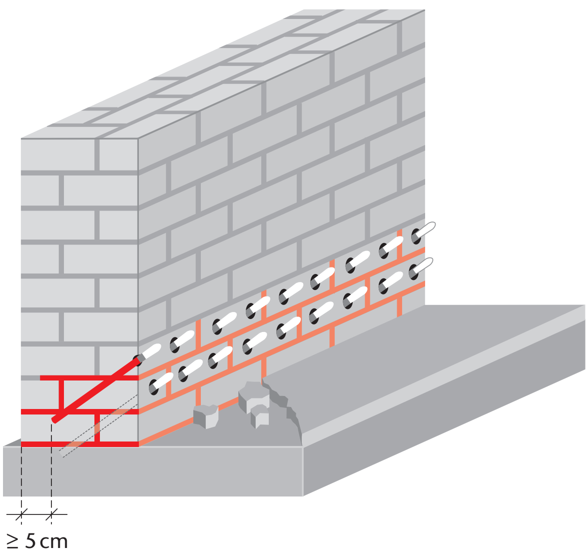
Sealing injections are not only possible in regular brick masonry, but also in quarry stone or in even more irregular cyclopean masonry.

The drill hole spacing must be adjusted so that even in these cases a consistently connected layer can be formed by the injection.

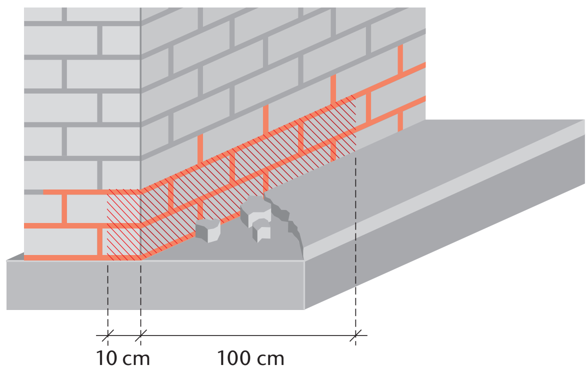
Filling of cavities/voids

Drill hole diameter

Usually and unless specified otherwise, the drill holes for mechanical packers are made 1 mm larger than their diameter. As for hammer-in packers, the recommended drill hole size corresponds to the diameter of the packer.



Calculating the **material consumption**



The material consumption depends on the pore and cavity volume of the masonry.

Rule of thumb:
1 kg/100 cm/10 cm wall thickness.

For masonry with wall thickness > 60 cm:
1.2 kg/100 cm/10 cm wall thickness

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Application

Injection

Making of drill holes (masonry size 24 cm)

Usually, the drill holes are made into the brickwork slanting downwards at an angle of 30–45°, depending on the wall thickness. Preferably, the drill holes are made into the bricks to ensure that the injection packers are fastened tightly enough.

Extraction of drill dust

The drillhole is blown out or brushed off to remove deposits and and drill dust.

Setting of mechanical packers

Mechanical packers are then installed in the drill holes and tightened. Suitable hammer-in packers made of plastic can also be used. The injection hose must fit comfortably on the injection nipple, otherwise it may be necessary to use a longer packer. Remove loose plaster layers. Loose joint mortar must be patched with WEBAC Quick Set Cement or WEBAC Putty to ensure the necessary pressure buildup for the material distribution in the masonry and to avoid any uncontrolled emergence of injection material.

Injection of PU injection resin

The injection material is injected until the pores are closed by saturation of the joints and the material can be seen emerging from the masonry into the area of the adjacent packer.

In the event of leaks, interrupt the injection procedure and patch any cracks and loose joints. A secondary injection must be carried out within the application time of the injection material to ensure the complete filling of capillaries and pores.

Closing of drill holes

Remove any soiling from the surface immediately after the injection procedure. Disassemble the drill hole packers following the curing process of the injection material. Knock off hammer-in packers at surface level. Then close the drill holes with a suitable mortar.

Accompanying measures

Damp masonry may give off moisture to the environment for quite a while even after installing a damp-proof course (dpc). For this reason diffusion-inhibiting coatings and plaster must be removed to enhance the drying process. Existing salts may cause efflorescence to form on the surface of the structural elements. All salt deposits must be removed to prevent hygroscopic humidity absorption. It may be necessary to implement other measures such as artificial room drying, controlled ventilation, application of reconstruction plaster or measures to fight fungi.

Application

Sealing of Multi-Shell Masonry

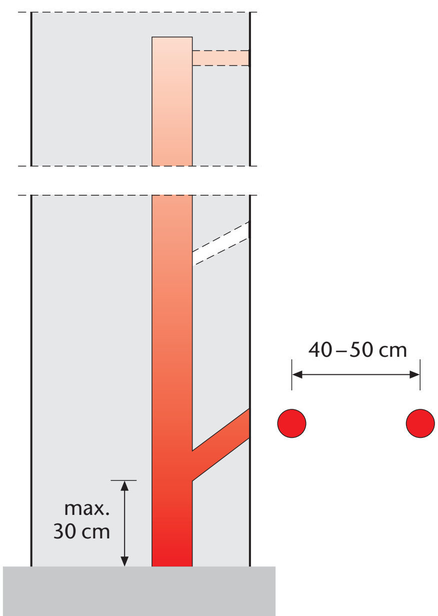
PU casting foam resin WEBAC® 2260

To improve thermal insulation and watertightness, **WEBAC® 2260** can be used for filling cavities in two-shell masonry, spaces between metal and mineral substrates, cavities in wooden structures as well as for wall breakthroughs and similar sealing tasks. The material is applied manually via filling openings or drill holes/lances using a 2C Injection Pump.

Slowly expanding, the material cures to form a hard, compression-proof, closed-cell foam and acts as a vertical sealing on the entire surface. At the same time, the material forms an ideal abutment for a post-construction horizontal damp-proof course (dpc). **WEBAC® 2260** is suitable for the filling of hollow bricks. The reaction time and expansion volume of the foam can be adjusted by adding an accelerator.

Application of WEBAC® 2260

Filling of cavities in two-shell masonry



Technical data*

	WEBAC® 2260
Mixing ratio	1 : 1 parts by volume
Expansion (23 °C / 73 °F)	≈ 4-times, up to 14-times with accelerator **WEBAC® B60**
Foam reaction (23 °C / 73 °F) Start • End	without **WEBAC® B60:** ≈ 5 min • ≈ 50 min
	with 5% **WEBAC® B60:** ≈ 1 min 30 s • ≈ 14 min
Application temperature	> 5 °C / 41 °F
Properties	• Pressure resistant rigid foam, also cures without water • Thermal insulation effect • Chlorine- and CFC-free • Excellent adhesion • Slow expansion • Adjustable reaction time and expansion (accelerator **WEBAC® B60**)

* The specified data are values determined under laboratory conditions and are subject to certain fluctuation. Deviations are possible in practice depending on the respective object situation.

Brochure Sealing of Masonry 01/19 © WEBAC-Chemie GmbH

Application

Sealing of Surfaces

▸ In the event of vertically penetrating moisture, an external sealing must be provided. The following WEBAC Products are suitable for this purpose:

Bituminous acrylate dispersion

WEBAC® 5611 is a sealing compound for the sealing of surfaces against non-pressing and pressing water and fulfills the hydrostatic test requirements according to DIN 1048-5, 7.6. Even if applied at a layer thickness of only 1 mm, **WEBAC® 5611** seals surfaces reliably against water pressures up to 6 bar. The product is also suitable for horizontal sealing, e.g. balcony and terrace surfaces.

Plastic-modified bituminous thick coating CE

according to DIN 18533-3 and EN 15814:2011 + A2:2014

WEBAC® 5623 is suitable for sealing surfaces against non-banked-up seepage water, non-pressing water, pressing water and banked-up seepage water for vertical and horizontal surfaces.

Curtain injection

WEBAC® 240 is a polyacrylate gel with National Technical Approval for the post-construction surface sealing of structures with ground contact, if conventional external sealings as described above are not feasible (see also WEBAC Brochure Curtain Injection).

Surface sealing

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