



Wienerberger Brick Slips
**A complete
start-to-finish guide**

Gluing Brick Slips
Installation Manual

Content

1. Disclaimer and field of application	3
2. Pre-conditions for the installation of brick slips by gluing	4
2.1. Information	4
2.2. Detailing	4
2.3. Evaluation of the background	4
2.4. Confirming the environmental conditions	4
2.5. Prepare the brick slips	5
2.6. Decide on the movement joints	5
2.7. Decide on the bond pattern and joint size	6
2.8. Decide on the colour of the brick slip glue and pointing mortar	7
3. Necessary tools and materials for installation	8
4. Installation instruction	9
Step 1: Prepare the surface	9
Step 2: Applying a primer	9
Step 3: Preparation for a beautiful bond pattern	9
Step 4: Gluing the brick slips	11
Step 5: Joints	13
5. After the installation	14
5.1. Inspection	14
5.2. Fixing objects to a brick slip façade	14
5.3. Contamination of the brick slip façade	14
5.4. Graffiti	14
5.5. Maintenance	14
6. Definitions	15

1. Disclaimer **and field of application**

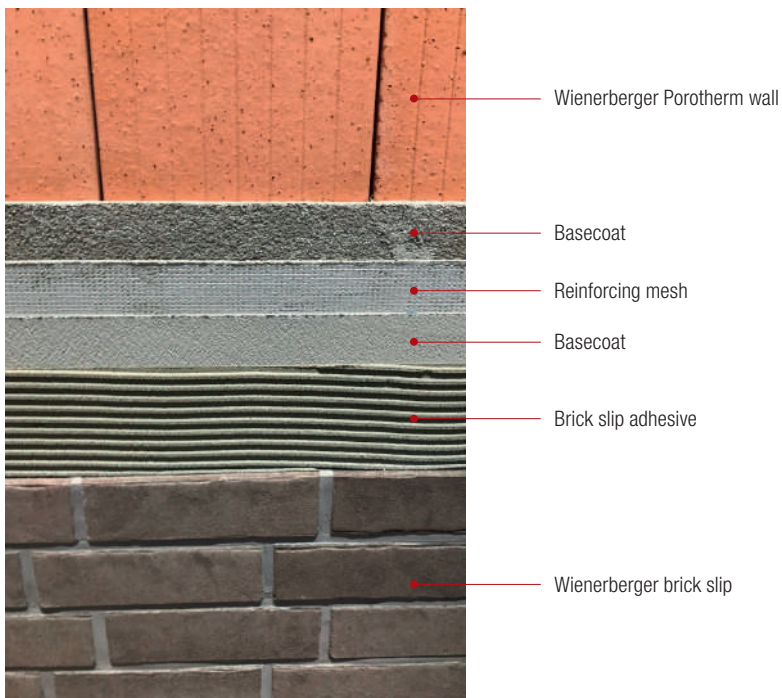


Please read all instructions before starting the installation of the brick slips or brick slip system.

These guidelines are provided to help you with the installation of brick slips applied by gluing. Wienerberger cannot be held responsible for any installation actions taken or not taken or cannot be held responsible for any job failure resulting from the installation of brick slips applied by gluing.

Many installation details are assumed to be general construction knowledge. Therefore, they are not included in these instructions. These installation guidelines are intended to be recommendations and are not to serve as a step-by-step, fail-safe installation checklist.

The choice of an experienced installer is the sole responsibility of the project owner and/or architect.



Example – brick slips glued on a clay block Porotherm wall

In façade design, brick slips are used as a facing masonry element for many applications, on both interior as well as on exterior walls.

By following this installation guide, using the correct tools and materials, brick slips can be applied by gluing them onto different surfaces.

2. Pre-conditions for the installation of brick slips by gluing

The following general conditions must be met before the actual start of the installation of the brick slips.

2.1. Information

When brick slips are considered as the aesthetical solution to be applied on the façade, it is essential that parties understand the requirements of the project and the nature of brick slips. An evaluation of the method to apply the brick slips must be made. Local and/or international regulations can determine the way and the conditions brick slips are to be glued.

This document focuses on the general gluing instruction for brick slips.

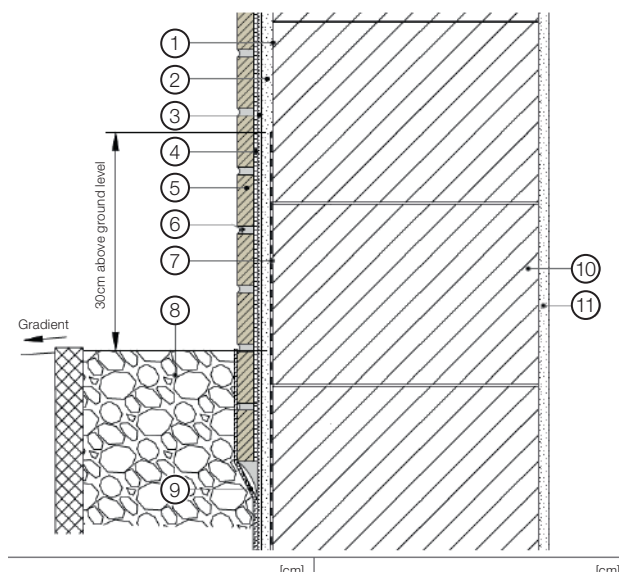
The application of brick slips should only be executed by experienced and well-trained personnel on the construction site.

2.2. Detailing

The junction details of the brick slip system to other building parts need to meet the technical requirements, regarding:

- the interaction between the (brick slip) system components
- the adjoining structure to the architectural framework
- the detailing of openings and recesses in the building parts on which the brick slips are applied

Specific detailing about the system that is applied can be obtained from the system supplier or by contacting Wienerberger.



[cm]	[cm]
① Primer (optional)	⑧ Gravel bed
② Basecoat 1,5	⑨ Protective layer
③ Basecoat with reinforcing mesh 0,6	(e.g. dimpled membrane foundation foil)
④ Brick slip adhesive 0,6	⑩ Backing structure 3,6
⑤ Terca Brick Slips	⑪ Interior plaster 1,5
⑥ Pointing mortar	
⑦ Vertical sealing (e.g. mineral sealing slurry)	

Example of a detail - watertight connection between ground level and brick slip façade

2.3. Evaluation of the background

Check the mechanical characteristics of the background.

The background should be stable (thermal, hygrometric), no risk of delamination, free of cracking and sufficiently strong to support the extra permanent load of the installed brick slips.

In case of the existence of a cavity wall, evaluate the cavity wall anchors on their performance. In case of doubt, an evaluation by a specialized engineering office should be asked. Extra renovation cavity wall anchors can be installed to increase the stability of the cavity wall.

Verify carefully that the background is dry and that no moisture problems exist (e.g., leakages, ...)

The background should be free from contamination like e.g., moss or other plants. In general, the background should be clean.

The background should be levelled to assure a correct surface regularity of the installed brick slips.

2.4. Confirming the environmental conditions

The installation should only be executed within a temperature range of 5°C - 30°C.

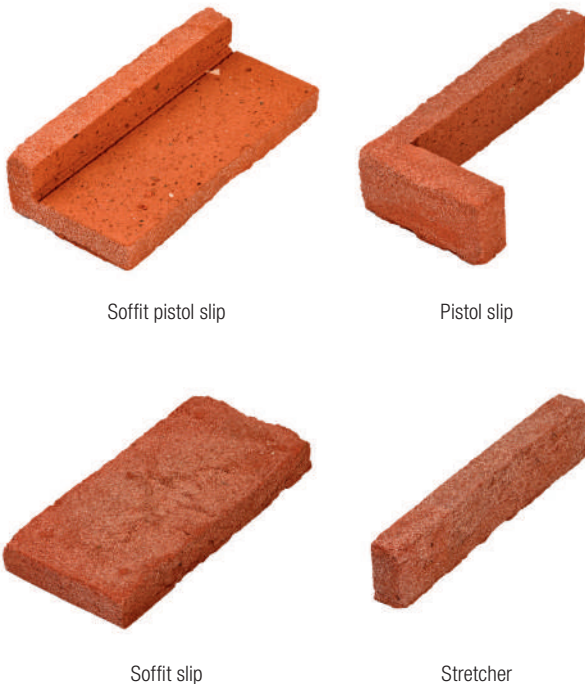
The temperature should not be outside of this range for at least 24 hours after installation.

This range is not only valid for the air temperature, but also for backgrounds and used materials (e.g., brick slips, mortars, adhesives).

When the brick slips are installed and the adhesive and/or pointing mortar are curing, the façade should be protected from rain, snow and wind.

2.5. Prepare the brick slips

Brick slips, as a natural clay product, can vary in size, shape, colour and texture - this is inherent in their production and normally part of their appeal to specifiers.



To prevent obvious colour differences on the installed surface, the following recommendations are made:

- Purchase the total needed quantity of brick slips and special shaped brick slips in one lot.
- Assure that the brick slips are delivered from the same production batch (if the brick slips are not labelled “batch independent”).
- While installing the brick slips, if possible, blend them from different packs. A minimum of three different packs with each a substantial quantity (e.g. min. 500pcs) is recommended to blend the brick slips.

Depending on the building façade design, special shaped brick slips might be needed. Special shapes are available in the brick slips product ranges to fit all needs of the building including window reveals, lintels, corners, etc.

The total needed quantity of brick slips and special shaped brick slips should include potential waste. A waste percentage between 3% and 5% should be considered.

Depending on the type of production process of the brick slips, there can be aesthetical differences between left and right pistol slips. Order the correct number of each type of pistol slip if this is the case.

The back side of the brick slips must be clean, dry, and grease-free. Loose dirt on the back side of the brick slips must be removed, for example with a brush. If there is adhering dirt that affects the adhesion of the adhesive, the dirt must be removed mechanically, for example by sanding. Loose dirt can only be properly removed when the brick slip is dry.

2.6. Decide on the movement joints

Movement joints in the façade need to be considered and are specified by the designer or need to be determined by the installer. Movement joints are needed horizontally and vertically.

Distinct types of movement joints can exist:

- Structural joint to correspond with the structural movement joint in the background. The structural joint should always be respected when installing the brick slips.
- Intermediate joint to divide (large) areas of brick slips. E.g. it is advised to have a horizontal movement joint for every two building storeys.
- Perimeter joint to isolate the brick slips from adjacent building elements

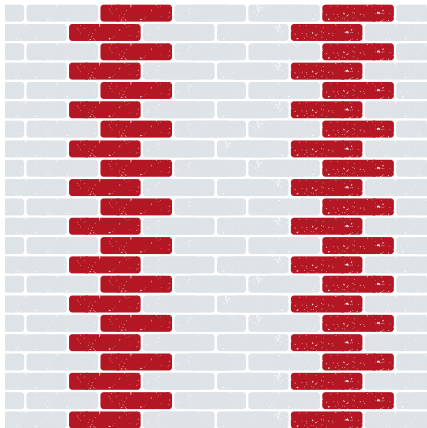
Internal corners in a brick slip façade are always executed as a movement joint.

Specific installation details for movement joints can be provided by the service department of Wienerberger.

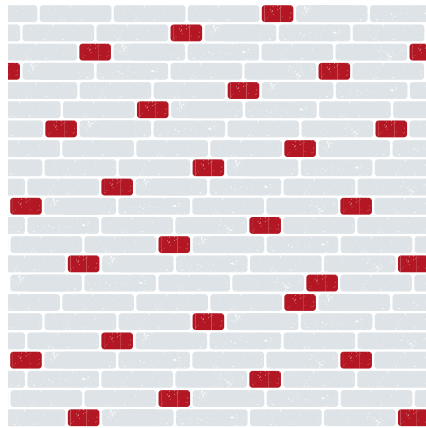
2. Pre-conditions for the installation of brick slips by gluing

2.7. Decide on the bond pattern and joint size

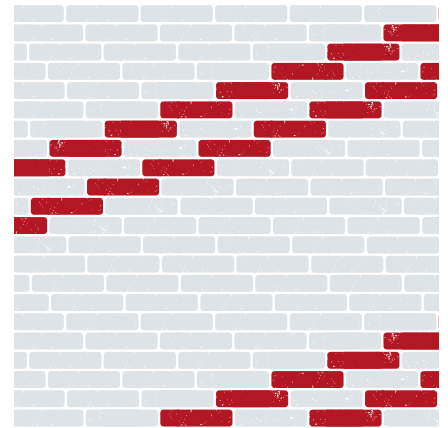
The design of a brick slip façade can be very versatile. Brick slips can be installed with many different bond patterns and joint sizes, these need to be established before ordering the brick slips. They determine not only the appearance of the façade, but also influence the quantity of brick slips needed.



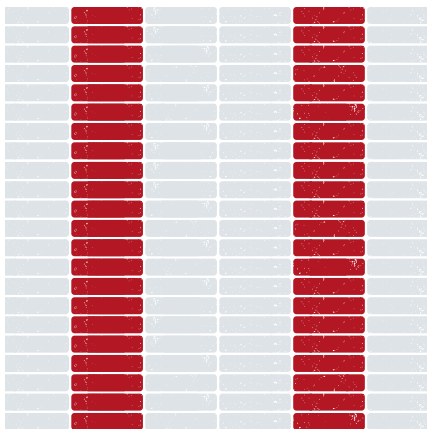
Stretcher bond



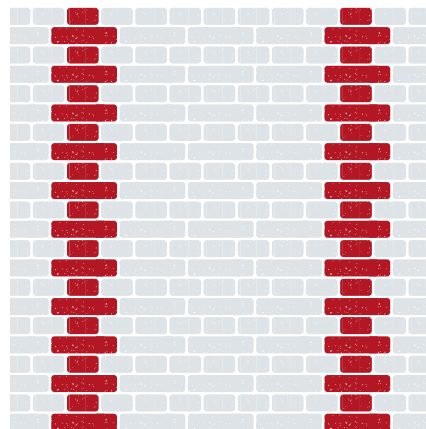
Wild bond



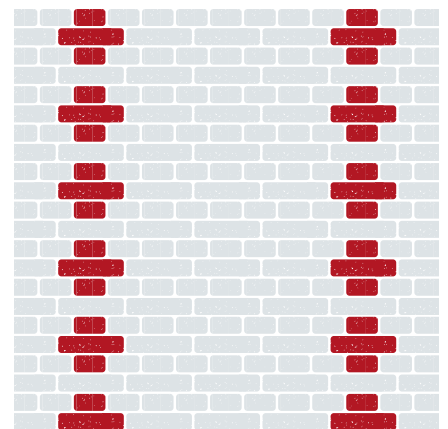
Running bond (1/3)



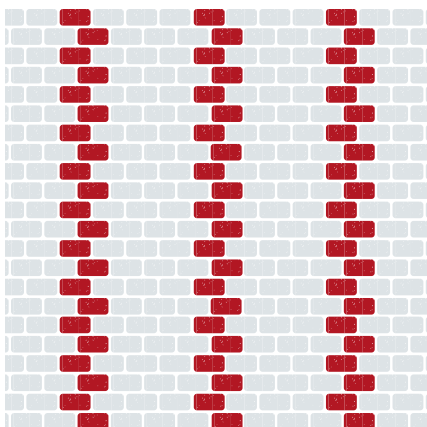
Stack bond



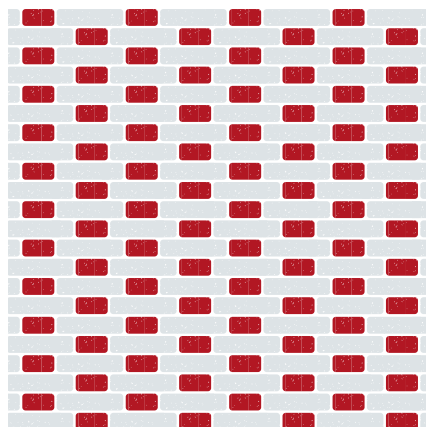
English bond



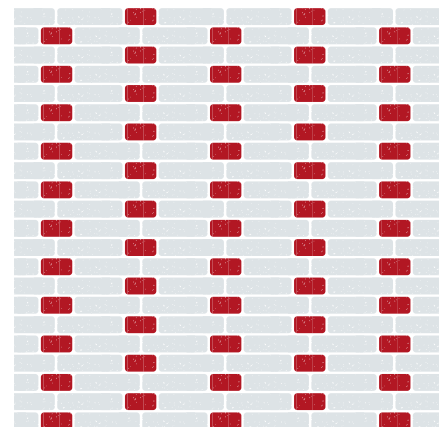
Cross bond



French bond



Flemish bond



Monk bond

Bond patterns might require a substantial quantity of header brick slips, or other length sizes. This requirement may also result in a higher waste percentage than normally would be expected.

The desired size of the joint is commonly defined by the architect or by the customer. The joint size is most often between 3mm (thin or seamless joint) and 10/12mm (traditional joint). Joints smaller than 3mm can only be obtained with very straight brick slips with very narrow tolerances. The minimum joint size depends very much on the irregularity of the shape and the format tolerances of the chosen brick slip. To determine the minimum joint size for a brick slip, the method described in the chapter "definitions - layer measure" can be followed. In general, higher tolerances increase the minimum joint size.

Please be aware that in the case of a jointless application, the brick slips may not touch each other after installation.

The joint size determines the number of brick slips for a given façade. The lower the joint size, the more brick slips are needed. Thin joints are often not pointed. Traditional joints are normally pointed.

Wienerberger can provide you with a brick slips calculator - if you are interested please get in contact with your local sales representative.

The possibility of applying thin joints in brick slips depends upon local construction regulations in combination with the carrier system of the brick slips (e.g. ETICS).

2.8. Decide on the colour of the brick slip glue and pointing mortar



Thin joint (seamless joint) masonry is often not pointed. Consequently, the brick slip adhesive stays visible after the installation. It might be important to choose a matching colour of the adhesive in relation to the colour of the brick slips. Most often a grey or anthracite brick slip adhesive is chosen. Other colours are possible. When the joints of the brick slips are pointed, the colour of the brick slip adhesive is irrelevant. In this case the colour of the pointing mortar is relevant and can be chosen.



Example of Stack bond pattern



Example of English bond pattern

3. Necessary tools and materials **for installation**



A list of materials that can be involved in the brick slip installation is as follows:

- **Finishing layer**

- o Brick slips (well mixed; correct amount; special shapes included)
- o Pointing mortar
- o Brick slips adhesive
- o Clean water

- **Movement joint material as specified by the detail (e.g., profiles, ...)**

- **Additional intermediate layers**

- o Primer
- o Filling out layer – materials

- **Tools**

- o Bucket
- o Mixer
- o Brush
- o Rubber hammer
- o Small trowel
- o Notched trowel
- o Brick line
- o Plumb line
- o Pointing trowel, mortar pointing gun or mortar pointing piping bag
- o Bricklaying profiles
- o Paint spray / roller / brush (to apply a primer)
- o Angle cutter or other material to adapt brick slips
- o Spacers
- o Floor covers

Always store, prepare and use the materials according to the respective storage, safety, preparation and installation instructions.

4. Installation **instruction**

The following step-by-step instruction clarifies the way brick slips should be glued correctly and durably.

Step 1: Prepare the surface



4.1. Clean

The installation needs to be started with a clean background surface.

Clean the surface with a hard brush or by sandblasting. By doing so, this will remove any potential pollution.



4.2. Flat

The existing unevenness and defects on the façade should be evaluated and can be filled out or levelled.



4.3. Background

Although the same gluing principle can be applied on many different background surfaces (e.g., clay, concrete, calcium silicate, ...), preparation differences can be considered depending on the characteristics of the background.

When using insulation boards as a background, an intermediate layer of mortar with embedded reinforcement (mesh) is strongly advised. Follow the given construction guidelines provided by the ETICS suppliers.



4.4. Water tightness

If the wall on which the brick slips are installed, serves as a water barrier, water tightness is a key factor.

If the existing background is already watertight, no additional measures need to be taken. If the background is not watertight, the total façade solution needs to be evaluated. Watertightness can be achieved by installing a waterproofing membrane on the background before the brick slips are installed.



4.5. Porosity of the background

If the background is porous, it should not be wetted before installing the brick slips. The application of a primer or a cementitious extra layer is necessary.

Step 2: Applying a primer

The application of a primer is recommended. This will bring an extra coat to the surface to ensure a better and more even adhesion of the brick slips, and therefore enhance the durability of the façade.

A paint spray or a roller is usually used to apply the primer. For smaller surfaces, a brush should be sufficient. Cover or protect surfaces that are not to be treated like window frames, sills and windows.

Carefully read the application instructions of the primer. Check the primer details to ensure that the primer is compatible with the mortar glue. Respect the recommended drying time.

Step 3: Preparation for a beautiful bond pattern

In most cases, brick slips are applied in horizontal layers. To apply the brick slips in perfect horizontal layers, the most used method is using bricklaying profiles in combination with a brick line.

Place bricklaying profiles (perpendicular) at the corners of the façade. Leave enough space between the end of the façade and the profiles, so that the profiles do not hinder when working on the edges.

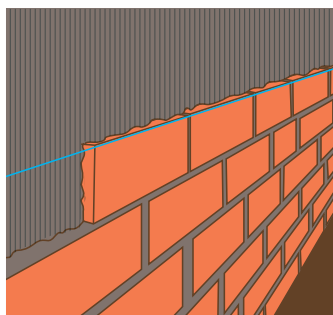
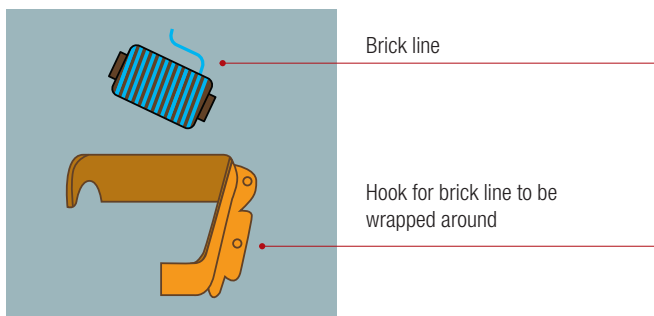
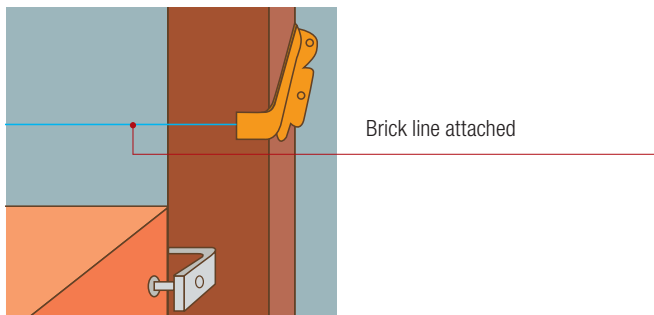
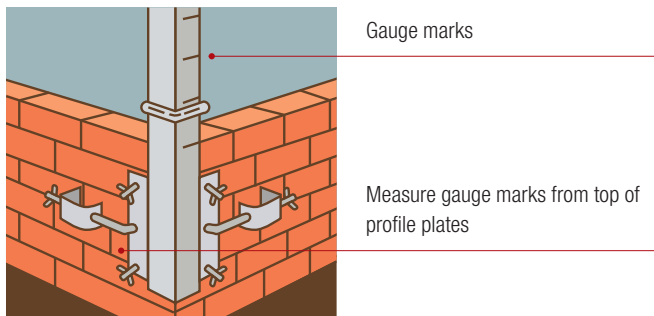
The first step in gluing brick slips is to create a perfect horizontal line from one end of the wall to the other end. This will be the starting point for the first layer of brick slips. This does not need to be the lowest layer. A brick line between the two bricklaying profiles helps gluing the brick slips in a perfectly horizontal line.

4. Installation instruction

Before gluing the second layer of brick slips, the layer measure needs to be calculated and indicated correctly on the measuring profiles. After indicating the layer measures on the bricklaying profiles, a brick line is stretched between the measuring profiles to guide the process of installing the second and upcoming layers of brick slips starting from the bottom of the wall. The brick line guides the horizontal joint alignment of the top side of the brick slip.

Not only the horizontal joint alignment is important while installing the brick slips. A perfectly installed bond pattern also considers the vertical joint alignment.

A plumb line can be used to verify the vertical joint alignment. Plumb every fourth perpendicular joint as the work proceeds and even out the joint widths between. This will help improve the overall appearance and regularity of the finished brickwork.



Example of using measuring profiles in combination with a brick line



Imperfect masoned example

Step 4: Gluing the brick slips

It is strongly recommended that brick slips glued with cementitious adhesive are installed by the floating and buttering method.

Spread a layer of adhesive onto the substrate, using a notched trowel (e.g. 6x6mm) by creating (preferable) vertical lines on the adhesive (**floating**). Choose the size of the working area in function of the working time of the mortar and ensure a thickness of 5mm (or follow the manufacturer's instructions).



Floating method

The brick slips can be placed after dedusting their back side.



Dedusting the back side of the brick slip

Apply the adhesive on the back of the brick slips (**buttering**) and press the slips with a movement into the adhesive.



Buttering method



Installation of the brick slip

4. Installation **instruction**

It is recommended to start the process of gluing a row of brick slips by starting with the pistol slips on the corners.



The use of spacers can be needed when the initial adhesion of the glue is not sufficient to keep the brick slips on the right position.



Always respect the opening time of the brick slip glue. This determines the working area of the brick slip installation.



Never add water (or other additives) to the adhesive after the first preparation of the adhesive. If the adhesive is not workable anymore, it should be considered as waste.

Step 5: Joints

Once all the slips have been placed and the adhesive has completely hardened, the joints can be filled with pointing mortar.

Make sure the surface is free of dust and dirt. Never point on a façade that is too dry or too wet.

It is advised that the joint width for brick slips with filled joints must be at least 8 mm. As a rule, the depth of the joint to be pointed should be 1.5 times the width of the joint and a minimum of 10mm.

Fill all joints completely and press the pointing mortar well.



Traditional joints to be pointed



Thin joints do not need to be pointed

Change of weather condition and working condition might bring a difference on the colour of the pointing mortar. To avoid colour differences on the façade, the following tips can be considered:

1. Use the same mixing technique (product mix, water, time, ...) throughout the process.
2. Maintain uniform depth and width of mortar joints.
3. Provide shade when installing brick slips in windy and/or hot weather conditions.
4. Always follow the manufacturer's instruction.
5. Use only the recommended amount of (clean) water. Never add water (or other additives) to the pointing mortar after the first preparation. If the pointing mortar is not workable anymore, it should be considered as waste.
6. Use little or no water for the clean-up.
7. Give the pointing mortar sufficient time to cure and dry.
8. Protect the finished wall from adverse weather conditions while curing.

5. After the installation

Clean up the working site and enjoy the beautiful façade made from Wienerberger brick slips.

5.1. Inspection

Once the joints are cured, it is recommended to inspect the glued brick slips to verify the adhesion strength of the glued bonding. This can be realized by tapping on a random sample of the installed brick slips.

5.2. Fixing objects to a brick slip façade

Light objects (up to 5 kg – e.g., name plates, small lighting, ...) can be glued on the brick slips. Heavier objects (e.g., water drainage, carport, basketball hoop, ...) must be fixed through the brick slips or joints into the load-bearing background.

It is wise to evaluate where any heavy objects are going to be placed before the installation of the brick slips. Perforations of the façade system must be suitably sealed to ensure the water tightness of the façade.

5.3. Contamination of the brick slip façade

Contamination cannot always be prevented due to exterior circumstances.

In general, the brick slip façade is easy to clean with adapted equipment.

- 1) Use a high-pressure cleaner. Please note that the pressure used should be maximum forty bar and that cleaning is always done at an angle of 45°. When the pressure is too high, brick slips could be damaged, and cracking can occur in the joints.
- 2) Cleaning is best done with warm water in combination with a non-aggressive cleaning agent.
- 3) Never use aggressive cleaning agents.
- 4) Dry pollution is easiest to remove with a hand brush without wetting the façade.

It is essential to pre-wet any areas to be cleaned with clean water to prevent absorption of the cleaning agent into the bricks and mortar. Pre-wetting limits the cleaning action to the surface where it is needed.

Any cleaning method should be assessed on a small inconspicuous area before widespread usage and should be undertaken by appropriately trained and supervised personnel following Wienerberger instructions.

5.4. Graffiti

It is best to have graffiti or tags on the façade removed by a professional company. Always emphasize to the professional company that the graffiti is applied on a façade with brick slips.

Graffiti or tags can best be removed using a cleaning agent that dissolves paint. The façade must be rinsed with clean water immediately after the cleaning. If a high-pressure cleaner is used for rinsing, the maximum pressure should be maximum forty bar, and the cleaning angle must be 45°.

5.5. Maintenance

Like any façade, a façade with brick slips should also be well maintained.

- Regularly evaluate the façade. If any abnormalities are seen, or in case of doubts, contact the installer.
- Certain details such as sealant joints (windows, penetrations, ...) must be checked regularly and replaced if necessary. Weathered sealant joints increase the risk of water ingress.

6. Definitions

- **Adhesive:** Layer of specified materials in which the brick slips are set, and which bonds the brick slips to the background.
- **Background:** Material system used as a base over which the brick slip is to be fixed.
- **Brick slips:** The Wienerberger range of brick slips offers a variety of surface textures, formats and colours which provide endless design possibilities. The performance advantages of clay brick slips are extensive, and include colour fastness, non-combustibility, frost-resistance, durability and sustainability.
- **Cavity wall:** A type of wall that is constructed with two separate vertical leaves (masonry) with some air space or cavity between them. The two leaves are interconnected by wall ties. The air space can be (partly) filled with insulation.
- **Filling out layer:** Separate application of material to achieve the required vertical flatness (e.g., plaster, render, backer boards, ...)
- **Floating and buttering method:** Adhesive or mortar applied to the fixing surface (floating) and to the back of the brick slip (buttering), just before the brick slip is placed.
- **Installation:** Application of brick slips together with its associated adhesive and pointing mortar.
- **Joint:** Space between adjacent brick slips.

- **Layer measure:** the sum of the desired (horizontal) joint height and the average height of the brick slips.

To calculate the average height of the brick slips, the following procedure is applied:

- o Take twenty brick slips randomly out of the total delivery and place them on top of each other (in a bond pattern) on the floor with a height of ten rows.
- o Measure the total height of these rows in three separate places.
- o Take the highest height and divide it by ten. The result is the average height of the brick slips.



Calculating the average height of a brick slip

- **Movement joints:** Joints to accommodate movement of the background, substrates or brick slips.
- **Pointing:** Operation of filling the joint space between the brick slips (when specified) other than movement joints.
- **Pointing mortar:** (specific) mortar used for pointing.
- **Primer:** Fluid material, used separately or mixed with binder to form a slurry, applied as a thin layer to improve adhesion of the brick slips.
- **Reinforcement mesh:** material designed for strong adhesion between the render and the wall. It gives strength to the render in combination with the brick slip.
- **Rendering:** application of a cement mortar to a vertical background.
- **Waterproofing membrane:** continuous layer of impervious material to resist the passage of water.

Wienerberger provides you with a start-to-finish solution designed around you.

For internal aesthetics or external renovation, for a timeless farmhouse kitchen or a real brick fireplace, creating a real clay brick finish on internal and external walls is easy with Wienerberger's brick slip solution.



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