

Thin Brick Installation Guide

For Field-Applied Exterior Installations

Thank you for your interest in Royal Thin Brick® or METROBRICK® thin brick from Ironrock. This Installation Guide serves as a guide only.

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Table of Contents

Page 2	Material List
Page 3-4	Surface Preparation
Page 5 - 6	Setting Thin Brick
Page 7 - 8	Grouting
Page 9 - 10	Tooling the Joints
Page 10	Cleaning

What is Thin Brick?

Thin brick is a slim brick veneer which can be as thin as 1/2". Some thin brick is cut from the faces of full bricks while others are manufactured to size without cutting. Many classic style bricks are now offered in thin brick format as well as thin brick with a glazed and/or decorated finish. When you consider the different facial textures, colors, shapes, and patterns available you ultimately realize there are many options available for thin brick. This increase in options and popularity has led to a growing market for thin brick installations, both exterior and interior.

Thin brick has the same look and appeal as full size brick but the installation method is much different. The benefits of thin brick are their versatility and structural weight reduction. They can be installed on most any wall by a qualified contractor. A different skill set is required for thin brick than for full brick, it is more similar to tile and stone installation.

In this Guide...

This is a guide for exterior installation of field applied thin brick with a focus on grouting methods. We will discuss the methods of installing grout mortar into the joints and the different tooling methods, sometimes referred to as joint conditioning. While this guide provides the basics, ultimately it will be advantageous for the installer to obtain approval of the final desired look from the end user by performing a small (4'x4' recommended) mock-up prior before proceeding with the thin brick installation. The mockup can be done with a variety of grout application methods to determine which one is preferred.

What materials are needed to complete the job?

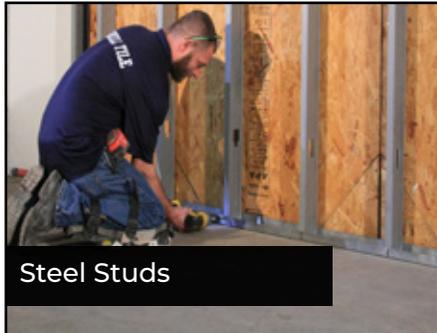
EXTERIOR INSTALLATION

- ✓ **Weather Barrier Sheet** | To protect the wall from moisture.
- ✓ **Staple Gun** | To install weather barrier.
- ✓ **Metal or Fiber Mesh Lath** | To create a masonry wall for the brick to hold on to.
- ✓ **Corrosion-resistant screws** | To secure lath.
- ✓ **Heavyweight Trimming Shears** | To cut lath.
- ✓ **Mortar** | For lath scratch coat and to adhere brick.
- ✓ **Liquid Waterproofing Membrane** | To keep water from penetrating into substrate.
- ✓ **Notched Trowel** | To apply mortar to the prepared surface.
- ✓ **Grout** | To fill joints.
- ✓ **Grout Bag** | To fill joints.
- ✓ **Joint Tool** | To strike joints.
- ✓ **Stiff Brush (NOT a wire brush)** | To wipe away excess mortar.

Surface Preparation

Prior to installation

First, start with a substrate that would typically be in place on an insulated building prior to installing the facade. A properly prepared substrate should have steel or wooden studs, a rigid foam board insulation, exterior rated sheathing, and 4 mil polyethylene sheeting already in place. Any walls with out of square or bowed sections must be flattened prior to installing weather resistant barriers.



(pictured - typical wall section W24IE (RFI) with metal studs)



Step ①

Install Metal Lath

Galvanized metal lath with a diamond pattern is attached with fasteners that go all the way through to the studs. Attaching the lath only to the sheathing or foam insulation is not sufficient to keep the façade in place. Properly installed metal lath will feel rough going down and smooth going up.



Step ②

Apply Scratch Coat

A scratch coat of mortar is mixed and applied over the lath a minimum of 1/2" thick. It should completely embed the lath and make the wall flat and smooth, ready for waterproofing. Let the scratch coat cure for the amount of time recommended by the mortar manufacturer.



Step ③

Apply Liquid Waterproofing Membrane

To keep water from penetrating into the substrate, a liquid waterproofing product should be applied per the technical data sheet of the product you have selected, usually two coats with time to dry between.

Before you begin

Grout Joint Size

One difference between thin brick and tile is the amount of size variation and, subsequently, the width of the grout joint. Joints should not be any smaller than $\frac{1}{4}$ " and often approach $\frac{1}{2}$ " to provide an aesthetic similar to a full brick installation. If any tooling will be done to the grout joint (see below "Installing Grout Mortar"), the tool must be sized properly for the grout joint. Because most grout is applied with a grout bag or powered grout/mortar 'gun', the size of the grout joint must coincide with the tip size of the applicator. Often spacers, dowel rods, or spacing rope are used to maintain the grout joint during installation but these should be removed prior to grouting. As with any installation of ceramic products, proper accommodation of movement is required. Refer to the industry standards and building codes for details.

Type of Mortar

Often in the brick world, the word 'mortar' is used for the material between the bricks. For thin brick installations, we will be using 'mortar' as the material holding the brick to the substrate and 'grout' as the material between the bricks. Because the number of substrates and environmental conditions encountered on job sites is endless, it is best to consult with the setting materials manufacturer for your specific situation. In general, the same ANSI A118.1, A118.4, and A118.15 mortars that work for setting tiles will also work for setting thin bricks in similar environments.





Step ①

Embed Thin Bricks

Once the waterproofing membrane is fully cured, it is time to begin installing the thin brick. Using a notched trowel apply mortar to the prepared surface. Embed each brick thoroughly and check the coverage of the mortar frequently by lifting a brick that has been installed. The back of the brick should be completely covered with mortar.



Step ②

Apply Corners as Needed

Corner pieces are available to make the installation look like a traditional brick wall. These bricks should be back buttered with mortar to ensure full contact with as close to 100% full coverage as possible.



Step ③

Readjust any Bricks/Clean any Excess Mortar

Check for any twisted bricks or uneven grout joints and readjust as long as you are still within the working time of the mortar chosen. Once the bricks have been embedded, clean any mortar out of grout joints and off the surface of the bricks before it has had a chance to harden.



Before you begin

Types of Grout

There are a variety of options for grouting thin brick, each has positives and negatives. Your installation products manufacturer can help guide you to the correct product for your situation.

Traditional Mortars

Typically when dealing with full brick installations, Type N ('Normal' mortar with low compressive strength) or Type S ('Special' mortar with compressive strength above 1800 PSI) mortars are used between the bricks in place of a traditional grout. For thin bricks, Type N mortar should not be used because it does not provide any flexibility and the grout joints are not deep enough to create a suitable bond. Type S is often used because it lends itself to 'bagging' although it can also crack, spall, and effloresce over time when subjected to freeze/thaw conditions and moisture. Many companies offer 'Pointing Mortar' blends specifically for thin veneer application systems which may or may not have an 'S' designation.

Cement Grouts

Typical standard cement grouts used for tiling (ANSI 118.6 designation) are also frequently used with thin brick. These grouts are relatively inexpensive and lend themselves to 'bagging.' However, standard cement grouts aren't always the best solution for exterior or wet applications where thin brick is often used due to increased likelihood of efflorescence and spalling from freeze/thaw. A polymer additive may help in these situations.

High Performance Grouts

An ANSI A118.7 High Performance Grout is typically recommended by setting materials manufacturers to minimize efflorescence and block water penetration into and through the grout. ANSI A118.7 grouts are not always easy to 'bag'. Some ready-to-use or epoxy grouts also may be considered depending on the service environment. While these grouts perform well, not all of them are easy to install with a grout bag.

Step 1

Choose your Grout Application Method

The facial make-up of the brick will determine the method in which you will want to apply the grout in the brick joints.

Grout Bag Method or Tuck Point Method

For traditional, textured non-waxed thin brick which typically simulates full brick, the installer will most likely need to utilize either a grout bag (most typical) to install the grout or use the brick mason's 'tuck point' (most frequently used for repairs) tool/method. The purpose for these installation methods is to avoid getting grout over the facial portion of the brick. Due to the rough texture and porosity of the traditional brick finish if grout gets on the brick the installer will most likely be unable to get it out.



Grout Bag Method



Tuck Point Method

Thin brick that has a **smooth or glazed facial texture** can be installed by the tile setter method with a traditional grout float. Bricks with a wax coating can also be grouted with a traditional grout float. The wax is then removed with a hot water, high-pressure spray.

Please Note:

Sacrificial (wax based) grout release products can also be used with thin bricks that will be traditionally grouted. The wax covers the small voids and is removed during the washing step. Penetrating grout releases are typically not sufficient for this purpose. An approved mockup showing the final look achieved with the method being considered will help to eliminate issues once installation begins

Step 2

Apply Grout Between Bricks

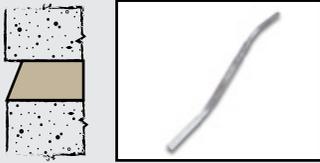
Use your desired grout application method to apply grout between the bricks. The image to the right represents an application using the grout bag method.



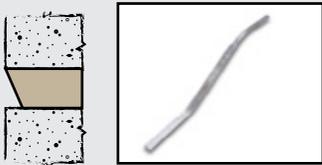
Tooling the Joint

Other Options*

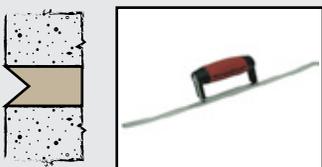
Weathered The top edge of the joint is recessed while the bottom edge is finished flat with the brick edge shedding water from the joint.



Struck Mortar Joint The bottom edge is recessed while the top edge will be finished flat with the brick edge. The slope provided here will pull water and hold it in the brick, so it is best suited for interior walls only.



V-Joint This type of joint is made with the help of a curved steel tool with a 'v' shaped end. Proper tooling of the v-joint helps to prevent water accumulation in the joint.



Before you begin

Types of "Tooling" Tools

Once you have applied the grout into the joints you will need to 'tool' the joint in one of the following manners. As the name implies, you will need a tool to create most of these looks.

Common Tools

Concave Mortar Joint

By far, the most common joint used with thin bricks is the concave joint. This joint is made with the help of a curved steel jointing tool. This is a popular mortar joint type practiced due to its high resistance to rainwater penetration and tight sealing property. It is also the effect achieved by a traditional grout float.



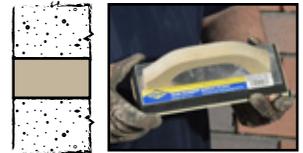
Raked Mortar Joint

Next in popularity is the raked joint. The joint is raked out leaving less space between the mortar joint and the face of the brick. Due to the ledge that is formed in the joint in a raked joint finish this is best suited for interior walls only. Otherwise snow, ice or water will be held in the ledge of the joint penetrating into the wall. Care should be taken not to remove too much grout, no more than 1/2 of the thickness of the brick should be removed when raking.



Flush Mortar Joint

This type of finished joint is just as it is named, the joint is finished flush with the face of the brick. This type of finish is typically desired if the end user intends on painting the entire, finished thin brick assembly. In this type of application, the installer can utilize the typical tile setter method of installing grout with a grout float.



*Typically these require extra labor and may incur additional installation cost.



Step ①

Choose Your Tool and “Tool” the Joints

Once the grout has cured to the point where it is dry to the touch, it can be tooled into the final shape. Most thin brick installations use a concave grout joint but others such as flush and raked are also popular.



Step ②

Clean Grout from the Face of the Bricks

Once the grouting is complete but before the grout is completely cured, clean the grout from the face of the bricks. Cured grout is very difficult to remove. Use a stiff brush to brush away excess clumps. You may also need to use a wet sponge to wipe away any remaining mortar on the brick face. If the brick was waxed, use a high pressure, high temperature water spray to remove wax and grout residue.

Please Note: Most ceramic thin brick can have excess cementitious mortar and grout removed with an acid-based grout removal product. Check with the thin brick supplier before acid cleaning glazed or decorated bricks. Do not use acid for cement-based bricks. Ready-to-use, epoxy, or non-cementitious grout will require a cleaning product specific to the grout chosen. A penetrating tile or stone sealer may be used for exterior installations or those exposed to water.

Congratulations your Thin Brick Project is Complete!

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