EZ-Wall Installation Manual

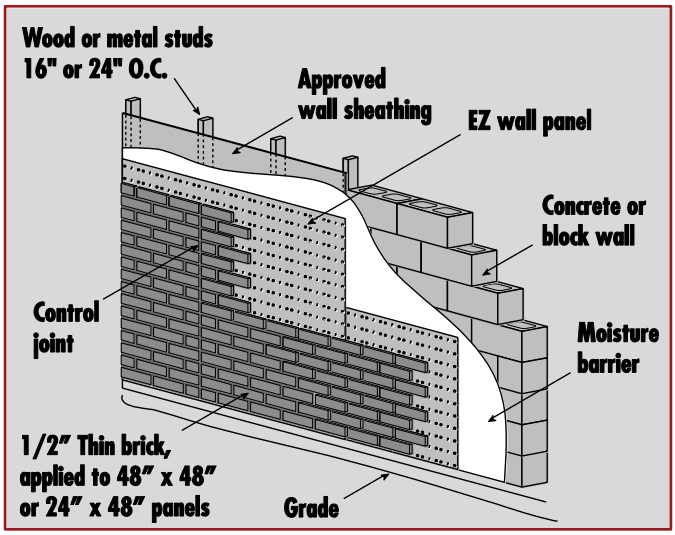
Engineered Thin Brick Panel System

EZ041 Revision 01

INTRODUCTION

Thin brick is a lightweight masonry veneer used on the exterior walls of homes and commercial buildings to give the appearance of traditional brick at a more affordable cost, easier installation, and lower impact to the environment.

> ***IMPORTANT!*** Ensure that you have read and understand the entire manual before beginning work. If you are not confident in your ability to perform the tasks outlined in this manual, contact Ambrico or a local professional contractor for help.



BEFORE YOUR PROJECT BEGINS

Estimate Materials Required

- Before beginning, determine total square footage of the coverage area.
- Then, determine the lineal footage for flashings, trims, and starter strips.

Materials Required: For modular size thin brick

Note: Ambrico has easy to use estimating tools and calculators available at http://www.ambrico.com/thin-brick/samples-estimates/adv-thin-brick-calc/

- EZ-Wall Panel Square Footage Required = Total Square Footage + 2% (for waste)
- EZ-Wall thin brick veneer flats = (Total Square Feet x 7.000)
  (ASTM STD C1088 is 5% breakage permissible)
- EZ-Wall thin brick veneer corners = (Total Square Feet x 4.70)
  (ASTM STD C1088 is 5% breakage permissible)
- EZ-Wall Mastic = Total square feet 12-16

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For additional ordering information, see the end of this manual or http://www.ambrico.com.

Note: Most projects require only flat and corner thin brick veneer, however some projects may need specialty thin brick veneer such as end-caps. Specialty thin brick veneer can be ordered through Ambrico.

Add additional mastic tubes for first-time jobs as crews tend to put on more than is necessary. Also – corner thin brick veneer uses 50% more than flat thin brick veneer but also cover 50% more wall area than flat thin brick veneer. Corner thin brick veneers cover nominally 8" on one wall and 4" around the corner.

The correct amount of mastic is that one tube will cover approximatly 12-16 sq. ft.

Estimate Labor Required

Note: These guidelines do not include time to install flashings, trim angles, weather barriers, or caulking. If time is required for installing those items, it must be added separately.

One Story Applications:

- 12-13 man hours per 100 Total Square Feet (using power-driven nails)
- 13-14 man hours per 100 Total Square Feet (using screws)
- Add all lineal footage (around windows and doors, at soffits and trims) and ÷ 10. This will give you man-hours of cutting labor.

Two (or More) Story Applications

Add 10% to the estimate per story.

Note: You may want to add additional time for first-time crew or intricate work.

Purchasing Materials Locally

The following materials are required for the installation and can be purchased locally:

Note: Additional product specifications are available at http://www.ambrico.com/architects/technical-info/

- Fasteners – compatible with panel material, corrosive resistant (1 per square foot)
- Sheathing – must meet code application
- Caulk or sealant (if required)
- Cleaning agent (if needed)
- Water infiltration material - felt paper, Tyvek, or equal

Tools Required

The following tools are recommended for the installation and can be purchased or rented locally:

Hammer and nails	Nail Gun	Metal Screws
Level	Chalk line	Tin snip or power shears
Quart size caulking gun	Offset tile nippers	Circular saw/masonry blade
Utility knife	Flat screwdriver	Extension cord
Mortar scoop	Sawhorse and support planks	Plastic mortar tub
Water brush	Mortar bags and tip	Two gallon water pail with quart measurements
Water buckets (3-5 gallon pails)	Wheelbarrow and mixing paddle	Screen with ¼ in. opening, approximately 2 ft. x 2 ft.
Template for cutting and holding thin brick veneer	Ladders, jacks, picks, scaffold and lifts, OSHA approved	Striker, jointer rounded ½ in. x 5/8 in.
Flat, stiff tampico bristle brush to clean thin brick veneer surface	Commercial brick cleaning materials. Never acid.	Cleaning brush (plastic to clean tools and equipment only)
Personal Protection Equipment (eye protection, foot protection, etc.)		

Wall Preparation

Note: Additional specifications required for wall preparation are available at http://www.ambrico.com/architects/technical-info/

- Ensure the walls are structurally sound. Get owner or engineer's written approval prior to installation.
- Substrate must have a deflection design no less than L/240.
- Corners must be braced to meet code and design requirements and to alleviate shrinkage, raking, settling, and movement.
- Walls must be plumb and flat within 1/4 in. per 10 lineal feet. The EZ-WALL system follows the contour of the wall. If the wall is not straight, notify the owner prior to starting. Walls can be shimmed with felt or foam to obtain desired results.

- Sheathing must be approved type for installation and installed per manufacturer's recommendations and specifications.
- Water infiltration barrier must be in place with any openings or tears repaired. For more information, tips, and installation procedures, visit http://www2.dupont.com/Tyvek_Weatherization/en_US/tech_info/install.html.
- Starter angles, flashings, and trims must be in place as per detail drawings. (See http://www.ambrico.com/architects/technical-info/ for additional details)
- Control joints should be to regional specifications and not to exceed 16 ft. spacing in walls without openings or 2 ft. from corners and all openings. See the project documentation for exact locations.

Expansion and Control Joints

- Space and stop *the panel and thin brick veneer* at building control joints.
- Install a control joint at least every 16 ft.
- Expansion joints in the panel and thin brick veneer should be 1/4 in. to 3/8 in. away from doors, windows and unlike materials to allow for movement.
- Allow a minimum 3/8 in. expansion joint in the panel and veneer from inside corners.
- Control joints should be 3/8 in. wide to accommodate movement of thin brick veneer and panel. Larger control joints may be needed to accommodate building movement. These should be specified by the designer or engineer.
- Horizontal control joints should be placed at every floor level on wood frame structures. This is to allow for the settling and shrinkage of wood structure. Through wall flashings should be installed at all horizontal control joints.
- All areas where thin brick veneer meets non-brick surfaces must be caulked with a high performance caulk or sealant.
- Leave the lowest joint, where the panel meets the starter angle, open for water drainage from the system.

CAUTION: Installers/designers must be aware that new wood structures may shrink or move greater than thin brick veneer system will allow.

See our website for drawings and design details.

INSTALLATION TIPS AND TRICKS

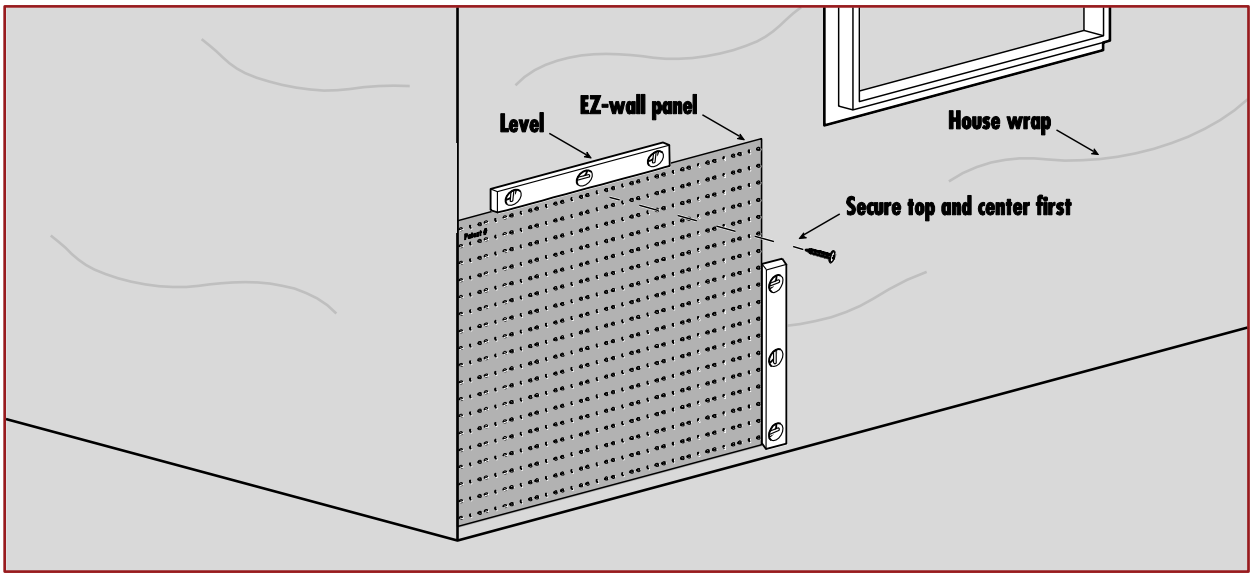
- Apply thin brick veneer out of several boxes at one time in order to blend the color ranges appropriately.
- Mastic and mortar can be installed down to 38° F and rising.
- The lowest common corner of the building is the starting point. Level the installation corner to corner.
- Choose the right fasteners for the job. Fasteners must extend into wood or masonry substrates by 1 in. and into metal substrates by 1/4 in. Use nails, screws, or masonry anchors #8 or larger.
- Use fasteners 1/4 in. from panel edges and every 8 in. vertically into 16 in. studs, or 6 in. vertically into 24 in. studs.
- Ensure that corner pieces and flats match in color prior to installation.

INSTALL EZ-WALL PANELS AND FASTENERS

Note: Dirt or film reside can interfere with adhesion of mastic or mortar. If panels become dirty after installation, wipe with dry cloth before attaching thin brick veneer.

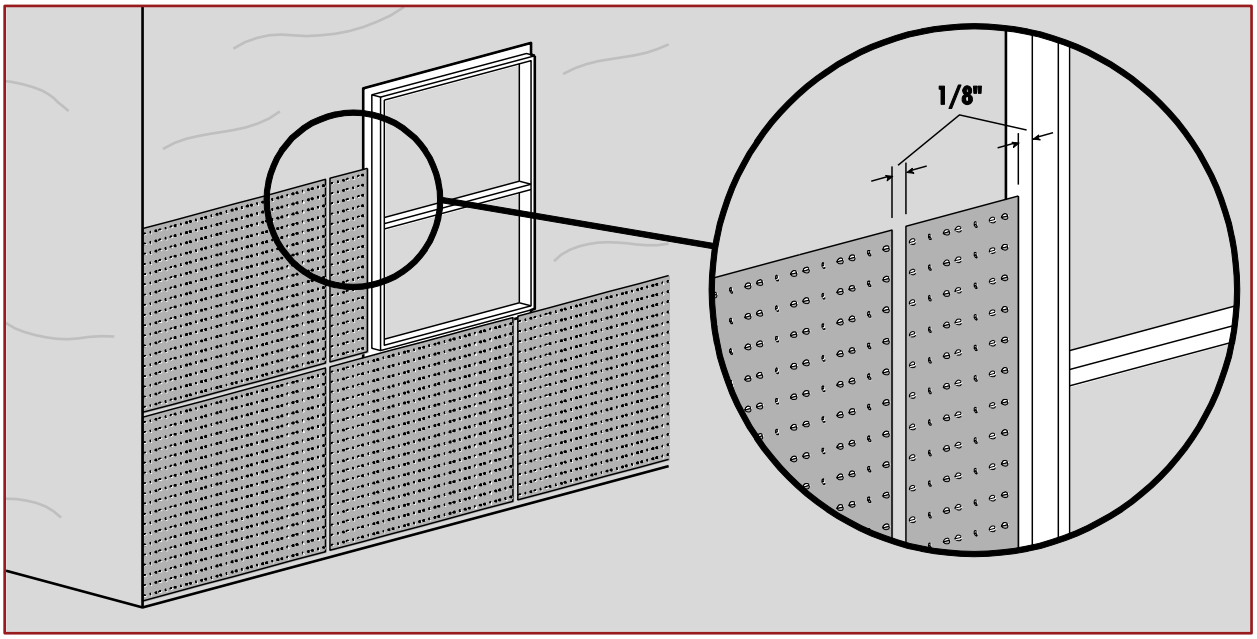
1. Install the first panel at the lowest point of the wall. Ensure that it is level and flat. Secure the center of the top of the panel first, moving down the middle of the panel. Then secure the panels moving outward to the edges, flattening the panel as you proceed. Adjust panels, if possible, so a full course fits under or over windows, doors, or openings (cut as little as possible)

Note: Fasteners must be a non-corrosive type with a flat or wafer head design. Do not use drywall screw for panel installation.



2. Continue installing panels, leaving a 1/8 in. gap between panel sides. Install panels to cover the entire working area. Secure the top and center of panels first, and work outward keeping the panel level and flat.

   Panels may be cut with tin snips or power shears. Shorten panels as required at the bottom or for openings or corners.



HOW TO INSTALL THIN BRICK VENEER

Mastic

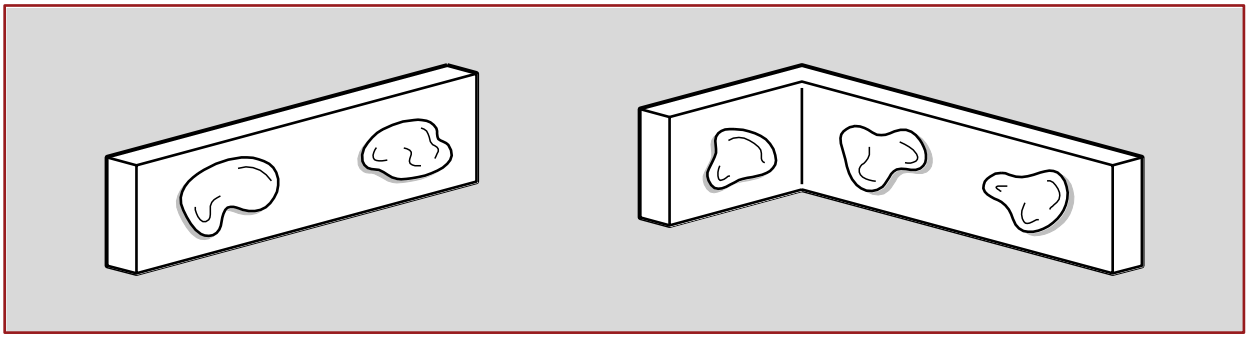
Note: The information in this section should be read completely before installing the master row, which is detailed in the next step.

- Apply mastic in quarter-sized dabs to the back of the thin brick veneer on either end. One tube will cover approximately 12-16 sq/ft. of brick.

  Tip: Line up thin brick veneers on a clean surface and apply mastic to multiple thin brick veneers before applying to wall. This will speed your installation time considerably.

- Apply mastic to corner thin brick veneers with two dabs on the long leg and one dab on the short leg.

Note: Too much mastic will tend to push thin brick veneers forward, away from the wall.



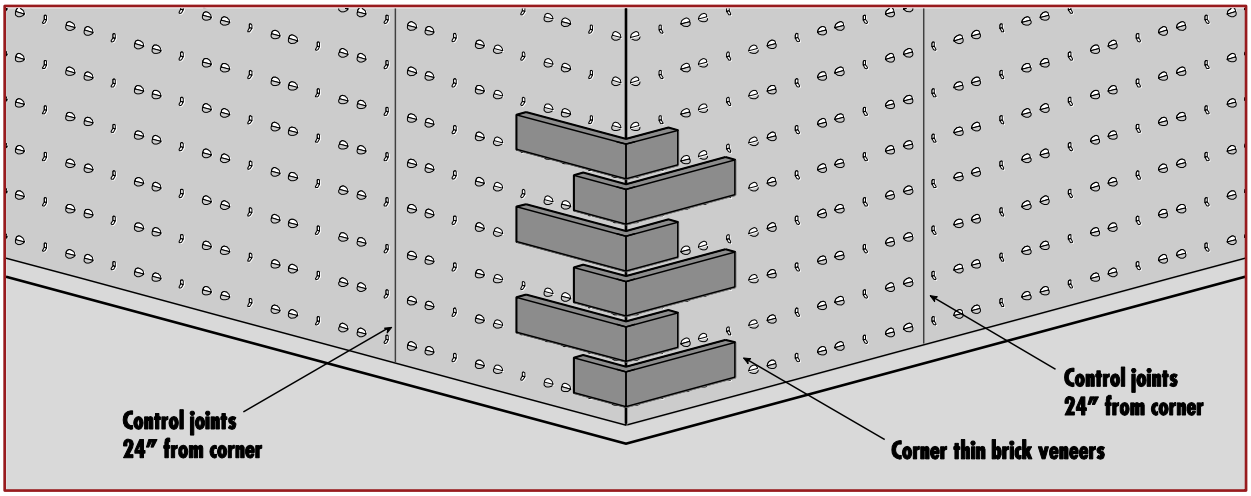
Vent mastic by pulling thin brick veneer away from panel for a few seconds. Then push back into place. This allows solvent to escape faster and the mastic to become stickier.

- Cold-weather installation: Keep mastic warm for cold weather applications. When warmed, mastic can be applied to thin brick veneer or panel at 38°F, facilitating year-round installation.
- Hot-weather installation: Mastic may form a film in hot weather. Slide thin brick veneer onto panel to break surface film to achieve a good bond. In direct heat, mastic must be vented to release the solvent faster, giving it a tackier set.

INSTALL MASTER ROW

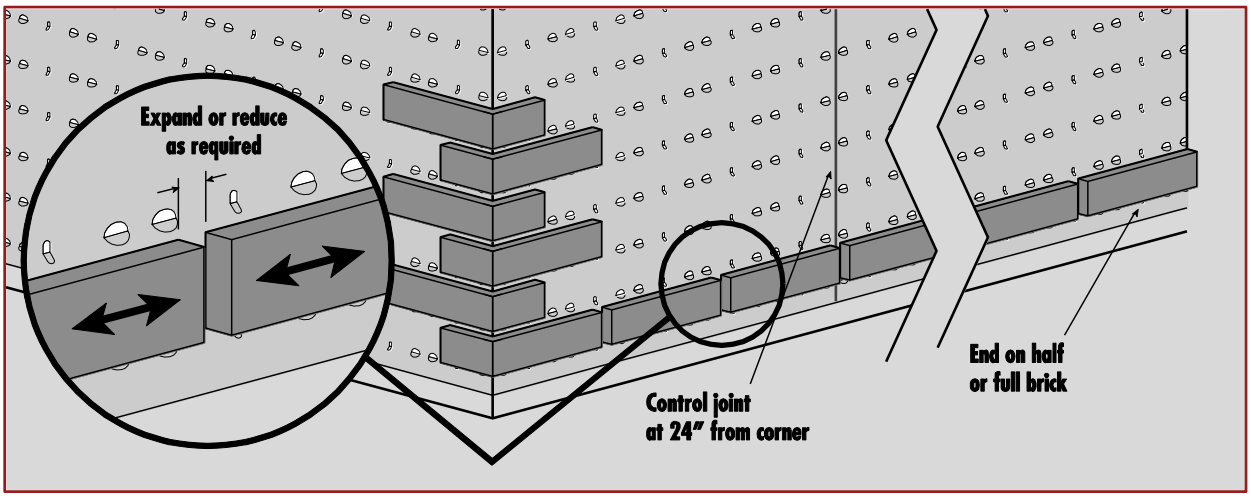
Important! Installing a level and well-spaced master row will ensure the success of your project. It is recommended to plan the master row before applying the thin brick veneer to the panels with mastic.

1. Start at an outside corner of the wall.
2. Apply corner thin brick veneers to the wall, alternating long and short legs, for running bond pattern.

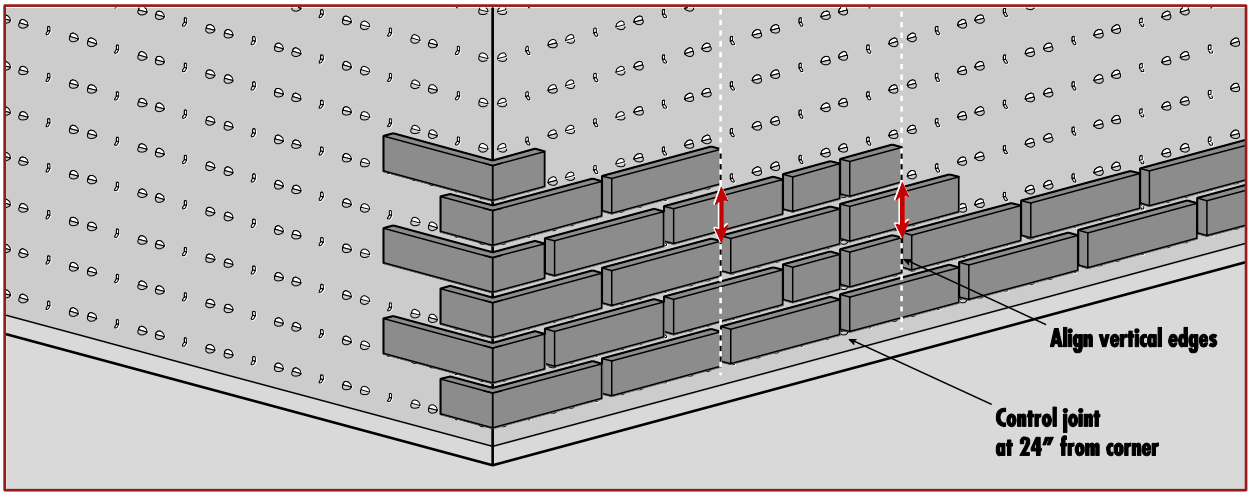


3. Install one row of thin brick veneer the length of the wall to the next outside or inside corner. Whenever possible, the master row should go under or over windows or door lines with a 3/8 in. joint opening between thin brick veneers.

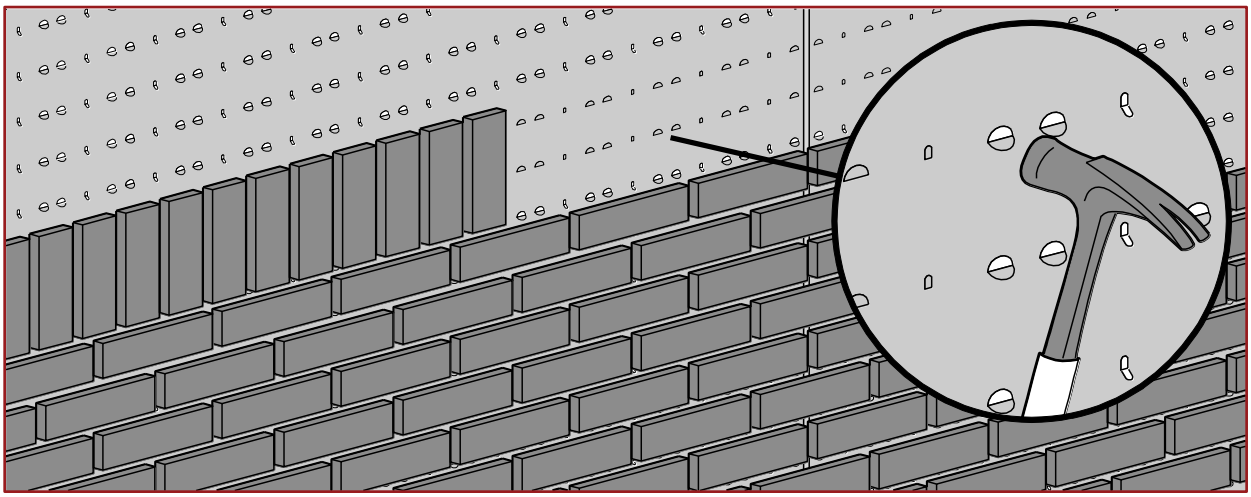
> ***Important!*** For correct spacing, the master row should start and end on either a half-brick or corner thin brick veneer. If necessary, expand each mortar joint by 1 mm to ensure there is a full or half-brick on each end of the wall.



4. The position of the thin brick veneer on the panel tabs will be the same on every other course. Tabs can be bent up or down to adjust brick alignment, as required.



Note: To install thin brick veneer vertically, creating a soldier course, flatten 2 rows of tabs into opening and rest thin brick veneers vertically on tabs.



Thin brick veneers should be stopped 3/8 in. from door and window trims.

CUTTING THIN BRICK VENEER

- Cut the thin brick veneer or tile all the way through with masonry blade of circular or cut off saw

  Note: Install factory edge toward window and door moldings. If edge is concealed by trim, place factory edge on outside of trim.

- Specialty window and door head openings should be finished as shown on http://www.ambrico.com/architects/technical-info/.

  Note: Do not place grout joints directly over panel seams or expansion joints.

MORTAR PREPARATION AND APPLICATION

Ready-to-Use Grout Mix

- Mortar Mix #50 bag. Covers approximately 30 sq./ft.

Mixing Instructions

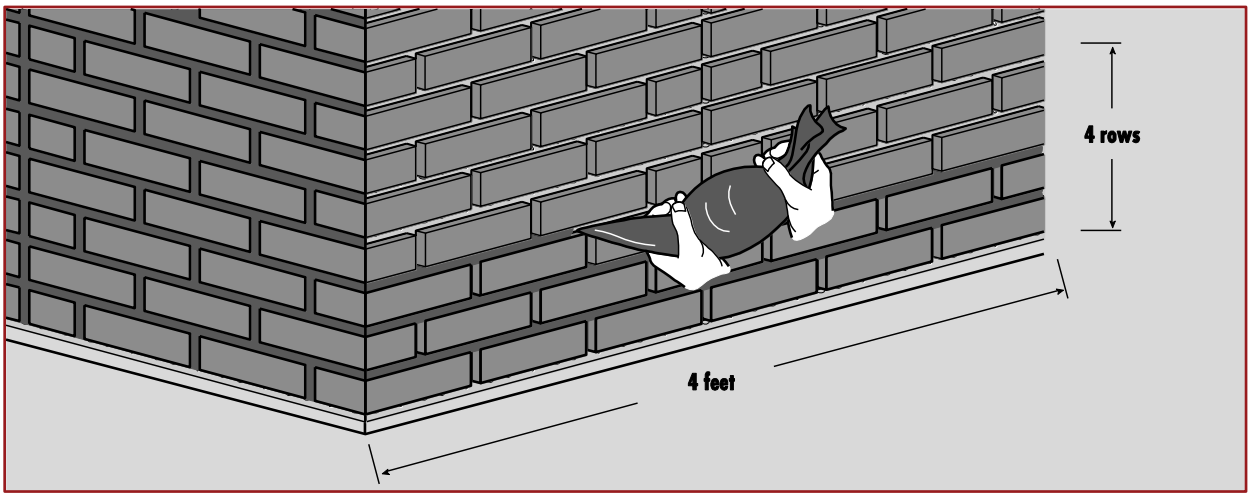
1. Follow the grout manufacturer's mixing directions. Once your mix is to your satisfaction, continue with the installation.

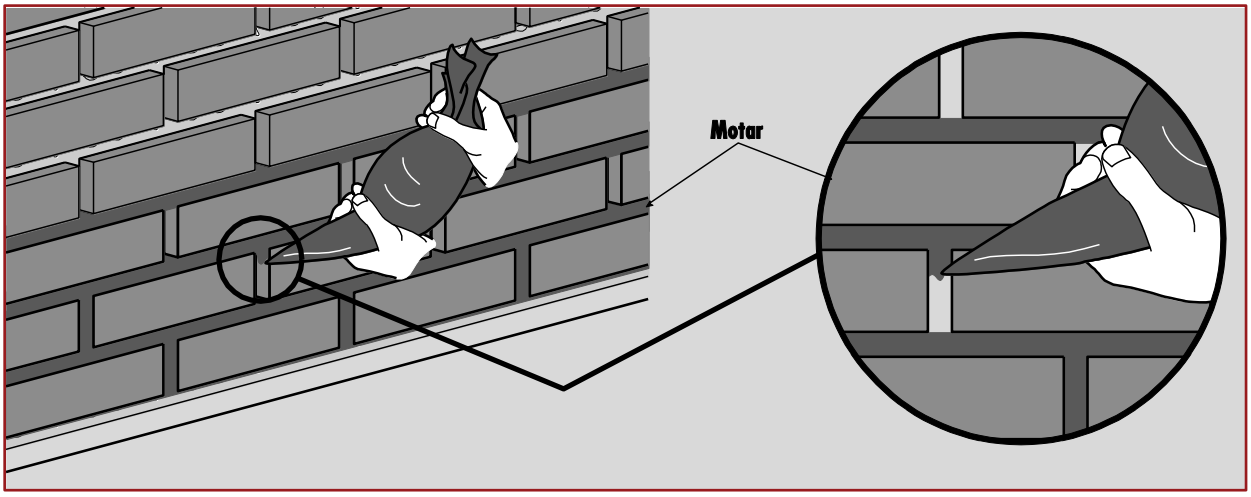
> ***Important:*** Allow the mixed grout to slake (rest) for 10-15 minutes before using.

2. After the slake time, remix the grout adding additional water as required (approximately 1 cup) to achieve a smooth consistency. Total water used should be approximately 1 gallon per bag.
3. Insert the metal tip firmly in place in the grout bag.
4. Fill the bag 1/3 full with mixed grout.
5. Hold the top of the bag with both hands and gently shake up and down. The grout mix should pour out of the tip while shaking the bag and stop when you stop shaking the bag.
6. Temper the mix as required to achieve this flow point. You may chose to mix one bag of grout mix at a time in a 5 gallon plastic pail with a plaster whip.

> ***Important:*** Allow 10-15 minutes of slake time per batch.

7. Fill 4 feet of horizontal joint courses first. After every 4th row, fill vertical joints; this will allow wall to dry evenly. Fill in all voids with damp mortar previously struck from wall.





8. Over-fill joint with mortar - as mortar dries; it shrinks due to water volume loss.

9. When mortar is thumb-print dry to the touch (like wet beach sand), tool the joint with slicker or a jointer tool to pack mortar into the joint.

NOTE: Struck mortar should be dry enough to fall away clean and tooled to a dull, gritty finish; not wet and shiny.

Upon initial set, brush excess mortar off of thin brick veneer face with a flat natural bristle brush on a 45 degree angle. Be careful not to drag mortar out of joint or smear to wet mortar onto thin brick veneer surface.

Setting time will depend on drying conditions.

NOTE: Thin hairline cracks can occur in the mortar joints for several reasons:

- striking too early
- excess water in the grout mix
- too rapid of grout curing in extremely hot dry weather
- movement of the substrate

These small cracks will not affect the performance of the product and can be minimized by striking at the appropriate time, using a proper mix, and, if the weather above 70° F, wetting mortar surface daily for several days following installation so as to extend the mortar tempering process.

Avoid walls which will be subjected to impact from within due to drywall or cabinet installation within one week of grouting.

PROJECT CLEAN-UP

If it is necessary, it is best to clean thin brick veneer between 24-72 hours after installation. 48 hour is the optimal cleaning time.

CAUTION: Do not use an acid base cleaner; acid may burn the thin brick veneer.

CARE & CLEANING

Your thin brick veneer should not require cleaning beyond the initial project clean up. However, if cleaning is necessary, use a commercial brick cleaner and follow the manufacturer's instructions.

> ***Important!*** It is possible to damage your thin brick veneer by using an improper method of cleaning.

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WARRANTY

EZ-WALL warrants to the original Buyer that the goods will be free from defects in material and manufacturer's workmanship for a period up to fifty (50) years from the date of original delivery. In the event that the goods are not installed or maintain in accordance with EZ-WALL's specifications, are modified or are damaged by accident, unreasonable use, improper maintenance or neglect, this Warranty shall become void. For the purpose of this Warranty, a defective item is an item that is found by EZ-WALL to have been defective in materials or workmanship, if the defect materially impairs the value of the goods to the Buyer

EZ-WALL shall have no obligation or liability under this Warranty for claims arising from any other party's (including Buyer's) negligence or misuse of the goods, the installation of the goods in any area subject to fallout or exposure to corrosive chemicals, ash, liquids, fumes or vapors, or in any area in which the environment changes from normal to corrosive atmosphere. This Warranty does not apply to any claim or damage arising from fire, flood, accidents, structural defects, building settlement or movements, acts of God or other causes beyond EZ-WALL's control.

Buyer must give notice of any alleged defect in the goods to EZ-WALL within 30 days after discovery of the defect by Buyer. If notice is not given within such period, any claim for breach of Warranty shall be conclusively deemed to have been waived and EZ-WALL shall not be liable under this Warranty. EZ-WALL or its agents shall be entitled to examine the goods. EZ-WALL shall have the option of requiring the return of the defective goods, transportation prepaid, to establish the claim. The acceptance by EZ-WALL of any goods returned shall not be deemed an admission that the goods are defective or in breach of any warranty, and, if EZ-WALL determines that the goods are not defective, the material shall be reshipped to the Buyer at Buyer's expense. No product will be returned to EZ-WALL without its written consent.

EZ-WALL MAKES NO WARRANTY AS TO ANY GOODS NOT MANUFACTURED BY EZ-WALL. THE TERMS AND DURATION OF WARRANTIES OF SUCH GOODS, IF ANY, WILL BE SPECIFIED BY THEIR MANUFACTURERS. THE WARRANTIES HEREIN ARE IN LIEU OF ALL WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE. IN PARTICULAR, EZ-WALL MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AS TO ANY GOODS SOLD UNDER THE AGREEMENT.

Any action for breach of the Warranty must be commenced within one year from the occurrence unless the period for action is extended by EZ-WALL in writing. No representative, agent or dealer of EZ-WALL has authority to modify, expand or extend this Warranty, to waive any of the limitations or exclusions, or to make any different or additional warranties with respect to the Product.

INFORMATION ON MATERIAL ORDERING

Panels are quoted on a per panel base. Check on availability, delivery times, sizes, and thin brick veneer spacing requirements.

Mastic is priced per tube. Each case has 12, 28 fluid ounce tubes.

EZ-Wall Straight Brick and Corner Brick are price per unit, as are special shapes. Whenever possible, packaged boxes or bundles will be shipped. Your thin brick veneers may vary in shades and textures from veneer to veneer, and process to process. It is recommended that a full thin brick veneer range (5 pieces) be ordered prior to placing your order if there is doubt about the color range or texture

Ambrico also sells a variety of tools including bags and tips, tile nippers, and jointer's.

All materials are shipped Freight on Board (FOB) from Romeo, Michigan 48065. Email for estimated shipping weight.

Note: All materials should be stored in a clean and dry environment. Mastic should be kept at above freezing temperatures.