

MASONRY BRICK VENEER INSTALLATION INSTRUCTIONS

This installation guide provides comprehensive instructions for successfully installing Creative Mines masonry brick veneer. It outlines the necessary tools, materials, and step-by-step procedures. Note that these instructions assume the installer possesses a working knowledge of the materials and proper installation methods. Before initiating the installation process, the installer must assess the substrate and installation conditions. Any issues should be reported to the general contractor or architect for correction before proceeding with the installation. By beginning the installation, the installer acknowledges the acceptance of the materials.

Building Code Requirements

Building code specifications can vary by region. Therefore, it's essential to verify the building code requirements for your specific area and application by consulting local authorities. To ensure compliance with ASTM C1780 installation guidelines, follow the [NCMA MSV Installation Guide](#).

Tools Required

- Stiff Bristle Brush
- Carpenter's Pencil
- Measuring Tape
- Straightedge
- Level
- Wet Saw
- 2x4(s) and screws
- 3/8" or 1/2" Dowel Rods / Tile Spacers
- 3/8" Notched Trowel for Lath/Scratch or 1/2" Notched Trowel for Cement Board
- Chalk Line
- Small Masonry Trowel
- Masonry Nippers
- Grout / Tile Sponge
- Grout Bag
- Buckets
- Rubber Mallet
- Heavy Duty Mixing Drill
- Eye protection, gloves, dust mask

Materials Required

Start the project with high-quality masonry brick veneer like Creative Mines. To determine the required quantity, measure the length and width of the wall space and calculate the square footage. In addition, if your project requires corners determine the correct lineal footage of corners. Round up to the nearest whole number and add 5% to accommodate for waste.

Lath

Lath and accessories must be made of corrosion resistant material, be self-furring or use self-furring fasteners, and comply with AC 275 and ASTM C1788. The following lath materials are approved for installation of Creative Mines masonry brick veneer:

- 2.5 lb/yd² (1.4 kg/m²) (or heavier) self-furring metal lath meeting ASTM C847
- Welded wire lath complying with ASTM C933
- 18 gauge (or heavier) woven wire lath meeting ASTM C1032 or
- The lath is consistent with the AMSV manufacturer's installation instructions and has an evaluation acceptance report from an accredited evaluation service showing compliance with ICC-ES Acceptance Criteria 275 (AC275), or equivalent, and ASTM C1788.

Fasteners

Use corrosion resistant fasteners to secure flashing and lath or cement board to the backup system. A variety of fasteners are available such as staples, screws, and nails, provided the heads or washers of these fasteners are large enough to not pull through the lath or cement board and the fastener is of sufficient length to penetrate into the supporting material such as the wood or metal stud framing. For specific fastener selection criteria, refer to ASTM C1861.

Wood framing - For lath, use corrosion resistant staples, corrosion resistant roofing nails, or corrosion resistant screws and washers. For cement board, corrosion resistant cement board screws as recommended by the cement board manufacturer. Fasteners must be of sufficient length to penetrate a minimum of ¾ inch (19 mm) into framing members.

Metal framing or panels - For lath, use corrosion resistant screws and washers. For cement board, corrosion resistant cement board screws as recommended by the cement board manufacturer. Fasteners must be of sufficient length to penetrate a minimum of 3/8 inch (9.5 mm) through metal studs or panels.

Masonry, concrete walls, or panels - Use corrosion resistant concrete screws or powder actuated fasteners (or cap fastener). For cement board, use 1 ¾ inch to 2 ¼ inch long 3/16-inch diameter concrete screws.

Cement Board

Cement board may be used in place of lath and scratch coat, if desired. When used, cement board must comply with ASTM C1325. They must also be evaluated for interior or exterior use in accordance with ICC-ES AC376 based on the desired applications. When using cement board, only polymer modified mortars complying with ANSI A118.4 or ANSI A118.15 should be used as the setting bed mortar. Do not use conventional mortars (Type S or N) over cement board installations. Refer to ASTM C1780 and manufacturer recommendations for additional details on cement board installations.

Mortars

Mortars used for the installation of masonry brick veneer can be grouped into three different categories; scratch coat mortar, setting bed mortar, and pointing mortar. It is important the installer follows the manufacturer's instructions for mixing mortars. Each mortar must meet minimum requirements as described below:

Scratch Coat Mortars – Scratch coat mortars are applied directly to the lath or substrate to which the masonry brick veneer is adhered to. This first layer of mortar is intentionally scratched or

roughened before hardening to provide enhanced mechanical bond between the scratch coat and setting bed mortars. The scratch coat mortar must meet the requirements of ASTM C270 Type N or Type S for site mixed or the requirements of ASTM C1714 /C1714M Type N or Type S for preblended mortars.

Setting Bed Mortars – After the scratch coat mortar has cured sufficiently, the setting bed mortar is used to adhere the masonry brick veneer units to the backing. The setting bed mortar is applied directly to the scratch coat or to the back of the masonry brick veneer units (back-buttering), or a combination of both application methods. Mortars suitable for installing Creative Mines masonry brick veneer are:

- Type N or Type S mortar meeting ASTM C270.
- Polymer Modified Mortars suitable for installation of concrete masonry veneer and complying with ANSI A118.4 or ANSI A118.15 or equivalent.

Note: Polymer Modified Mortars provide higher bond strength, better workability, “flowability” and a better ability to absorb and hold moisture to minimize the possibility of the mortar drying out.

Grouting /Pointing Mortars – Grouting mortars, also referred to as pointing mortars or mortar used to grout mortar joints, are used to fill the joints between individual masonry brick veneer units once the setting bed mortar has sufficiently cured. The grouting mortars must meet the requirements of ASTM C270 Type N or Type S for site mixed or the requirements of ASTM C1714 /C1714M Type N or Type S for preblended mortars.

It is important to note that mortars mixed with higher amounts of cement will tend to be less workable and may be prone to increased shrinkage cracking, but will provide greater bond strength. Type N mortars are generally easier to work with than Type S mortars due to the higher cement content of Type S mortars.

Substrates

The substrate must be structurally sound and comply with code-compliant engineering designs. Reference the NCMA’s Installation Guide and Detailing Options for compliance with ASTM C1780. Reference Table 1: AMSV Installation Requirements Summary for a list of various wall systems that are approved (concrete surfaces, wood & metal studs, and others) for installing masonry brick veneer. Approved walls shall have a maximum deflection for thin bed installation of L/360 and L/460 for thick bed installation. All expansion control joints and movement joints shall be brought through the veneer to the surface. Expansion joints shall be installed on perimeter walls, columns, corners, changes of plane etc. All substrates to receive bonding mortar shall be clean, free of any dirt, loose debris, paint, oil curing agents, release agents, bond breakers or any contaminant which may hinder bond. Curing agents, release agents, sealers or other contaminants shall be removed by bead-blasting, sand blasting, grinding or similar removal techniques.

For Exterior and Interior Applications:

Cement backer board complying with ASTM C1325 may be substituted for other substrates (i.e. wall board or plywood, WRB, lath, and scratch coat). The cement backer board should be installed per the manufacturer’s instructions which includes reinforcing the joints with 4" wide mesh and mortar.

Installation – Step by Step

Install the masonry brick veneer using specified materials and installation methods to ensure successful application. Protect installed brick from vibration or damage from other trades.

1. Safety

Wear eye protection, work gloves, and a dust mask when using a tile saw.

2. Substrate Preparation

When installing over metal lath, apply a nominal 1/2" thick layer of an approved mortar ensuring the lath is completely encapsulated with mortar. The mortar should be applied with sufficient pressure and thickness to fully embed the lath in mortar or cover entire surface. After the mortar achieves a thumbprint-hard consistency, scratch (score) the surface horizontally to create the mortar scratch coat. Moist curing the mortar scratch coat will help reduce cracking and ensure proper hydration during curing. Before applying the masonry brick veneer units, the mortar scratch coat should be dampened so that the surface appears wet but free of standing water.

Cement Board Alternate Substrate - Cement board may be used in place of lath and scratch coat with the requirement of reinforcing the joints with 4" wide mesh and mortar. It is also important to note that only polymer modified mortars complying with ANSI A118.4 or ANSI A188.15 should be used as the bonding mortar.

3. Install a Starting Guide

For exterior installations, start with a 2"x4" across the bottom of the wall using a level to ensure the wall is straight and horizontal to ensure a satisfactory job. For interior installations, if you would like to start closer to the floor, use a smaller board and make sure the floor is level. Next measure up at every foot from the starting ledge and snap horizontal chalk lines making sure they are parallel to the bottom ledge. These lines will be a guide to ensure the masonry brick veneer is installed level.

4. Bonding Mortar Preparation

When considering mortar selections, verify the mortar can provide a minimum shear bond strength of 50 lb/ in.² (345 kPa) when tested in accordance with ASTM C482, is consistent with the stone manufacturer's recommendations, and is suitable for installation of masonry brick veneer. Mix the bonding mortar according to the manufacture's instructions.

5. Starting Point

Choose the bottom corner of your wall to start installing the masonry brick veneer. While the mortar is still wet and tacky, using a small hand trowel back butter the brick with a Type S or N mortar while ensuring 100% mortar coverage. Then press the masonry brick veneer into the wall with sufficient pressure to allow mortar squeeze-out. When necessary tap into place to ensure good contact.

If installing directly over cement board, only polymer modified mortars complying with ANSI A118.4 or ANSI A188.15 should be used as the bonding mortar. The bonding mortar can be applied with a 1/2" x 1/2" **Notched Trowel** to the wall (substrate), and then a thin coat is applied with a regular trowel to the back of the brick veneer ensuring 100% coverage. While the mortar is still wet and tacky, place the masonry brick veneer and tap into place ensuring good contact and 100% coverage.

6. Vertical and Horizontal Brick Spacing

To maintain the brick horizontal and vertical, use a 3/8" (or 1/2") diameter dowel rod that is cut in 2" lengths in the vertical gap between bricks as you go along for consistent spacing. A 3/8" (or 1/2") diameter rod can be laid across the top rows to ensure consistent spacing and for support for the next row. You may also choose to use the 3/8" (or 1/2") tile spacers. During installation, periodically remove freshly set masonry brick veneers to ensure adequate bond and to check for complete mortar coverage of the brick backing to grooves. Follow these important steps to ensure a satisfactory appearance and bonding of the finished project.

7. Cutting Bricks

There will be a need to cut masonry brick veneer for the left and right ends of the wall. Use a masonry wet saw or heavy-duty tile saw. You can choose to calculate and make all your cuts at once or you can cut the bricks as you work your way up the wall. In several cases the walls may not be square so it may be best to cut as you go. If you need to fit any bricks around obstructions such as pipes or windows, make custom cuts with masonry nippers. Using the masonry nippers nip small pieces at a time to avoid cracking the entire piece.

8. Finishing Rows

Continue installing the masonry brick veneer until you get to the top of the wall. Once at the top of the wall, you may need to cut your final row to make it easy to fit. Once the setting bed has started to cure and can hold the weight of each brick, removing the dowel rods or tile spacers should be done with care to avoid disturbing the newly set bricks.

9. Grouting The Joints

Use a grout bag filled with sanded grout to fill in the joints. Avoid mixing more grout than you can use after a few fills. Mortar grout spills should clean up better by letting them dry to a crumbly stage and removing them rather than using a damp cloth. Always follow the manufacturer's instructions when mixing grout.

10. Care & Maintenance

Creative Mines masonry brick veneer is virtually maintenance free. To clean dust or other debris of the surface of the brick use a dry whisk broom and lightly brush. You can also use a soft bristle brush and a mix of mild detergent and water to clean the surface. Do not use harsh chemicals for cleaning, such as acid, or use abrasive tools such as wire brushes or power washers.

These installation instructions were prepared specifically for Creative Mines Masonry Brick Veneer. To ensure compliance with ASTM C1780 installation guidelines, follow the [NCMA MSV Installation Guide](#). Comments or Suggestions for improvement should be addressed to: create@creativemines.us