

# EZ-Wall®

Engineered Thin Brick Panel System

## Installation Manual



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#### EZ-WALL SYSTEM MATERIAL:

- A. PANEL: Standard sizes 48" x 24", 48" x 48".
- B. MASTIC: Quart tubes of solvent based adhesive.
- C. MORTAR ADDITIVE: Gallon containers of concentrated water-based acrylic latex bonding agent (Not need if you purchase AMBRICO mortar).
- D. STARTER STRIP: 24 gauge galvanized Kynar 500 Slate Grey finish.

#### THIN VENEERS:

- A. Thin Brick, tile or stone meeting ASTM requirements, for application in various sizes, colors and finishes supplied or approved by AMBRICO.

#### MATERIALS TO BE PURCHASED LOCALLY:

- A. Flashing, trims or starter angles compatible with EZ-WALL materials and thin veneers. (See Detail and Specifications)
- B. Fasteners – material compatible, corrosive resistant (1 per square foot)
- C. Sheathing – meeting code application
- D. Mortar or grout mix. (Can purchase AMBRICO mortar which has latex bonding agent in the dry mix)
- E. Mortar colorant (if required)
- F. Caulk or sealant (if required)
- G. Cleaning agent (if needed)
- H. Water infiltration material – felt paper, Tyvek, or equal
- I. Non – staining silicone mastic for stone veneers
- J. Tools
  - 1. Hammer, nails, nail gun or metal screws
  - 2. Level
  - 3. Chalk line
  - 4. Tin snip or power shears
  - 5. Quart size caulking gun
  - 6. Offset tile nippers
  - 7. Circular saw / masonry blade
  - 8. Utility knife
  - 9. Flat screwdriver
  - 10. Template for cutting and holding brick
  - 11. Extension cord
  - 12. Sawhorse and support planks
  - 13. Ladders, jacks, picks, scaffold and lifts, OSHA approved
  - 14. Water buckets (3-5 gallon pails)
  - 15. Wheelbarrow and mixing paddle
  - 16. Two gallon water pail with quart measurements
  - 17. Mortar scoop
  - 18. Plastic mortar tub, dishpan, or kitty litter tub
  - 19. Screen with 1/4" opening, approximately 2' x 2'
  - 20. Water brush
  - 21. Mortar bag and tip
  - 22. Striker, jointer rounded 1/2" x 5/8"
  - 23. Flat, stiff tampico bristle brush to clean brick surface
  - 24. Acid brush and handle (if needed)
  - 25. Cleaning brush (plastic to clean tools and equipment only)
  - 26. Commercial brick cleaning materials
  - 27. Safety equipment (eye protection, foot protection, etc.)

#### ESTIMATING MATERIALS FOR PROJECT:

- A. Figure panel square footage with a 2% waste factor. This is based upon wall square footage with openings omitted.
- B. Figure lineal footage for the starter strip.
- C. Straight brick waste should be calculated at 3% and corners brick 5%.
- D. To figure the amount of outside corner footage, multiply by 4 – ¼ bricks per (running) foot.
- E. Each tube (29 oz) of EZ-WALL mastic will supply enough mastic for 130 bricks to be applied to the panel or 5 tubes per 100 square feet. Extra tubes should be ordered on a first time basis as crews have a tendency to put on more than is needed.
- F. Corner brick will use 50% more mastic than straight bricks.
- G. One gallon of concentrated liquid mixed with grout will cover 200-240 square feet. (Not needed if using AMBRICO mortar).

#### LABOR ESTIMATING GUIDELINES FOR THIN VENEER APPLICATION:

NOTE: Allow extra man hours to install flashings, trim angles, weather barrier and caulking if required.

- A. For one story applications up to 10 feet, using power driven nails, allow 12-13 man hours per 100 square feet to install the wall finish.
- B. When using screws, allow one more man hour per 100 square feet.
- C. For each story in height above one, add 10 percent per story.
- D. For every 10 lineal foot of possible cutting, add one man hour labor. Example: Around window and door openings, at soffits and trims add lineal footage and divide by 10 to get man hours of cutting labor.
- E. Figure the wall surface to be covered as solid, omitting only large openings.
- F. Allow additional labor for 1<sup>st</sup> time crew and intricate work.

#### ORDERING MATERIALS:

- A. Panels: Priced per panel. Check on availability, delivery times, sizes and veneer spacing.
- B. Mastic: 12 quart tubes per case, priced per tube.
- C. Veneer brick straights and corners are priced per unit, as are brick corners and special shapes; packaged boxes or bundles will be shipped as such.
- D. Latex: Sold in gallon containers.
- E. Tools: Bags and tips are available.
- F. All material are shipped FOB Warren, Michigan. Call American Brick Company to get shipping weights and class for the EZ Wall System.

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

## INSTALLATION INSTRUCTIONS

### WALL PREPARATION / CONDITIONING:

- A. Structurally sound wall: if in doubt, get owner or engineer's approval prior to installation.
- B. Substrate will have a deflection design no greater than  $L/240$ , with corners braced, unless written consent is given by EZ-WALL / AMBRICO.
- C. Corners are to be braced to meet code and design requirements in order to alleviate shrinkage, raking, settling and movement. Wall is to be plumb within  $\frac{1}{4}$ " 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.
- D. Sheathing shall be approved type for installation (see long form specifications for type or equal) and installed to sheathing per manufacturer's recommendations and specifications.
- E. Water infiltration barrier in place with any openings or tears repaired (see long form specifications for type).
- F. Starter angles, flashings, and trims in place as per detail drawings and / or BIA Technical Note 7A on flashing of brick walls. (See Details)
- G. Control joints should be to regional specifications and not to exceed 16' spacing in walls without openings.

\*CAUTION: Installers must be aware that new wood structures may shrink or move greater than veneer system will allow.

## LAYOUT:

- A. Expansion and Control Joints
  1. Space and stop panel and veneer at building control joints.
  2. Install control joint at least every 16'.
  3. Expansion joints in the panel and veneer should be 1/4" to 3/8" away from doors, windows and unlike materials to allow for movement.
  4. Allow a minimum 3/8" expansion joint in the panel and veneer from inside corners.
  5. Control joints should be 3/8" wide to accommodate movement of veneer and panel. Larger control joints may be needed to accommodate building movement. These should be specified by the designer or engineer.
  6. 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.
  7. All areas where brick meets non-brick surfaces must be caulked with a high performance caulk / sealant.
  8. Weep holes, 1/4" in diameter, must be installed through the grout. Place holes on 16" centers at the base of the wall and above all openings.
  9. Leave the lowest joint, where the panel meets the starter angle, open for water drainage from the system.
- B. For ease of installation, window or door frames should be within 3" of surface for veneer returns using outside corners.
- C. If window sill is to be angled by using an outside corner piece, frame should be within 2-1/2" of outside surface detail. Sill pieces must be sealed.
- D. Lowest common corner of building is the starting point. Then level the installation corner to corner.
- E. Align tabs at corners and all joints.
- F. Adjust panel, if possible, so full course fits under or over windows, doors, or openings (cut as little as possible).
- G. If a full course is not possible, use rowlocks, soldier coursing or trims.

## PANEL:

- A. Clean, if necessary, with non-oil base cleaner, any dirt or film residue that interferes with adhesion of mastic or mortar.
- B. Install panel in upright position, with control date in upper left hand corner and/ or punched openings above tab.
- C. Panel edges to end or begin on stud or girt.
- D. Start at outside corner; 1) Panel may be wrapped around corner for additional bracing; 2) Stagger panel joints over joints in sheathing; 3) Stagger panel joints if possible (this will help brace the wall); 4) Panels are butted at edges (for optimal stress relief, a 1/8" gap between the sides of the panels is recommended); 5) Panel should be fastened as flat as possible; 6) Fasten down center then work out to edges; 7) Install sufficient fasteners to pull panel flat to wall.
- E. Panel may be cut with tin snips or power shears.

FASTENERS:

- A. Shall be a non-corrosive type with waferhead design.
- B. Fasteners will extend into the substrates 1" if wood or masonry, or  $\frac{1}{4}$ " if metal. Use nails, screws or masonry anchors #8 or larger.

- C. Fastening schedule of  $\frac{1}{4}$ " from edge and every 8" vertically into 16" studs or 6" vertically into 24" studs. Schedule for masonry gives you 1 fastener per square foot. Additional strength may be derived by always fastening 8" apart along blocked edges.
- D. If in doubt as to correct fastener, contact fastener manufacturer or distributor for correct product application.

VENEER:

- A. COLOR RANGE:
  - 1. Veneer colors vary in shades and textures from veneer to veneer, and process to process.
  - 2. Order full veneer range (5pieces) before placing order, if in doubt as to color range or texture.

3. Bricks should be applied to wall out of several boxes at one time so that a blend of color ranges may be achieved.

B. STARTING POINT (INSTALL MASTER ROW)

1. Start at an outside corner of the wall.
2. Apply corner bricks to the wall, alternating long and short legs, for running bond pattern.
3. Run one row of veneer the length of the wall to the next outside or inside corner, under or over window or door line with a 3/8" joint opening between veneers.
4. The position of the veneer on the panel to the double tabs will be started with a full brick for the master row; the next course is started with a half brick.
5. Adjust tabs, if necessary, to keep course level.
6. For brick walls not using outside corner pieces, the wall will be started with a full brick for the master row; the next course is started with a half brick.
7. To install brick vertically, creating a soldier course, flatten 2 rows of tabs into opening and rest bricks vertically on tabs.
8. Veneers should be stopped 1/4" to 3/8" from door and window trims.

C. CUTTING BRICK:

1. Score brick or tile to 1/4" depth with masonry blade of circular or cut off saw on face of brick.
2. Break scored pieces with offset tile nippers.

3. Install factory edge toward window and door moldings – when edge is concealed by trim, place factory edge so as to be seen. Apply full pieces first, and then cut pieces.
4. Window and door head openings should be finished as shown in details.
5. If possible, grout joints should not be placed directly over panel seams or joints.

#### MASTIC:

- A. Apply mastic in dabs about the size of a quarter to back of the brick on either end or on the panel so that each brick receives a dab of mastic at each end of the brick.
- B. Apply mastic to corner bricks with two dabs or strips on the long leg and one dab or strip on the short leg.
- C. Do not run a continuous horizontal bead of mastic on the panel; you will use more than what is needed and will hinder moisture movement on the face of the panel.
- D. Mastic, if kept warm, can be applied to brick or panel at 20 degrees (F) facilitating year around installation.
- E. Too much mastic will tend to push bricks forward, away from the wall. Vent mastic by pulling brick away from panel for few seconds. Then push back into place. This allows solvent to escape faster and the mastic to become stickier.
- F. Mastic in hot weather can form a film. Slide brick on panel to break surface film and achieve a good bond. In direct summer heat, mastic will most likely have to be vented to release solvent faster to allow mastic to have a tackier set.

#### FIELD MIX MORTAR FORMULAS:

Formulas –

Mix #1: 1 part Portland Type 1. 3 parts sand

Mix #2: 1 part masonry cement Type S to code specifications

Mix #3: 1 – 80 lb. bag of mortar mix and 4 qts. Portland Type 1.

- A. Screen mortar mix, dry, through ¼” screen cloth. This will stop lumps or stones from plugging the tip.
- B. Add colorant, if required, to dry mix. Then mix well.
- C. Add 1 quart EZ-WALL latex to 5 quarts water. Add this liquid mixture to the dry mortar ingredients. In hot, dry weather, dilute 1 to 6. (Not necessary if using AMBRICO mortar)
- D. Screen part of the wet mortar mixture through a ¼” screen cloth into a mortar tub to eliminate any lumps.
- E. Add additional water to screened mortar mixture, if needed, so that the consistency is that of a milkshake, or so it just drips through the tip of the grout bag. NOTE: You can always add more water, but you can't take it back out.
- F. Fill 4 feet of horizontal joint courses first. After every 4<sup>th</sup> row, fill vertical joints; this will allow wall to dry evenly. Fill in all voids with damp mortar previously struck from wall.
- G. Over-fill joint with mortar – as mortar dries; it shrinks due to water volume loss.
- H. When mortar is thumbprint dry to the touch (like wet beach sand), strike joint with slicker or jointer tool to pack mortar into the joint.
- I. Struck mortar should be dry enough to fall away clean and tooled to a dull, gritty finish; not wet and shiny.
- J. Upon initial set, brush excess mortar out of brick face, if necessary, with a flat natural bristle brush. Be careful not to drag mortar out of joint or smear wet mortar onto brick surface.
- K. Setting time will depend on drying conditions. In very hot weather, dampen brick to prevent rapid absorbency of moisture from mortar.

#### GROUT INSTALLATION:

- A. Do not install grout in temperatures below 40 degrees (F). Use only approved grout.
- B. Use a 1-1/4 inch outside diameter piece of hard pipe to compress the grout into the joints. Hold the pipe at an angle (45 degrees) to the brick and press it firmly against the grout, move the pipe along the grout joint to compress the grout from the joint. Any voids in the grout must be filled at this time by compressing wet grout into them. Care should be taken to keep the pipe in the grout joint to avoid scratching the brick faces. The head (vertical) joints should be done first and followed by the bed (horizontal) joints. After striking the grout joints, the wall should be brushed off with a stiff bristle deck brush. Brush the brick horizontally using semi-circular motions on the wall making sure all grout joints and brick are brushed thoroughly to remove any excess mortar from the face of the brick. If brush marks appear in the grout, it has not sufficiently set.

**IMPORTANT:** Brick must be kept as clean as possible during the grouting process. Any excess grout must be brushed off. Do not use winter additives.

- C. When the brick is to be cleaned, use a commercial brick cleaner according to the manufacturer's instructions. Use a soft window brush to apply the mixture to the brick. You should only do approximately a nine (9) foot high by eight (8) foot wide area at a time. Work from top to bottom from as high as you can reach. From the ground, approximately 9 feet. Brush the brick horizontally in a forty five (45) degree angle on the wall making sure that all grout joints and brick are brushed with the washing mixture. Any areas that might have stains from grouting must be brushed harder to get them clean. After washing an area about 9 feet by 8 feet, this area must be rinsed with clean water from a hose with standard water pressure. Work from the top down and make sure all areas are rinsed thoroughly! If the building is higher than nine (9) feet, move up to the next nine (9) foot high wall section after the bottom has been washed and rinsed. Wash the remaining areas in the same manner,

making sure that as the top section is rinsed, all areas below are rinsed again to make sure all cleaner and dirt has been removed. The brick should be washed no sooner than 24 hours and no longer than 72 hours after grouting. It is possible to damage your brick by using an improper method of cleaning.

NOTE: Thin hairline cracks can occur in the grout joints for several reasons including striking too early, excess water in the grout mix, too rapid of grout curing in extremely hot dry weather, and 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 in weather above 70 degrees (F), wetting the grouted surface daily for several days following grouting so as to extend the grout tempering process. Also, avoid walls which will be subjected to impact from within due to drywall or cabinet installation within one week of grouting. Prefabricated wall systems should be allowed to set for one week following grouting before shipment.

#### CLEANING:

- A. If it is necessary, it is best to clean brick within 48 hours, but no longer than 72 hours or shorter than a full 24 hours.
- B. Follow guidelines of BIA Bulletin #20 revised, or the Association of Tile, Terrazzo and Marble Contractors and Affiliates bulletin entitled "Grouting and Cleaning Ceramic Floors with Latex Grout".
- C. CAUTION: Do not use an acid base cleaner; acid may burn the brick.