

# EZ-Brik Application Guide

## A. General

- a. EZ-Brik thin brick system allows precast and tilt-up contractors to simulate masonry style results with minimal efforts. It combines thin brick masonry units with template liners used to position and layout the brick. These formliner templates can be seamlessly tiled to fit most any area. From our standard thin brick liners to custom thin brick templates we offer a solution for your most demanding needs.

This guide will give you the basic building blocks on how to use our thin brick system on your project.



## B. Brick Sizes and Formliner Template Patterns

- a. The formliner template system can be ordered to accommodate multiple size bricks. These include the most common PCI standard sizes; modular, utility, and norman. The patterns are available in multiple layouts and have corresponding accessories available. Custom patterns can be created to accommodate the project design requirements. If only liner is being purchased, sample bricks should be submitted to Custom Rock to ensure optimal fit with the template.

## C. EZ-Brik Formliner Template

### a. Material Specifications

- i. EZ-Brik Formliner Templates = Polystyrene
- ii. Thickness = .020
- iii. Color = White
- iv. Number of Uses = Single



### b. Handling and Care

- i. Custom Rock EZ-Brik formliner templates are shipped in boxes or pallets (approximately 4' wide by 10' long) depending on the size of the project. Proper equipment should be used when moving pallets to avoid personal injury or damage to the product. Gloves should be worn when handling the formliner template as trimmed edges can be sharp.
- ii. The individual formliner templates can easily be handled by one person without the need for special material handling equipment.
- iii. Custom Rock EZ-Brik liner templates are sensitive to the effects of the sunlight, ultraviolet rays and extreme weather conditions. Store indoors or cover the formliners with a tarpaulin or black plastic to protect the forming surfaces whenever it is not in use. This will prolong the life of the formliner material and keep the forming surfaces clean.
- iv. Formliner templates should never be exposed to temperatures in excess of 140 degree Fahrenheit. Excessive temperatures can cause permanent deformation.
- v. Care should be taken to avoid striking the liner template face with heavy, sharp or heated objects that could cause permanent damage.

**c. Cutting**

- i. The template liners can easily be cut with a utility knife or scissors. A bandsaw can be used if multiple liners need to be cut at once. This can provide large time savings if multiple cuts of the same type are needed.

**D. Thin Brick**

Thin bricks are a 1/2" version of the actual face. These are clay units with all the characteristics of standard brick.

**a. Size**

- i. Thin brick size is critical to the template liner/thin brick system. It is imperative that brick manufacturer's adhere to certain standards to obtain ideal results. Bricks used with our system should adhere to PSI standards. This holds a tight tolerance of +0" and -1/16" for modular brick. It is stricter than the TBX ASTM standard.

It is important to select the right brick manufacturer to avoid excess work such as cutting oversize bricks or having to deal with undersize bricks. Even though the upfront costs may be greater, this will quickly pay for itself during placement, pouring, and cleaning. Contact Custom Rock for a list of preferred brick manufacturers.

**b. Color**

- i. Like with any standard brick, thin brick varies within any color selection. The manufacturing process makes these variations unavoidable. It is important to understand that the color samples represent a general hue and will not be exact to the actual order. In fact, this color irregularity may occur from shipment to shipment or even pallet to pallet. Therefore, special attention must be given on placement of like color runs to avoid noticeable varying shades on a wall. We recommend blending bricks from various pallets and shipments to ensure uniform color appearance on the walls.
- ii. The corner bricks are ran separately from the flat bricks. This increases the likelihood that these will vary in color. It is the end user's responsibility to confirm if the color is acceptable on the corner pieces.

**c. Storage**

- i. The brick is typically palletized and stretch wrapped. The brick itself can withstand the elements. However, waxed coated bricks must be protected from temperatures approaching 130° F. The wax will melt and release properties will be severely hindered. The brick must also be protected from excess dust and debris. This buildup will affect the bond to the concrete. It is best to keep the brick as dry as possible prior to pouring.

**d. Irregularities**

- i. The brick will have irregularities. Some manufacturers grind bricks to ensure they are not oversized. Undersized bricks will produce a common edge brick condition called an eyebrow. This is a thin frame ledge around the brick. If you are dealing with undersized brick ensure that these are used during the mockup to show this condition.
- ii. Undersized brick should not affect the liners ability to hold the brick during casting as long as the concrete is properly placed and vibrated.

**e. Coatings**

- i. Wax
  - 1. A wax coating can be applied to the brick face. This acts like a bond breaker for concrete leakage. Typically, about 1/3 of the brick face is exposed to some leakage. The coating coupled with a heated pressure washer can remove this overage in most cases.
- ii. Brick Release
  - 1. There are releases available for the brick face. At face value it may seem like a more economical solution than the wax coating. However, it is simply not as effective. Additionally, the bricks need to be separately coated with the release by the contractor and placed. Dust and debris must be avoided so that the release is not adversely affected.

**f. Cutting**

- i. Masonry saws (water saw preferred) are used to cut the bricks. Cutting bricks will be needed on most jobs. This happens to accommodate job design conditions. It is sometimes necessary to cut oversize brick to fit to the liner template.

**E. Test Pour (Mockup)**

- a. Before actual construction, a test pour is recommended to demonstrate the results on the finished concrete surface. The test pour should simulate as many phases of the actual construction as possible and include boxouts, corners, reveals, wall intersections and joints. The test pour should represent actual job conditions.
- b. Upon approval, the actual construction should proceed using the same methods and materials to assure uniformity throughout the entire project

## **F. Installation**

### **a. Substrate Preparation**

- i. The surface must be clean and free of debris to ensure a flat surface for the EZ-Brik system to lay on.
- ii. Since some concrete leakage may occur between the liner and at the perimeter, we recommend applying bond breaker or release to the substrate surface. While the leakage may be minimal, it is added insurance to allow for easy removal of the leaked concrete.

### **b. Flat liners**

- i. Install all panel features such as openings, steps, and rustications (reveals) prior to applying the formliner template. It is recommended to install a rustication at the perimeter of the bricks whenever possible.
- ii. The EZ-Brik formliner template is one directional overlapping the left and top edges over the right and bottom edges.
- iii. The template is made of polystyrene plastic. It is subject to thermal expansion and contraction. You must consider these variations when laying out the liner. You can offset this phenomenon by stretching or compressing the liner as the brick is being installed.
- iv. As the brick gets laid the weight of it will hold the liner in place to an extent. The brick weight coupled with a bounding reveal strip or fasteners (double sided tape or staples/nails) will hold the liner in place. It is critical that the brick layout is checked often. This can be held in check by have reference marks on your substrate. You can use standard masonry layouts such as the “3=8” rule to set reference marks.
- v. Ensure that brick is placed face down against template surface.

### **c. Corners**

- i. We offer foldable corner liners with the EZ-Brik system. However, you can prepare the standard flat field liners on the jobsite to address the corners. You can fasten the vertical leg of the liner to the forms (if needed).
- ii. Corner bricks are available. Special attention needs to be given to these units. Because of their shape they are more prone to irregularities. Additionally, these are manufactured at a different time than the flat brick. Therefore, the color may vary from the flat bricks. Ensure that the corner bricks are acceptable.
- iii. Vertically placed bricks can be held in place using a horseshoe clip, temporary adhesive, or backer rod.
  1. Horseshoe Clip
    - a. (“U” compression 1/8” wire) to clamp the brick to the forms. The compression wire can be removed as soon as the concrete begins to set.
  2. Temporary Adhesive
  3. Backer Rod

- a. Fasten backer rod where required on vertical leg of brick to hold bricks in place. Use aluminum nails (approx. 1.5" long) to hold in place. Take special care to avoid having the backer rod touch the liner mortar joints.
    - iv. Alternative to Corner Brick Unit
      - 1. Any flat brick unit can be miter cut and epoxied to form the corner piece. This ensures that the mitered corner unit will match the flat brick color. Additionally, this methodology is more cost effective.
    - v. Ensure that brick face is placed against template surface.
- d. Cutting**
  - i. The template liners can easily be cut with a utility knife or scissors. A bandsaw can be used if multiple liners need to be cut at once.
  - ii. Thin bricks can be cut using a Masonry saws (water saw preferred).
- e. Layout**
  - i. Layout shop drawings are recommended. These will ensure that the brick is properly laid out.
  - ii. The liner mortar joints are typically removed at the perimeter of the brick area. This is done to accommodate for the edge reveal strip that defines and gives a finished edge to the brick area. Custom Rock offers an edge end cap for this purpose.
  - iii. Avoid walking on the template form liners before the brick is placed. These may get damaged if you do. Replace any damaged liners prior to brick placement.
  - iv. Take special care when walking on brick.
    - 1. Brick tend to break.
      - a. Replace broken brick.
    - 2. Brick may pop out of liner.
      - a. Set brick back in liner cavity.
- f. Support Chairs and Rebar**
  - i. Support Chairs
    - 1. Rebar support chairs should be placed on the back of bricks. Avoid the template mortar joints.
  - ii. Rebars
    - 1. Gently place rebar in place. Rough placement may cause bricks to become dislodged or even break.
- g. Sealing Edge Perimeter**
  - i. You may need to seal the edge perimeter of the brick area to minimize leakage. Latex caulking can be used to seal unseemly gaps.

## **h. Concrete Placement**

This is the most critical step in the process. Special care must be taken to ensure a successful pour.

### **i. Pouring**

1. Pour 6" above the brick ideally using a hose or trough.
2. Pour concrete onto itself. This creates a barrier to ease the concrete over the brick.
3. Avoid creating currents in the concrete so as not to disturb the brick.
4. Do not use vibration to move concrete.
5. Keep in mind that concrete creates a sticky surface on the brick.
  - a. Walking on the brick after the concrete is poured is not recommended. However, if it is absolutely unavoidable limit walking to reinforcing elements and avoid the actual brick surface.
  - b. Avoid dragging heavily accumulated concrete over the brick. This movement may dislodge the brick.
6. Pour a mockup simulating actual job conditions to ensure your methodology renders optimal results.

### **ii. Vibration**

1. Use vibration wand vertically in concrete. Do not drag horizontally across the surface.
2. Do not touch the brick with the vibrator. A depth guide is recommended to ensure this does not happen.
3. Do not use vibration to level the concrete.
4. Pour a mockup to ensure your methodology renders optimal results.

### **iii. Slump of Concrete**

1. Standard slump setting should suffice for the thin brick system.
2. Pour a mockup to ensure your methodology renders optimal results.

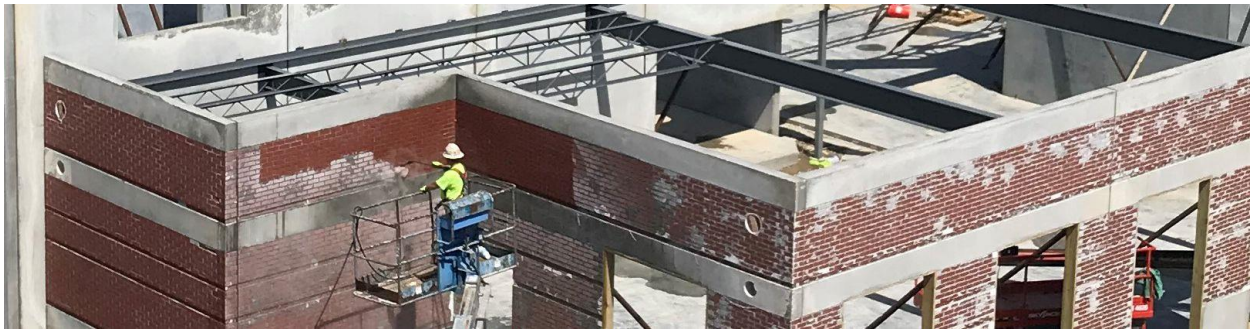
## **i. Stripping**

- i. Once cured, the concrete panel can be lifted to reveal the liners on the surface. These can be typically be stripped by hand to expose the brick face. You may need a small chisel or flat head screwdriver where concrete has leaked underneath the liners.



**j. Cleaning Brick**

- i. There will be concrete leakage on the surface of the brick. You can expect at least 1/3 of brick will have leakage. Cleaning the brick is a lengthy process and often exceeds that of the installation. Proper equipment and coated brick surfaces offer the best results and keeps time to a minimum.
- ii. Coatings
  1. Coatings are used to protect the brick face from concrete leakage. These make the cleaning process a more manageable task. We recommend a wax coating on the brick. (See section D.e for coatings) While a wax coating may be more expensive up front, it will pay dividends in the cleaning process.
- iii. Bricks should be cleaned as soon as the concrete panel has been lifted and the liner has been stripped.
  1. The sooner this is done, the easier it will be to clean.
- iv. Scrape Brick
  1. Scrape brick with a metal scraper to remove the more significant concrete leakage pieces prior to pressure washing.
- v. Pressure Washer
  1. Use a heated pressure washer (Ideally - 4000 PSI / 180°F / 15 degree tip)
- vi. Solvent Based Cleaners
  1. These type of cleaners can be used in conjunction with pressure washing (if needed).
- vii. Ensure that you use the same methodology you used during the mockup.



**k. Brick Replacement**

- i. Bricks that have become dislodged or irreparably damaged during the pour will need to be chipped out and completely removed. Create a pocket that is slightly deeper and wider than the brick. This is to allow space for the epoxy grout patch material. Set new brick in place with epoxy.
- ii. Mortar joint patches will be tooled creating the same profile used on the adjacent project areas. Use a color that best matches the poured concrete.



- iii. It is good practice to include a brick patchwork as part of the mockup. This will ensure that the methodology used is acceptable.