

TECHNICAL BULLETIN

CI Solutions for Renovation of Brick and Masonry

Senergy EIFS are a beautiful, functional solution for exteriors when you are converting older brick/unit masonry/concrete structures. Senergy Wall Systems compliment and are compatible with brick, masonry and concrete buildings.

RENOVATION OF BRICK AND MASONRY

Older buildings can experience higher energy costs compared to modern buildings that are comparable in size. The addition of continuous insulation and the retention of the brick or stone appearance can be accomplished by using Senergy Senerbrick “brick-look” or “stone look” templates. “Popped” or missing bricks are expensive to replace and trying to match the existing exterior brick facade can be costly and difficult to locate. If the cost outweighs the value, the use of EIFS can become the most cost-effective option for addressing moisture and appearance issues.

If there are signs of moisture damage such as efflorescence, mold, discoloration, or growth of vegetation, etc., the renovation plan must include addressing the root of the problem. When the point of moisture entry is through the face of the brick or mortar joints, installation of EIFS over the wall will create a weather barrier that will eliminate surface penetration as a moisture source.

The following information describes the basic guidelines for addressing typical conditions that could be encountered prior to the installation of EIFS over brick.

BRICK IN GOOD CONDITION

In cases where the brick or masonry is generally sound and a positive adhesive bond with Senergy Adhesive Base Coat or Senergy Senershield air/water-resistive barrier can be achieved, the two most popular EIFS are the Senerflex Classic PB barrier system and Channeled Adhesive CI Design (see diagrams on page 4 and 5).

An adhesion test is always recommended when plans include the installation of EIFS over existing masonry or concrete. Sand, dust, dirt, sealers, efflorescence, environmental contaminants, and bond breakers could have negative effects upon adhesion. Prior to the adhesion test, surfaces must be cleaned. Reference the “Basics of Conducting Adhesion Testing” Technical Bulletin for more information.

SPALLING – DETERIORATED BRICK, TYPICALLY WITH MISSING MORTAR

Deteriorated masonry will generally need some level of repair prior to over cladding with EIFS. When spalling has occurred, related problems such as water damage might have already affected the interior of the wall in some way. Always consult with a structural engineer who can develop an assessment of the building that includes a thorough evaluation of any damage.



Depending upon the engineer’s findings, the renovation plan could be as simple as repointing and adhering an EIFS insulation board to the existing surface or skim coating the wall. The findings might also lead to more involved planning to include build outs with an exterior sheathing, partial demolition of existing walls, construction of new framing and/or attachment of SikaWall PermaLath 1000 or metal lath. If fastening sheathing, lath or framing over an existing wall, consult with a fastener manufacturer to select an appropriate fastener for the specific application. Fastener pull-out tests should be requested to confirm the integrity of the attachment to existing walls.

Use of parge coats or levelers that are designed to fill in missing portions of individual bricks may be necessary. When selecting the filler, confirm adhesive bond compatibility with Senergy materials and follow the manufacturer’s application instructions.

If you cannot adhesively attach EIFS due to failed bond testing (third party barrier, glazed or painted brick), or due to irregularity of the surface (split face or fluted block), using a system such as Senerflex Adhered Mat CI Design should be explored.

BRICK WITH EXTENSIVE EFFLORESCENCE AND/OR VEGETATIVE GROWTH

In most cases, power washing is effective in removing dust, dirt and environmental contaminants, however, use of efflorescence cleaning products may be necessary. Painted or sealed surfaces might require high-pressure power washing.

Perform an adhesion test after the power washing unless the EIFS will be mechanically attached. Consult with a knowledgeable fastener manufacturer to ensure a selection of the best fastener for your specific application. (Wind-Lock – www.wind-lock.com – provides a chart with wind load ratings of its fasteners for various combinations of EPS thicknesses and substrates.)



CRACKS IN BRICK ALONG MORTAR LINES

When mortar in older buildings contain distinct building movement crack patterns, you must determine whether the movement has stabilized so it will not affect EIFS performance. If the cracks were patched, or if sealant was used to seal the cracks, the condition of those repairs will disclose whether movement has continued. A structural engineer might be needed for a conclusive evaluation. If the wall is stable, installation of EIFS will follow procedures related to the surface of the brick.



BUILDING MOVEMENT CAUSING BRICK TO BE OUT OF PLANE

When this condition exists, a structural engineer must first evaluate whether the building is still moving, requires internal bracing, has framing damage, etc. Apply EIFS after evaluating for other significant issues, or after the issues have been addressed.



HEAVILY PAINTED BRICK

Paint may trap moisture in the brick and lead to other issues. A qualified inspector should determine if the brick and wall behind it are sound. Remove all loose, peeling or flaking paint.

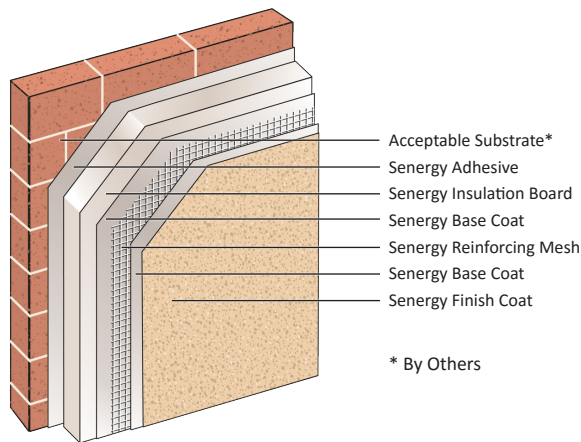
Confirm bond to existing coating, use of SikaWall Surface Stabilizer WB may promote adhesion. If a large portion of bare and sound brick is revealed, adhesive application of EPS could be possible. Confirm the bond by performing an adhesion test. Add two to four fasteners per board for assurance. If a bond cannot be achieved, explore use of Senergy Senerflex Adhered Mat CI Design.



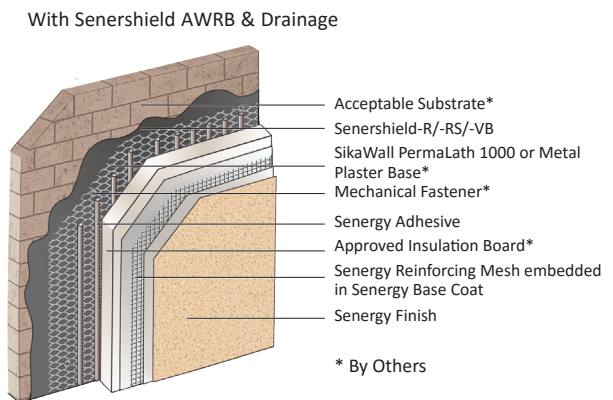
WITH SO MANY SYSTEMS TO PICK FROM, WHICH IS BEST FOR YOU?

- **Senerflex Channeled Adhesive CI Design** – A water managed EIFS, existing windows will be removed, and the existing surface is in the proper condition for Senergy Senershield air/water/resistive barrier and adhesive attachment.
- **Senerflex Adhered Mat CI Design**
Design – A water managed EIFS, existing windows will be removed, conditions will allow use of Senergy Senershield air/water/resistive barrier, but the existing wall surface will not allow for adhesive attachment.
- **Senerflex Classic PB** – To simply add insulation value or aesthetic appeal, where conditions allow adhesive application.
- **Senerflex Secondary Weather Barrier Design** – To add a secondary level of protection but without drainage, where conditions allow for use of the Senergy Senershield air/water- resistive barrier and adhesive attachment.

Senerflex Classic PB

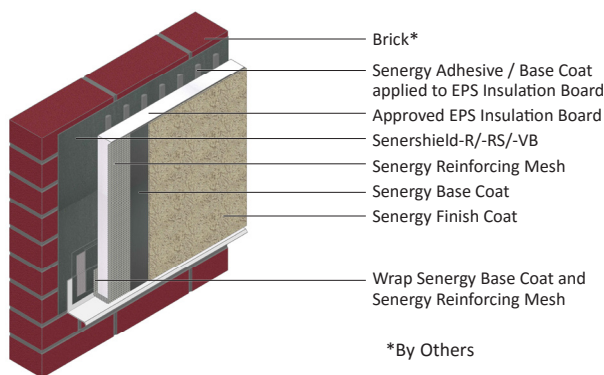


Senerflex Adhered Mat CI Design



Senerflex Channeled Adhesive CI

With Drainage EIFS



Senerflex Adhered Mat CI Design

Without Drainage

