

Force Engineering & Testing

19530 Ramblewood Drive
Humble, Texas 77338
Phone: (281) 540-6603 FAX: (281) 540-9966
Website: www.forceengineeringtesting.com

Project Number: 730-0137T-20B

Test Report Date: December 18, 2020

Test Report

Expiration Date: December 18, 2030

Test Material: Thin Brick with 3" Panel+ EPS Foam Panel Wall Assembly

Test Protocol: The test was conducted in accordance with
ASTM E 330-02/ ASTM E 330-14
STANDARD TEST METHOD FOR THE STRUCTURAL PERFORMANCE
OF EXTERIOR WINDOWS, CURTAIN WALLS, AND DOORS BY
UNIFORM STATIC AIR PRESSURE DIFFERENCE.

Test Location: Force Engineering & Testing
19530 Ramblewood
Humble, TX 77338


Accreditation: ISO/IEC 17025:2005 by PJLA Accreditation #104507 for

Report Prepared/Reviewed by:



Brandon Jasek, P.E.
Lab/Technical Manager

Report Authorized by:



Johnathan Green, P.E.
President



ACCREDITED
LABORATORY



TEXAS DEPARTMENT
OF INSURANCE
ACCREDITED LABORATORY

Project Number: 730-0137T-20B

PURPOSE:

This test method covers the evaluation of the structural performance of the stone veneer wall assembly under uniform static air pressure difference using a test chamber.

TEST DATE:

November 20, 2020

TEST SPECIMEN:

Client/Manu.: Oldmill Thin Brick Systems
14932 Concord Park Drive
Bluffdale, UT 84065

Wall System: 4'x8' Test Specimen (Interior to Exterior)

- 6" 20-gauge 30 mil steel studs at 16" O.C.
- ½" DensGlass Gold sheathing fastened to steel framing with (1) 6 x 1" Bugle Head SD drywall screw at 6" O.C. interior & exterior
- (2) coats of Old Mill Air & Water Barrier rolled onto the DensGlass. Old Mill Poly-Laminate fabric used around the perimeter to seal the joint.
- 3" thick Old Mill Panel+ EPS foam panel adhered to DensGlass with ¾" bead of Old Mill Brick & Panel adhesive applied to back side of foam in 2"-3" O.C. vertical rows.
- ¾" bead of Old Mill Brick & Panel adhesive applied horizontally in center of alignment tracks on front side of foam panel.
- Brick Veneer: Old Mill Thin Brick flat singles installed onto the foam panel with the bottom edge of the brick against the upper edge of the brick alignment tracks.
- Brick Joints: Once the bricks were set, Quikrete Pro Finish Type S Blended Mason mix was used to grout all joints.

Cure Time: The wall cured for 28 days before testing.

Test Specimen Size: 4'-0" wide x 8'-0" long

TESTING APPARATUS:

High Pressure Blower: 18 hp blower.
Test Chamber: 12' x 24' vertical chamber.
Mounting Frame: #2 SYP 2x10 Wood
Pressure Indicator: Digital Pressure Indicator, PT 1, 2
Dimensional: Stings #1 & 2
Equipment Calibration Date: September 2020
Temperature: 74° F before/during

RESULTS/CONCLUSIONS:

The Wall Assembly successfully passed a test pressure of +/-100.0 psf with no failures.

Test Deflections:

Test Pressure (psf)	Deflection	Permanent Set
+50.0	0.0625"	0.0000"
-50.0	0.0625"	0.0000"
+66.7	0.0938"	0.0000"
-66.7	0.0938"	0.0000"
+75.0	0.1250"	0.0313"
-75.0	0.0935"	0.0000"
+100.0	0.1563"	0.0313"
-100.0	0.1563"	0.0000"

Deflection was taken at the center of the test specimen, mid span.

GENERAL NOTES REGARDING RESULTS/CONCLUSIONS:

- The test results shown herein relate only to the items tested and listed herein.
- There were no additions, deviations or exclusions to the test method used to obtain these results.
- This test was not performed to check conformity of the test specimen to any other specification other than those denoted herein.
- This report shall only be reproduced as one complete document and shall not be reproduced in part except with the approval of Force Engineering & Testing.
- The test materials were received on October 20, 2020.
- During this test, tape and plastic were used to seal against air leakage. The tape and plastic had no restrictive influence on the test.

STATEMENT OF INDEPENDENCE:

Force Engineering & Testing or any persons employed by them do not have any financial interest in Oldmill Thin Brick Systems.

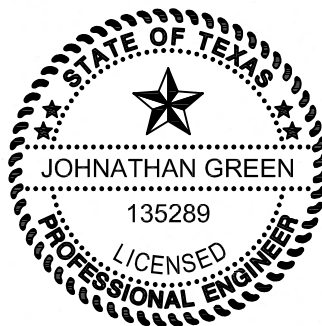
Force Engineering & Testing is not owned, operated or controlled by Oldmill Thin Brick Systems.

TEST ASSEMBLED BY:

John Striednig Oldmill Thin Brick Systems

TEST CONDUCTED BY:

Brandon Jasek, P.E. Force Engineering & Testing



**Force Engineering and Testing
State of Texas
Registration No. F-21280**

Appendix

DensGlass® Sheathing: Building Codes and Air and Water-Resistive Barriers

The model building code requires a water-resistive barrier over exterior sheathing products. The energy code requires continuous air barrier on either the interior or exterior wall in certain climate zones.

DensGlass Sheathing with Air and Water-Resistive Barriers

DensGlass Sheathing is a superior substrate for a wide variety of air and water-resistive barrier systems and may generally be used with:

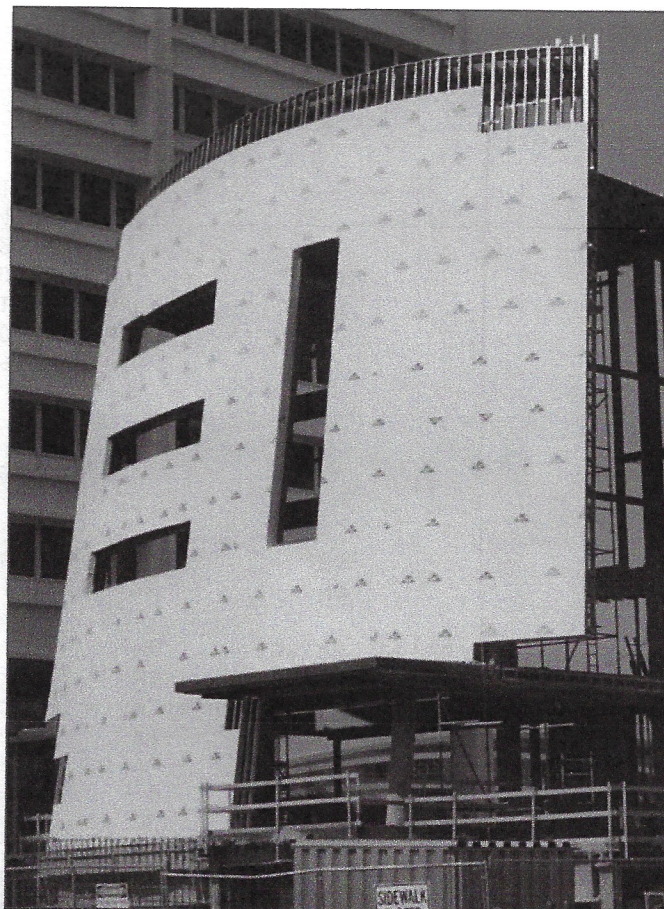
- #15 asphalt felt, ASTM D226, type 1 or equivalent
- Synthetic wraps such as Tyvek®, Typar® MetroWrap®, ASTM E1677 or equivalent
- Liquid- or fluid-applied air or vapor barriers such as Tremco ExoAir® 120, Grace Perm-A-Barrier® VP, Henry Air Bloc® 32 or Carlisle Barriseal®
- Water barrier systems such as Sto Guard® as manufactured by Sto Corp., Dryvit's Backstop® NT, Prosoco R-GUARD® or equivalent
- Asphalt based coatings
- Self-adhering membranes
- Weather-resistive barrier and drainage membranes such as DELTA-DRY®
- Exterior applied spray foams.

Some water-resistive barriers require the treatment of joints and sealing of fasteners to be effective air barriers. This may include the use of self reinforcing tapes and spray or trowel applied flexible joint treatment to bridge sheathing joints and openings. Always follow the manufacturer's installation recommendations for use with DensGlass Sheathing, local building code requirements and the design authority's specifications.

It is not required to provide a water-resistive barrier over DensGlass Sheathing for the protection of the gypsum sheathing itself during the 12-month weather exposure limited warranty.

DensGlass Sheathing Air and Water Infiltration—Testing Background

Georgia-Pacific Gypsum has tested DensGlass Sheathing for air and water infiltration using ASTM standards E283 and E331 respectively. To demonstrate the panel's ability to act as a water repellent sheathing, the joints and nail heads were treated with materials commonly being specified and used on job sites. Materials tested were



silicone based caulks and water based exterior grade caulks with reinforcing mesh tape.

In these tests, DensGlass Sheathing successfully impeded the flow of air and water. Although DensGlass Sheathing is not the final cladding, it has been used as a water repellent sheathing in a properly designed and constructed wall system under claddings such as brick, various sidings, conventional stucco and Exterior Insulation and Finish Systems (EIFS).

Many companies provide full water-resistive barrier and air barrier systems over DensGlass Sheathing that comply with current building code requirements. See the Air Barrier Association of America website for a list of air and moisture barrier manufacturers (http://www.airbarrier.org/lookup/index_e.php).

continued from front

DensGlass® Sheathing Limited Warranty Information

Consult with local building code, design professional, owner or cladding manufacturer for water-resistive barrier requirements and compatibility with the wall cladding. All penetrations should be protected to prevent air and water infiltration. Follow building code, door/window manufacturer's, or design authority's recommendations for flashing around openings, abutments to dissimilar materials and wall terminations.

With nearly a 25-year history and billions of feet installed, DensGlass® Sheathing is the proven performer in commercial exterior sheathing applications and remains the ideal substrate for today's commonly used air and water-resistive barriers often specified in exterior wall assemblies. DensGlass Sheathing is a unique fiberglass mat sheathing panel engineered with a moisture-resistant treated core surfaced with a bond-enhancing coating in Georgia-Pacific Gypsum's familiar GOLD color. DensGlass Sheathing was created to

withstand normal weather and moisture exposure for up to 12 months. DensGlass Sheathing can be used in Exterior Insulation and Finish Systems (EIFS). When tested, as manufactured in accordance with ASTM D3273, DensGlass Sheathing has scored a 10, the highest level of performance for mold resistance under the ASTM D3273 test method.

DensGlass Sheathing inspires confidence in architects and contractors with its history of proven performance. Georgia-Pacific Gypsum backs the track record of DensGlass Sheathing with a limited warranty.*

- A limited warranty against delamination and deterioration for up to 12 months of exposure to normal weather conditions.
- A 5-year limited warranty against manufacturing defects
- A 12-year limited warranty against manufacturing defects when used as a substrate in architecturally specified EIFS.

*See www.gpgypsum.com for complete warranty details.

U.S.A. – Georgia-Pacific Gypsum LLC
 Canada – Georgia-Pacific Canada LP

Sales Information & Order Placement

U.S.A. Midwest: **1-800-876-4746**
 West: **1-800-824-7503**
 South: **1-800-327-2344**
 Northeast: **1-800-947-4497**

CANADA Canada Toll Free: **1-800-387-6823**
 Quebec Toll Free: **1-800-361-0486**

Technical Information

Georgia-Pacific Gypsum Technical Hotline
 U.S.A. and Canada: **1-800-225-6119**
www.gpgypsum.com



TRADEMARKS DENSGLASS, BUILDING REPUTATIONS TOGETHER, the color GOLD, and the GEORGIA-PACIFIC logo are trademarks owned by or licensed to Georgia-Pacific Gypsum LLC. TYVEK is a registered trademark of DuPont. TYPAR and METROWRAP are registered trademarks of Fiberweb. STO GUARD is a registered trademark of Sto Corp. BACKSTOP is a registered trademark of Dryvit. R-GUARD is a registered trademark of Prosoco. EXOAIR is a registered trademark of Tremco Incorporated. AIR-BLOC is a registered

trademark of The Henry Company. BARRISEAL is a trademark of Carlisle. DELTA-DRY is a trademark of Ewald Dorken AG. PERM-A-BARRIER is a trademark of W.R. Grace & Co.

WARRANTIES, REMEDIES AND TERMS OF SALE For current warranty information for this product, please go to www.gpgypsum.com and select the product for warranty information. All sales of this product by Georgia-Pacific are subject to our Terms of Sale available at www.gpgypsum.com.

UPDATES AND CURRENT INFORMATION The information in this document may change without notice. Visit our website at www.gpgypsum.com for updates and current information.

CAUTION For product fire, safety and use information, go to www.gp.com/safetyinfo or call 1-800-225-6119.

HANDLING AND USE-CAUTION This product contains fiberglass facings which may cause skin irritation. Dust and fibers produced during the handling and installation of the product may cause skin, eye and respiratory tract irritation. Avoid

breathing dust and minimize contact with skin and eyes. Wear long sleeve shirts, long pants and eye protection. Always maintain adequate ventilation. Use a dust mask or NIOSH/MSHA approved respirator as appropriate in dusty or poorly ventilated areas.

FIRE SAFETY CAUTION Passing a fire test in a controlled laboratory setting and/or certifying or labeling a product as having a one-hour, two-hour, or any other fire resistance or protection rating and, therefore, as acceptable for use in certain fire rated assemblies/systems, does not mean that either a particular assembly/system incorporating the product, or any given piece of the product itself, will necessarily provide one-hour fire resistance, two-hour fire resistance, or any other specified fire resistance or protection in an actual fire. In the event of an actual fire, you should immediately take any and all actions necessary for your safety and the safety of others without regard for any fire rating of any product or assembly/system.





1. Product Name

- Old Mill Air & Water Barrier

2. Manufacturer

Old Mill Brick, LLC
 14932 S. Concord Park Drive
 Bluffdale, UT 84065

Phone: (888) 264-6455
 (801) 542-7050

Web: www.oldmillbrick.com

3. Product Description

Basic Use

Old Mill Air & Water Barrier is a high quality, elastomeric, single component, fluid applied membrane specifically formulated for use as a load bearing, crack isolation, waterproofing and air barrier that is easily applied by roller, brush, trowel or spray. Old Mill Air & Water Barrier forms a continuous air & water barrier that protects approved substrates from air infiltration/exfiltration as well as incidental water damage. Specifically designed to also be a component of the Old Mill Panel+ continuous insulation engineered wall system. It is suitable as a substrate for affixing adhered masonry veneers as well as EPS Foam Panels when used in conjunction with Old Mill Adhesives.

Composition & Materials

Old Mill Air & Water Barrier is 100% acrylic, single component, water based, Low VOC liquid.

All Old Mill manufacturing is quality controlled to ensure product performance and uniformity.

Packaging

- 5 Gallon Plastic Pails

Coverage

300-500 SF/Pail depending on substrate

Shelf Life

300-500 SF/Pail depending on substrate

Approved Substrates

- Poured in Place Concrete*
- Precast Concrete*
- Concrete Masonry Unit (CMU)
- Brick Masonry
- Cement Backer Unit (CBU)
- Cement Mortar/Plaster/Scratch Coat
- Ceramic/Porcelain Tile
- Natural Stone
- Exterior Rated Gypsum Sheathing
- Oriented Strand Board (OSB)
- Exterior Glue Plywood (EGP)

* Release agents must be mechanically removed prior to application

Advantages

- Provides Maximum Adhesion
- High Permeability (Non-Permeable Version Available)
- Highly Flexible to Bridge Cracks in Substrate
- Meets ASTM E2537 Air Leakage of Building Assemblies
- Meets ASTM D1970 Nail Sealability Requirements
- Install Adhered Masonry Veneers Directly
- Sprayable With Airless Spray Equipment
- UV Exposure Window of Up to Six Months
- User Friendly Single Component
- Water Based for Safety and Simple Clean-up
- Freeze/Thaw Stable in Service
- Consistent Quality Control
- Fluid Applied Simplifies Sealing Complex Detailing
- Qualifies for a 5 or 15 Year System Warranty
- Can be Used Below Grade and in Immersion

Limitations & Disclaimers

- Do Not Use in Negative Hydrostatic Pressure Applications
- Always Consult With Design Professional for Placement Location and Permeability Requirements
- Comply With Local Building Code Requirements
- Apply When Temperature is Between 42°F and 95°F
- Not for Use as a Roofing Membrane Over Occupied Space
- Do Not Use Solvent Based Cleaners or Expose to Solvents

4. Technical Data

Applicable Standards

- ASTM C297/E2134
- ASTM D1970
- ASTM D2247
- ASTM E72
- ASTM E84
- ASTM E96
- ASTM E330
- ASTM E331
- ASTM E1233
- ASTM E1354
- ASTM E2178
- ASTM E2357
- ASTM E2485
- AATCC 127
- ICC ES AC212
- NFPA 285

Physical Properties

Technical Data

VOC Content, g/L	10
Color	Maroon
ASTM D1970 Nail Sealability	Pass
Maximum Service Temperature	180°F
ASTM E96 Permeance	30 Perms
ASTM E2357 Air Leakage	0.003L/s-m ²
ASTM E330	Pass @ 150 PSF
Application Range	42 – 95 °F

5. Installation

Surface Preparation

All surfaces should be dry, structurally sound, clean and free of dirt, dust, efflorescence, grease, oils, sealers, curing compounds, adhesive residues or any contaminant that could impede bond. Existing tile should be abraded to provide for a mechanical bond. Do not proceed with work until the surfaces to be applied to comply with all manufacturer’s requirements.

Exterior sheathing panels should be installed in compliance with manufacturer’s instructions. Masonry walls should be treated to patch cracks, voids and other irregularities and remove any protrusions, Fill mortar joints and strike flush. Cast concrete must cure 28 days prior to application of membrane and all form releases must be mechanically removed.

Mixing

Thoroughly stir Old Mill Air & Water Barrier to a homogenous consistency. Do not add water, accelerators or retarders.

Application

Old Mill Air & Water Barrier is applied by first treating the sheathing joints (where applicable), fastener locations, and changes of plane/substrate by first applying a thin layer of Old Mill Air & Water Barrier then embedding Old Mill Poly laminate Fabric into the wet air barrier and troweling smooth. Fastener locations may be spot treated with a brush or trowel and do not require the reinforcing mesh.

Coat the entire surface to be treated using brush, roller (1/2” to 3/4” nap), trowel or airless spray equipment techniques. Apply an even, continuous coat of 15 mils wet film thickness (wft). CMU, OSB and other rough, absorptive substrates require two coats to achieve a pinhole free coating.

Clean tools and equipment with soapy water.

6. Availability and Cost

Availability

Old Mill Commercial Wall Systems products are available through a national network of local distributors in major US markets and in select regions of Canada. Contact Old Mill Brick for more information or go to www.oldmillbrick.com for more information.

Cost

Contact your local distributor for pricing in your market. Visit www.oldmillbrick.com to find your local distributor or to get in touch with the Old Mill Sales Team.

7. Warranty

To view the Old Mill 5/15 Year Commercial System Warranty please visit www.oldmillbrick.com.

8. Maintenance

No maintenance required

9. Technical Services

Technical assistance, including more detailed information, product literature, test results, project lists, samples, assistance in preparing project specifications and arrangements for job site inspection and consultation, is available by contacting Old Mill Technical Service Department.

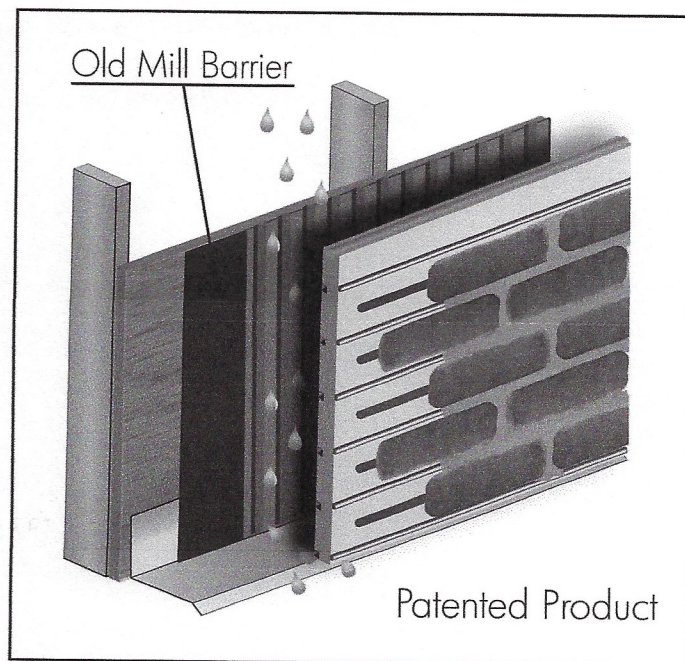
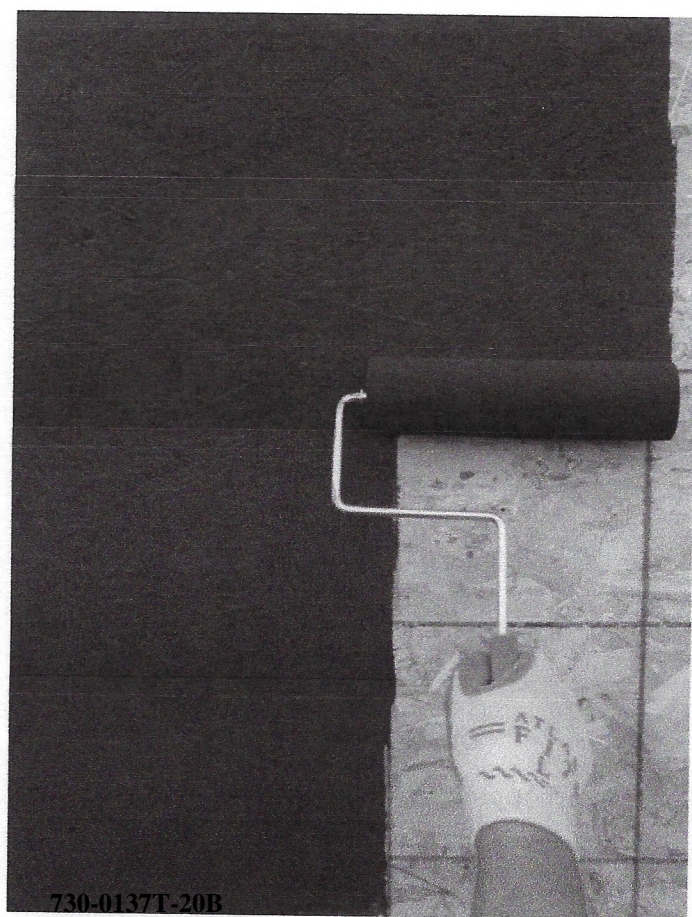
(844) 737-2687
www.oldmillbrick.com
technicalservice@oldmillbrick.com

10. Filing Systems

Additional Information is available from the manufacturer upon request.

OLD MILL ROLL ON BARRIER & POLY-LAMINATE

The Old Mill Roll on Barrier is a moisture barrier for external applications. The Barrier is applied directly to most common types of substrates and offers superior moisture resistance. The Old Mill proprietary blend will meet or exceed your expectations.

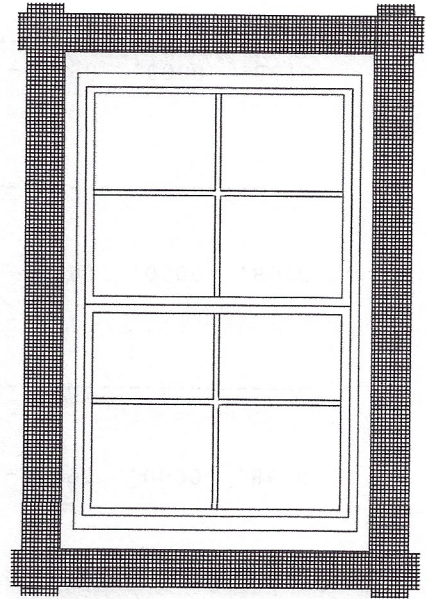


OLD MILL ROLL ON BARRIER & POLY-LAMINATE

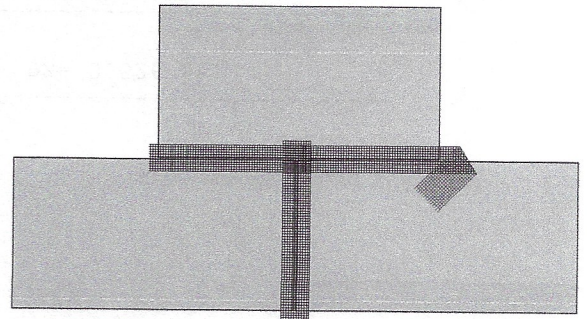


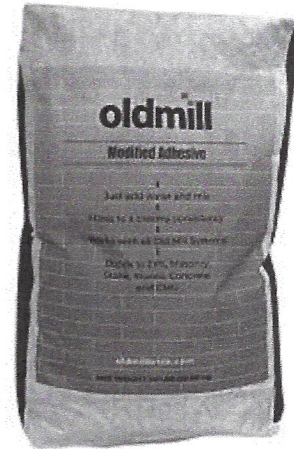
The Old Mill Poly-Laminate is a lightweight, thermally set, polyester mat that is a 100% continuous filament fabric and reinforced with a 2.67 x 2.67 yarn for added strength and stability. When used in conjunction with Old Mill Barrier, benefits include tear strength, cold application and bond adhesion. It is also lightweight, non-raveling, mildew resistant and UV resistant.

Poly-Laminate around window



Poly-Laminate as applied to seams





1. Product Name

- Old Mill Brick & Panel Adhesive

2. Manufacturer

Old Mill Brick, LLC
 14932 S. Concord Park Drive
 Bluffdale, UT 84065

Phone: (888) 264-6455
 (801) 542-7050

Web: www.oldmillbrick.com

3. Product Description

Basic Use

Old Mill Brick & Panel Adhesive is a premium, polymer modified, fiber-reinforced adhesive mortar designed specifically for the installation of thin adhered masonry veneer, including thin brick, natural stone, manufactured stone, tile, calcium silicate units and other code compliant adhered masonry materials when applied to approved substrates. Old Mill Brick & Panel Adhesive may be used for vertical, horizontal and overhead applications in both interior and exterior exposure. In addition, it is designed to adhere Old Mill Panel+ EPS panels to approved substrates. This versatile mortar may also be used as EIFS base coat and adhesive.

Composition & Materials

Old Mill Brick & Panel Adhesive is a dry, preblended, proprietary mortar containing cementitious materials, high-performance polymers, fiber and sand.

All Old Mill manufacturing is quality controlled to ensure product performance and uniformity.

Packaging

- 50 lb. Multi-wall bags

Coverage

Method of Application:	Coverage:
Old Mill Foam Trowel (1/2"x2"x1/2" U-Notch)	70SF
1/4" x 3/8" Square Notch Trowel	66SF
1/2" x 1/2" Square Notch Trowel	40SF
Backbutter Method	30-40SF
Grout Bag Method	70SF

Approved Substrates

- Poured in Place Concrete*
- Precast Concrete*
- Concrete Masonry Unit (CMU)
- Brick Masonry
- Cement Backer Unit (CBU)
- Cement Mortar/Plaster/Scratch Coat
- Ceramic/Porcelain Tile
- Natural Stone
- Exterior Rated Gypsum Sheathing†
- Oriented Strand Board (OSB)†
- Gypsum Wallboard/Plaster (interior, dry areas only)
- Exterior Glue Plywood (EGP) (interior, dry areas only)†

* Release agents must be mechanically removed prior to application

† Exterior use only when coated with Old Mill Air & Water Barrier

Advantages

- Provides Maximum Adhesion
- High Strength Fiber Reinforcement
- Excellent Workability for Easy Installation
- Greater Efflorescence Resistance than Type S/N Mortar
- Low Shrinkage Reduces Cracking/Debonding Risk
- Mix With Water Only
- Freeze/Thaw Stable
- Consistent Quality Control
- Flexible Formulation Accommodates Movement
- Qualifies for a 5 or 15 Year System Warranty
- Can be Used Below Grade and in Immersion

Limitations & Disclaimers

- Do Not Cover Over Movement Joints With Mortar
- Substrate Maximum Design Deflection of l/360
- Comply With Local Building Code Requirements
- Apply When Temperature is Between 42°F and 95°F
- Do Not Retemper Once Mixed. Do Not Overwater
- For White and Light Colored Stones, Conduct a Test Area to Ensure There is no Staining or Shadowing

4. Technical Data

Applicable Standards

ASTM C109
 ASTM C150
 ASTM C270
 ASTN C482
 ANSI A118.1
 ANSI A118.4
 ANSI A118.5
 ANSI A118.11

Physical Properties

Test:	Test Method:	Results:
Shear Bond, Non-Vitreous Tile; 7 Day	ANSI A118.4	>480psi
Shear Bond, Non-Vitreous Tile; 28 Day	ANSI A118.4	>550psi
Shear Bond, Porcelain Tile; 7 Day	ANSI A118.4	>300psi
Shear Bond, Porcelain Tile; 28 Day	ANSI A118.4	>360psi
Compressive Strength, Pot Life @ 70°F	ASTM C109	>3300psi 6 hours
Adjustability @ 70°F		15 min

5. Installation

Surface Preparation

All surfaces should be dry, structurally sound, clean and free of dirt, dust, efflorescence, grease, oils, sealers, curing compounds, adhesive residues or any contaminant that could impede bond. Glossy surfaces should be mechanically roughened by sanding, shotblasting, sandblasting or other mechanical means. Existing tile should be abraded to provide for a mechanical bond. Do not proceed with work until the surfaces to be applied to comply with all manufacturer's requirements.

Also, clean the backs of the veneer pieces to be installed to the same standard as the substrate. Chip off any protrusions that would impede even setting of the veneer pieces.

When used, allow Old Mill Air & Water Barrier to dry overnight (12-24 hours) prior to application of finish.

Mixing

Into a clean 5 gallon pail add 5 quarts of clean potable water and slowly add the entire contents of a bag of Old Mill Brick & Panel Adhesive while mixing with a slow speed mixer for 1-2 minutes until a smooth, creamy consistency is achieved. Allow to slake for 5 minutes and remix for 1 minute. If necessary, adjust water slightly at this time adding only

slight amounts of water being careful not to overwater the mix.

Admixtures

No admixtures of any kind should be used and use of admixtures will void all warranty coverage.

Application

Based on the substrate and type of finish being installed, select from one of the following application methods:

Notched Trowel Method

Using the appropriate size notched trowel based on finish piece size, start by keying in a thin coat of mortar into the substrate using the flat edge of the trowel. Then spread more material over the area sufficient to allow combing of the material to the desired size ridges with the notched side of the trowel. Spread only enough mortar that can be covered before skinning over. Apply additional mortar to the back of the finish piece to ensure full coverage when set. Place the veneer piece and adjust to desired position. Clean excess mortar from around the edges and apply to the next piece being set

Backbutter Method

Key in a thin layer of mortar to the back of the veneer piece being set. Add mortar to build approximately one half inch of mortar on the back of the piece ensuring the entire space between the veneer and substrate will be filled with mortar. Press the piece to the substrate and slide a bit sideways and back to squeeze out excess mortar all around the veneer being set. Using the trowel scrape the excess mortar from around the piece and apply to the next one.

Grout Bag Method

When setting thin brick into the Old Mill BrickPanel+ EPS panels, use a grout bag to apply a 3/4" bead along the course between alignment ridges. Press the individual thin bricks into the mortar ensuring mortar extrudes out all around the thin brick. Scrape off any excess mortar that extrudes over the alignment ridges and reuse.

Grouting/Pointing (if needed)

Allow the veneer to set overnight (12-24 hours) before attempting to point the joints. Using a grout bag filled with Old Mill Colored Pointing Mortar or Type S/N masonry mortar, apply pointing mortar into the joints between the veneer pieces ensuring to fill the full depth of the joint and overfilling the joint beyond the face of the veneer to allow the needed material for compaction into the joint. Allow the pointing mortar to become thumbprint hard and tool as specified. Once dried, brush off crumbs and excess pointing mortar with a stiff bristle brush. Do not use metal brushes for this process.

Cleaning

Clean tools and equipment with water.

6. Availability and Cost

Availability

Old Mill Commercial Wall Systems products are available through a national network of local distributors in major US markets and in select regions of Canada. Contact Old Mill Brick for more information or go to www.oldmillbrick.com for more information.

Cost

Contact your local distributor for pricing in your market. Visit www.oldmillbrick.com to find your local distributor or to get in touch with the Old Mill Sales Team.

7. Warranty

To view the Old Mill 5/15 Year Commercial System Warranty please visit www.oldmillbrick.com.

8. Maintenance

Depending on service, masonry walls may require periodic cleaning.

9. Technical Services

Technical assistance, including more detailed information, product literature, test results, project lists, samples, assistance in preparing project specifications and arrangements for job site inspection and consultation, is available by contacting Old Mill Technical Service Department.

(844) 737-2687
www.oldmillbrick.com
technicalservice@oldmillbrick.com

10. Filing Systems

Additional Information is available from the manufacturer upon request.



1. Product Name

- Old Mill Panel+ EPS Foam Panels

2. Manufacturer

Old Mill Brick, LLC
 14932 S. Concord Park Drive
 Bluffdale, UT 84065

Phone: (888) 264-6455
 (801) 542-7050

Web: www.oldmillbrick.com

3. Product Description

Basic Use

Old Mill Panel+ EPS Foam Panels are engineered continuous insulation panels designed for use in the Old Mill Panel+ engineered wall system. These patented panels provide the insulation layer as well as the substrate for adhered masonry veneers in commercial and residential applications. Specifically designed with functional profiles to accommodate drainage, ventilation, structural integrity and alignment for the various finishes that can be employed with the system, these panels are an integral part of the patented Old Mill Panel+ Full Wall System.

Composition & Materials

Old Mill Panel+ EPS Foam Panels are made of superior closed cell, lightweight and resilient expanded polystyrene (EPS).

All Old Mill manufacturing is quality controlled to ensure product performance and uniformity.

Packaging

- 2' x 4' Panels
- 4' x 4' Panels
- Thicknesses from 1"-4"
- Custom shapes, thicknesses and sizes also available

Advantages

- Environmentally Friendly
- Stable, Long-Term R-value – No Thermal Drift
- Water Resistance – No Swelling
- Code Approvals
- Cost Efficient
- Insect and Mold Resistance
- Superior Drainage and Drying Potential

- Recyclable
- Freeze/Thaw Stable in Service
- Consistent Quality Control
- Zero Ozone Depletion Potential (ODP)
- Qualifies for a 5 or 15 Year System Warranty

Limitations & Disclaimers

- Do Not Use in Below Grade Installations
- Comply With Local Building Code Requirements
- Not for Use as a Roofing or Below Grade Insulation
- Do Not Use Solvent Based Cleaners or Expose to Solvents

4. Technical Data

Applicable Standards

- ASTM C203
- ASTM C272
- ASTM C518
- ASTM C578
- ASTM D1621
- ASTM E84
- ASTM E96
- ICC ES AC12
- NFPA 285

Physical Properties

Technical Data

ASTM D1621; Compressive Strength	15psi
ASTM C578 Classification	Type II
ASTM C518; R-value @ 25°F	4.8/inch
Maximum Service Temperature	180°F
ASTM E96; Permeance	3.5 Perms
ASTM E84; Flame Spread	<25
ASTM E84; Smoke Developed	<450
ASTM C203; Flexural Strength	35psi

5. Installation

Mechanically Fastened

Begin by attaching drainable building wrap to entire wall surface where Old Mill Panel+ will be used. Attach foam panel over building wrap through sheathing with Old Mill plastic 2"

Products

Old Mill Patented Panels

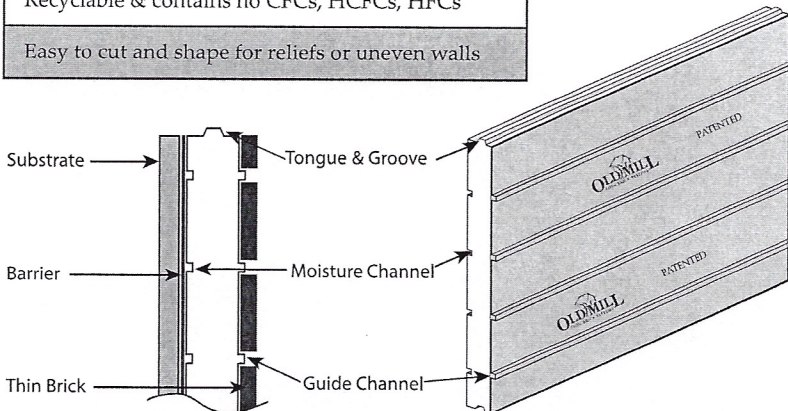
Available in 2'x4' and 4'x4' sheets. 1" - 4" thick

Recommended component of LEED projects

Exceeds ASTM C578 for thermal insulation

Recyclable & contains no CFCs, HCFCs, HFCs

Easy to cut and shape for reliefs or uneven walls



Old Mill Fasteners

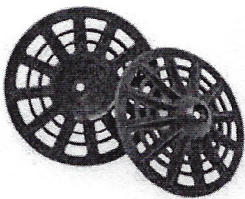
Greater flexibility reduces crushed EPS

36 holes to increase base coat adhesion

Unique color for easy identification

Great performance in hot or cold weather

Packaged for easy handling (Sleeves of 25)



Old Mill Adhesive

Easy to mix 50 lb. bag

Smooth, easy to trowel

Superior pull out strength

Meets ANSI 118.11 standards



*Brick colors in this brochure represent general color range and texture. Precise color consistency is difficult to represent in print. Colors may vary.

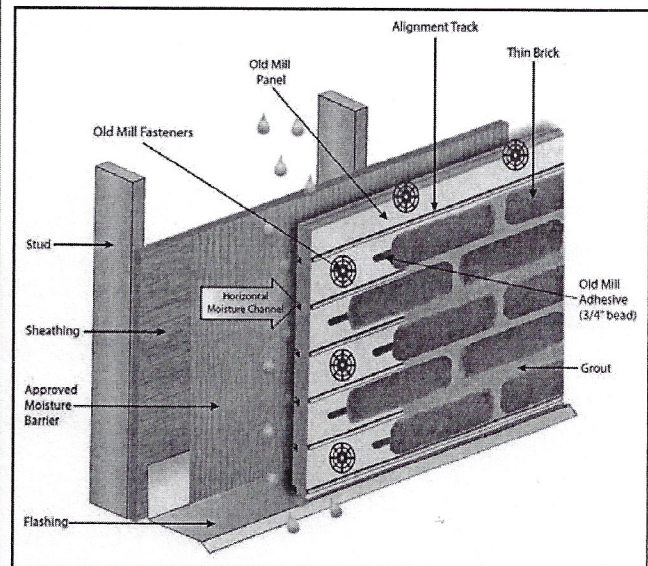
Prior to installation, check with all local building codes and regulations. For additional installation tips check with your local building professional.

WARNING: The dust generated from dry sawing may contain silica and may be a potential health problem for the lungs. Wet sawing is recommended. Wear all necessary protective gear.

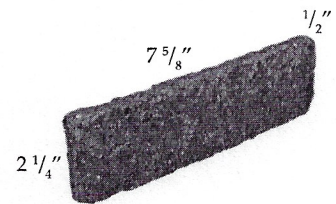


Advantages of the Old Mill System

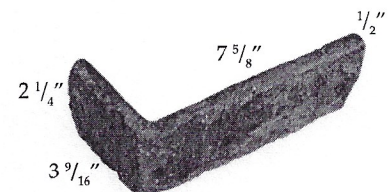
- Time & labor savings. Faster install with guide channels
- Light weight and easy to handle, no sharp edges
- Use with nearly all brands and sizes of thin brick
- High R-Value without thermal drift
- More design potential. Easier architectural reliefs
- Meets ASTM C1088 thin brick standards
- Meets ASTM E84-08 surface burn test standards
- ASTM C482 shear test results of 1,649 lbs. sq. ft.
- United States Patents: 6,516,578 & 7,121,051



Colonial Flats
 • 50 bricks per box
 • Covers 7.3 sq. ft.



Colonial Corners
 • 25 corners per box
 • Covers 4.8 linear ft.



washers using screws at least 1" longer than the thickness of the panel and substrate. These fasteners should be installed every 16" horizontally and 8" vertically. More fasteners should be used around edges. Care must be taken to assure that the fastener is firmly seated on the foam panel and fastened so that the outer surface of the fastener is flush with the outer surface of the panel. Begin panel installation at an outside corner. Panels must overlap where they meet at outside corners. At inside corners, position panel to accommodate a backer rod and sealant. Do not install panels below grade. Use a utility knife, hand saw or hot knife to cut panels where necessary. Where panels abut wall openings, maintain a 1/4" clearance between the panels and the flashings. Offset successive vertical rows of panels at least 16"

Adhesively Applied

Solid substrates (brick, block, concrete, etc.): Begin by applying a 10 mil WFT coat of Old Mill Air & Water Barrier liquid. After a minimum of 20 minutes, double back with a second pass and apply an additional 10 mil coat WFT of Old Mill Air & Water Barrier liquid over entire wall. Allow curing for a minimum of 18 hours protected from precipitation and freezing conditions. Old Mill panel may be applied after 18 hours. Nailable substrates (OSB, plywood, gypsum): Begin by applying a 10 mil WFT coat of Old Mill Air & Water Barrier liquid. Immediately embed runs of Old Mill Poly laminate Reinforcing Fabric at all sheathing joints and outside corners by using a trowel and working from the center and moving outward, press the fabric into the wet weather barrier. Lap runs of mesh at least 2-1/2". After a minimum of 20 minutes, double back with a second pass and apply an additional 15 mil WFT coat of weather barrier over entire wall. Allow curing for 12-24 hours protected from precipitation and freezing conditions. Old Mill panel may be applied after 12-24 hours. Begin panel installation at an outside corner. Panels must overlap where they meet at outside corners. At inside corners, position panel to accommodate a backer rod and sealant. Install pre-bricked panels as indicated on drawings being sure the appropriate panel configuration is installed to match the designation on the drawings. Do not install panels below grade. Use a utility knife to cut panels where necessary. Where panels abut wall openings, maintain a 1/4" clearance between the panels and the flashings. Offset successive vertical rows of panels at least 16"

6. Availability and Cost

Availability

Old Mill Commercial Wall Systems products are available through a national network of local distributors in major US markets and in select regions of Canada. Contact Old Mill Brick for more information or go to www.oldmillbrick.com for more information.

Cost

Contact your local distributor for pricing in your market. Visit www.oldmillbrick.com to find your local distributor or to get in touch with the Old Mill Sales Team.

7. Warranty

To view the Old Mill 5/15 Year Commercial System Warranty please visit www.oldmillbrick.com.

8. Maintenance

No maintenance required

9. Technical Services

Technical assistance, including more detailed information, product literature, test results, project lists, samples, assistance in preparing project specifications and arrangements for job site inspection and consultation, is available by contacting Old Mill Technical Service Department.

(844) 737-2687

www.oldmillbrick.com

technicalservice@oldmillbrick.com

10. Filing Systems

Additional Information is available from the manufacturer upon request.



Pro-Finish Blended Mason Mix

No. 1136-58

Uses:

QUIKRETE® PRO-FINISH Blended Mason Mix is a contractor-grade mortar mix designed for laying brick, concrete masonry units and stone. QUIKRETE® PRO-FINISH Blended Mason Mix is suitable for load-bearing, above- and below-grade building segments.

Composition and materials:

QUIKRETE® PRO-FINISH Blended Mason Mix is a pre-blended, sanded product meeting ASTM C270 and ASTM C 387.

Availability/Yield:

QUIKRETE® PRO-FINISH Blended Mason Mix is available in 80 lb. (36.3 Kg) bags. Each 80 lb. (36.3 Kg) bag will lay up to 37 standard bricks or 13 standard blocks.

Technical Data:

Applicable Standards

- ASTM C270 Standard Specification for Mortar for Unit Masonry
- ASTM C387 Standard Specification for Packaged, Dry, Combined Materials for Mortar and Concrete

Physical/Chemical Properties

Typical performance for QUIKRETE® PRO-FINISH Blended Mason Mix when tested under laboratory conditions per ASTM C270 is identified in Table 1.

Table 1

Compressive Strength (ASTM C109)	>1800 psi (12.4 MPa) at 28 Days
Water Retention (ASTM C91)	> 75%
Air Content (ASTM C91)	< 18%

Applications:

Preparatory Work

Surfaces to receive Blended Mason Mix should be dry, clean and free of dirt, loose debris, grease, oil, etc., for the best possible bond.

The QUIKRETE® Companies, Inc.

One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30329
730-613-7120
404.634.9100

Mixing

- For each 80 lb. (36.3 Kg) bag, add 9 pt (4.3L) of fresh water to the mixer
- Turn the mixer on and begin adding bags of Blended Mason Mix
- If the material becomes too difficult to mix, add additional water until a workable mix of trowelable consistency is obtained.
- NOTE: Final water content should be 9-14 pt (4.3-6.6L) for each 80 lb. (36.3Kg) bag.

Installation

- Apply a full bed of mortar onto the base, approximately 1/2"-3/4" (12.7-19.1 mm) thick.
- Push downward into the mortar bed and sideways against the previously laid block with a slight twisting motion
- Tool the mortar joints when they become thumbprint hard. This will make the mortar joint watertight and provide a neat appearance.

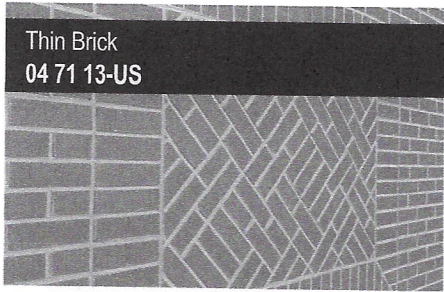
Curing:

Curing of masonry mortars is required only if conditions are very hot, dry or windy. In such cases, a gentle mist of water applied to the surface will prevent premature drying and improve the strength of the mortar.

NOTE: Variations in mix water amount, mixing time, curing conditions and finishing will cause color variations.

Warranty

The QUIKRETE® Companies warrant this product to be of merchantable quality when used or applied in accordance with the instructions herein. The product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is limited to the replacement of its product (as purchased) found to be defective, or at the shipping companies' option, to refund the purchase price. In the event of a claim under this warranty, notice must be given to The QUIKRETE® Companies in writing at Atlanta, GA 30329. The limited warranty is issued and accepted in lieu of all other express warranties



PRODUCT DESCRIPTION

BASIC USE Thin clay brick units for use in adhered masonry construction for both interior and exterior applications.

For residential, commercial and institutional applications.

COMPOSITION AND MATERIAL Thin brick units are manufactured from clay, shale or similar naturally occurring earthy substances and subjected to a heat treatment at elevated temperatures (firing), creating a bond between the particulate constituents resulting in a severe-weathering brick with one or more finished faces. Custom shapes and sizes are available. The units are saw cut to approximately 1/2" thickness after firing.

SHAPES AND SIZES Thin brick units are available in a modular face size of 2-1/4" (height) x 7-5/8" (length). Thin stone units size varies by stone type. Weight of all thin brick products does not exceed 15 psf.

Thin brick units are available in standard stretcher (flat) and as cut corner shapes.

TOLERANCES Thin brick is manufactured to meet the tolerances of ASTM C 1088 TBX, TBS, and TBA as applicable.

Thin brick are inspected to be sound and free of cracks, blemishes or other defects that would either affect the serviceability or strength of the unit, or become exposed once installed and visible when viewed from a distance of not less than 20 ft. under diffused light.

LIMITATIONS Manufactured masonry products are generally intended for above grade installations. Manufactured masonry units, regardless of their composition, are inherently absorptive, and as such, are not intended for use below grade. Units installed below grade will wick moisture from the soil that is in contact with the masonry units effectively creating a condition known as "rising damp" in the masonry veneer.

Standard brick units are not intended to be used as pavers. General Shale offers paving brick in a variety of colors for light traffic paving installations.

In colder climates, masonry walls at grade may also become exposed to de-icing compounds. As with other types of manufactured masonry units, clay brick masonry units should not be installed where they will be directly exposed to de-icing compounds used to melt snow and ice from pavements. For further information with regard to installing masonry at or below grade refer to the "At Grade Design Ideas" brochure.

The function of caps and copings is to prevent moisture from entering the building envelope through the top of the wall. As most manufactured masonry units are produced in relatively short lengths, if they are used as a cap or coping material more mortar joints are required. These horizontal mortar joints are the most likely

entry point for moisture to infiltrate the building envelope. As such, it is generally recommended within the industry to install proper flashings below all caps and copings or to use longer components such as quarried stone or metal parapet caps to reduce the number of joints thereby limiting the areas that may allow moisture infiltration of the building envelope.

COLORS AND FINISHES Colors for each of the thin brick and thin rock products are available from your sales representative.

Colors vary by plant location.

As a manufactured material, General Shale products are monitored for color consistency. Slight variations between batches may occur and it is recommended that the installer mix units from different skids during installation.

Consultants should review samples prior to selecting a particular color and finish.

TECHNICAL DATA

APPLICABLE STANDARDS Required properties for thin brick units are described in ASTM C 1088 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale.

These standards classify clay and shale products as either moderate-weathering or severe-weathering depending on the material's tested physical properties of compressive strength and 24-hour absorption.

General Shale Brick products meet and exceed the requirements necessary to comply with the severe-weathering classification. They have been extensively tested using standardized test methods found in ASTM C 67 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile. Test reports are available upon request.

INSTALLATION

DELIVERY - General Shale brick products are delivered to the site in protective packaging.

HANDLING - Lift skids with proper and sufficiently long slings or forks with protection to prevent damage to units. Protect edges and corners.

STORAGE - Store General Shale brick products in a manner designed to prevent damage and staining of units. Stack units on timbers or platforms at least 3" above grade. Place polyethylene or other plastic film between wood and other finished surfaces of units when stored for extended periods of time.



Stored units should be covered if exposed to extreme weather conditions.

INSTALLATION Construct adhered masonry veneer in accordance with ACI 530-05/ASCE 5-05/TMS 402-05, Building Code Requirements for Masonry Structures in the United States, and any local requirements stipulated by the authorities having jurisdiction.

For additional installation information refer to the following to the following General Shale Installation Guides:

- Tech Bulletin: Thin Veneer Installation Guide – Exterior Commercial
- Tech Bulletin: Exterior Framed Installation Guide Using The Laticrete® MVIS™ System

General Shale brick products must be connected to a structural substrate with an approved masonry connection system, designed by the consultant for each specific installation.

AVAILABILITY AND COST

AVAILABILITY General Shale products are available throughout the continental United States, as full-bed masonry units.

Availability and various product details (colors, textures etc.) may vary by location. Please consult with your General Shale sales representative.

Delivery times for orders will vary based on the complexity of what is required.

General Shale cannot be responsible for delays due to fire, acts of God, or any other cause beyond its control or which could not be reasonably foreseen.

Contact General Shale for a list of dealers in your area.

COST Quoted on a project basis for job-specific manufacturing to project requirements.

MAINTENANCE

General Shale brick products should have excess mortar removed from their faces by brushing as they are placed within the wall at the point of tooling.

Clean General Shale Brick products in accordance with the cleaning guidelines in General Shale Technical Bulletin Brick Cleaning Information. Various masonry detergents and cleaning systems can change the color of masonry products. Acid-based cleaning agents will darken the color of the masonry units.

Always pre-test cleaning agents and methods on the job-site mock-up panel or a small inconspicuous area of the wall. The Consultant and/or Owner should approve the test area prior to the start of full-scale cleaning operations.

General Shale does not recommend the application of water repellent or graffiti-proofing sealers to its masonry products.

TECHNICAL SERVICES

General Shale offers consultation services to assist with

design, detailing and specification questions and with pricing. Enquiries are attended to promptly and without obligation.

RELATED REFERENCES

General Shale distributes an integrated technical information system, comprised of the following components:

- Sample detail drawings which are available in .pdf format.
- General Shale Technical Bulletins which are available in .pdf format.
- Architectural Catalog Shape drawings,
- BIA Technical Notes and NCMA Tek Notes.

All of these technical resources are available to be downloaded from the General Shale web site at www.GeneralShale.com.

General Shale also makes available samples for color and finish, coursing charts, and copies of test reports upon request.



Photos



½" DENSGLOSS SHEATHING FASTENED TO STEEL FRAMING



2"-3" O.C. ROWS OF ¾" BEAD OLD MILL BRICK & PANEL ADHESIVE ON BACK SIDE OF 3" THICK OLD MILL PANEL+ EPS FOAM



THIN BRICK INSTALLED INTO HORIZONTAL $\frac{3}{4}$ " BEAD OF OLD MILL BRICK & PANEL ADHESIVE



FINAL THIN BRICK WALL ASSEMBLY