



SECTION 04 26 13

MASONRY VENEER AND CERAMIC TILE PANELS

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GENERAL

1.1 SECTION INCLUDES

Thin brick.

- B. Thin stone.
- C. Thin brick mesh-mounted system.
- D. Insulated masonry veneer and ceramic tile panels.
- E. Grout.
- F. Adhesives.
- G. Miscellaneous Accessories.

1.2 RELATED SECTIONS

Division 07- Thermal and Moisture Protection air and water barrier specification sections.

- B. Division 07- Thermal and Moisture Protection thermal insulation specification sections.
- C. Section - 3 - Ceramic Tiling for ceramic tile, setting materials, grout, and installation instructions.

1.3 REFERENCES

ASTM C1088-20 - Standard Specification for Thin Veneer Brick Units Made From Clay or Shale

- B. ASTM C67/C67M-21 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile
- C. ASTM A525 - Steel Sheet Zinc-Coated (Galvanized) by the Hot-Dip Process
- D. ASTM C79 - Gypsum Sheathing Board

- E. ASTM C1088-88 - Thin Brick Solid Masonry Units Made from Clay or Shale type TBS, TBX, TBA
- F. ASTM C578 - Preformed, Block-Type Cellular Polystyrene Thermal Insulation
- G. ASTM E330 - Structural Performance of Exterior Windows Curtain Walls, and Doors by Uniform Static Air Pressure Difference

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data:
 - 1. Manufacturer's data sheets on each product to be used.
 - 2. Preparation instructions and recommendations.
 - 3. Storage and handling requirements and recommendations.
 - 4. Typical installation methods.

Verification Samples: Two representative units of each type, size, pattern, and color.

- D. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum of five years documented experience.
- B. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
- C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

Mock-Up: Construct a mock-up with actual materials, including sealer, in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.

- 1. The intent of a mock-up is to demonstrate quality of workmanship and visual appearance.
- 2. If the mock-up is not acceptable, rebuild the mock-up until satisfactory results are achieved.
- 3. Retain mock-up during construction as a standard for comparison with completed work.
- 4. Do not alter or remove mock-up until work is completed or removal is authorized.

1.6 PRE-INSTALLATION CONFERENCE

- A. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store and handle in strict compliance with manufacturer's written instructions and recommendations.

- B. Protect from damage due to weather, excessive temperature, and construction operations.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 WARRANTY

- A. Manufacturer's standard limited warranty unless indicated otherwise.
 - 1. Panel+: Manufacturer warrants its Panel+ insulated masonry veneer panels to be free from defects in material and manufacturer's workmanship for a period of 5 years from date of owner purchase when such Panel+ is installed and maintained in accordance with manufacturer's specifications. Old Mill system must be properly installed in accordance with Old Mill's specifications by a certified Old Mill Building Product's installer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Old Mill Building Products, which is located at:
42 E. 1100 S. Ste6
American Fork, UT 84003
Toll Free Tel: 888-264-6455
Email: commercialsales@oldmillbp.com
Web: <https://oldmillbuildingproducts.com>

Substitutions: Not permitted.

- C. Requests for substitutions will be considered in accordance with the provisions of Section 01 60 00.

2.2 PRODUCT TYPES

- A. Thin brick.
 - 1. Basis-of-Design: Old Mill Building Products Thin Brick.
 - 2. Standards Compliance:
 - a. ASTM C1088-20, Type TBS, Grade Exterior
 - 3. Product Description:
 - a. Shapes: King, Queen, Norman, and custom sizes.
 - b. Special shapes, corners, trim pieces, and loose brick slabs.
 - c. Color: As selected from manufacturer's full range.
- B. Thin Stone.
 - 1. Basis-of-Design: Old Mill Building Products Thin Stone.
 - 2. Standards Compliance:
 - a. ASTM C1670, Adhered Manufactured Stone Masonry Veneer Units
 - 3. Product Description:
 - a. Ledger: Continuous thin-stone strips per ASTM C1670.
 - b. Tile: Modular thin-stone units per project sample approval and ASTM standards.

- C. Thin brick mesh-mounted system.
 - 1. Basis-of-Design: Old Mill Building Products Brickwebb.
 - 2. Product Description:
 - a. Thin brick attached to fiberglass web sheeting for easy installation and consistent brick spacing.

- D. Insulated masonry veneer and ceramic tile panels.
 - 1. Basis-of-Design: Old Mill Building Products Panel+ insulated masonry veneer and ceramic tile panels.
 - 2. Standards Compliance:
 - a. ASTM E330-02/E330-14, E331- Wind & Air.
 - b. ASTM E72- Structural.
 - c. ASTM C578, C273, E96, D2247- Thermal & Moisture.
 - d. ASTM E84-08, (NFPA 255), NFPA 285- Fire & Smoke.
 - e. ASTM E2178, E2357- Air Barrier.
 - f. ASTM C482-20, C297, E2134- Bond & Tensile.
 - g. ASTM E2485- Freeze- Thaw.
 - h. ASTM E1354, E2134 Heat Release & Smoke.
 - i. AATCC TM127- Water Resistance.
 - 3. Product Description:
 - a. Old Mill Building Products Thin Brick.
 - b. Old Mill Building Products Thin Stone.
 - c. Insulation board:
 - 1) Old Mill expanded polystyrene board ASTM C578, type II
 - 2) EPS panel face is dimensioned to align with chosen veneer size.
 - 3) Preformed foam panels 48" x 48", 1"-4" thickness, shaped from a single monolithic sheet of expanded polystyrene to receive thin brick pieces,
 - 4) Compressive strength 15 psi @ 10 % (ASTM D1621).
 - 5) Flexural strength 35 psi (ASTM C203).
 - 6) R-Value/inch: 4.8 @ 25 degrees F, 4.6 @ 40 degrees F, 4.2 @ 75 degrees F (ASTM C518).
 - 7) Water absorption <= 2 % vol. (ASTM C272).
 - 8) Vapor permeance 3.5 perms (ASTM E96).
 - 9) Surface burning: Flame < 25 / Smoke < 450 (ASTM E84).
 - 10) Max use temp: 180 degrees F short-term, 165 degrees F long-term
 - 11) Ensure panel edge relief matches flat or corner unit thickness.
 - d. Adhesive: Old Mill Adhesive.
 - 1) All brick flats, corners, and stone ledgers adhere directly to Insulation board.
 - e. Grouting Mortar: Old Mill recommended grout: Type S.
 - f. Anchorage Materials:
 - 1) Starter angles: 023 GA aluminum drip edge starter with 2" vertical leg
 - 2) Fasteners: Old Mill Plastic 2" washer.
 - a) Meets ASTM D1761 withdrawal loads.
 - b) Pilot-drill diameter matching steel-stud gauge.
 - g. Accessories:
 - 1) Steel stud framing.
 - a) #10 steel self-drilling, self-tapping, cadmium plated screws.
 - b) Length required to penetrate stud flange with 3 exposed threads.
 - 2) Wood framing: Length required to penetrate 1" into wood framing.

- h. Miscellaneous Accessories:
 - 1) Cleaning compound ProSoCo SureKlean.
 - a) No. 101 Lime Solvent for red and dark brick.
 - b) No. 600 Detergent for tan and pink brick.
 - c) Vana-Trol for White, gray, or brown brick and brick subject to metallic staining.
 - 2) Drip flashing 24 ga. galvanized with finish as selected by designer.
 - 3) Sealants: Sealant shall be a high performance, low modulus, non-sag elastomer (e.g., Sonolastic NP 1)
 - 4) Water Barrier: Tyvek, Old Mill Weather Barrier roll-on barrier or equivalent approved by Old Mill Building Products
- E. Grout: Type S Mortar Mix or Sanded Tile Grout.
- F. Adhesives: Old Mill Building Products, Inc. Basecoat/Adhesive.
 - 1. Product Description:
 - a. Dry, pre-blended proprietary mortar, containing cementitious materials, polymers, fiber, and sand.
 - b. Meets ANSI 118.11 standards.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until the substrates have been properly constructed and prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.

3.2 PREPARATION, GENERAL

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION, GENERAL

- A. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.

3.4 MIXING ADHESIVE

- A. Use clean equipment for preparation. Only mix what can be used in a 45-minute period. Use cool clean potable water. Mix to a homogenous consistency adding small amounts of water to adjust workability. Let mixture stand for five minutes after initial mixing, stir again, adding small amounts of water for workability once only. Adhesive should be used immediately after mixing

3.5 INSTALLATION OF BRICKWEBB

- A. Start by chalking horizontal lines every 21.5" equal to two rows of Brickwebb; Begin at corner walls; Apply adhesive using a 3/8" by 3/8" notch trowel; Next, apply corners at the top of wall by pressing firmly against Brickwebb corner sheets ensuring adhesive penetrates thru webbing, going down two sheets, approximately 42"; Next, apply adhesive to top section of wall; Apply Brickwebb sheets by overlapping

exposed webbing; Firmly press in place ensuring adhesive extrudes through webbing; Once wall is covered, let set for 24 hours; Next, apply grout by using either a grout bag if using type S mortar or tile flout if using sanded tile grout; Apply in moderately sized areas as to prevent drying; Next, tool area, once grout becomes semi firm, to desired look and texture.

B. Cleaning

1. Brush grout joint with stiff bristle brush using diagonal strokes, when grout becomes stiff, to remove excess grout from brick faces and joints.
2. Clean brick as required, after grout is cured, in accordance with cleaning compound manufacturer's instruction.
3. Rinse brick promptly and thoroughly with clean water.
4. Use appropriate cleaning solution 24 to 72 hours after grouting.

C. Sealer.

1. High performance penetrating sealer approved by manufacturer.

3.6 INSTALLATION OF PANEL+ INSULATED MASONRY VENEER AND CERAMIC TILE PANELS

A. Preparation

1. Inspect existing walls for deterioration. Repair as necessary
2. Exterior, fur out starter angle and clips as required on irregular surfaces to maintain true plane.
3. Exterior, remove existing trim, gutters and downspouts behind which panels are to be installed.
 - a. General
4. Exterior, apply a moisture barrier over entire area to be bricked.
5. Starter flashing may follow any rise or fall in grade if desired, necessitating cutting bottom panels to fit sloped starter flashing.
6. Panels Must start 6" above grade
7. Start panels at least 2 inches above concrete or asphalt paving surface to prevent damage from frost heaving
 - a. Field-verification steps
8. Confirm insulation thickness, and density markings per ASTM C578
9. Inspect drainage channels and anti-slough dimples for integrity before panel attachment.
 - a. Starter flashing
10. Install starter flashing so that bottom edge is on marked line.
11. Install flashing with nail flange up, fasten at 16" O.C. or less with appropriate fasteners for concrete, CMU, metal, or wood stud framing.
12. Install starter flashing over all windows, doors, and other openings.
 - a. Panel Installation
13. Begin panel installation at an outside corner.
14. Panels must overlap where they meet at outside corners.
15. At inside corners position panel so as to accommodate a backer rod and sealant
16. Do not install panels below grade.
17. Use a utility knife to cut panels where necessary.
18. Where panels abut wall openings, maintain a 1/4" clearance between the panels and the flashings.
19. Offset successive vertical rows of panels at least 16"
 - a. Panel attachment
20. Nail able sheathing (brick, block, concrete, etc.) Attach foam panel to sheathing with Old Mill plastic 2" washer using screws at least 1" longer than the thickness of the panel. These fasteners should be installed every 16"

horizontally and 8" vertically. Care must be taken to assure that the fastener is firmly seated on the brick spacer and fastened so that the outer surface of the fastener is flush with the outer surface of the panel.

21. (Old Mill Weather Barrier) Begin by applying a 1/16" skin coat of Old Mill Weather Barrier. Immediately embed runs of Standard Mesh by using a trowel, working from the center, and moving outward, press the mesh in the wet Old Mill 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 1/16" of Old Mill Weather Barrier. All joints and gaps should be covered with mesh and Old Mill Weather Barrier. Allow curing for a minimum of 18 hours protected from precipitation and freezing conditions. Panel+ may be applied after 18 hours. Refer to Old Mill Building Products for specifications
 - a. Brick Layout / Installation
22. Apply a 3/8" bead of Old Mill adhesive horizontally at the upper portion of the brick track. Do not leave adhesive to set more than 10 minutes before brick application.
23. Run a single course of brick horizontally along the top brick track of the panel. If this area includes an outside corner, begin with a corner brick there and move inward.
24. Make certain to maintain the proper spacing between bricks. Head joint size ideally 3/8" in width, may vary between 1/4" and 5/8" so as to avoid using cut brick less than 3" length.
25. After the initial course is in place and properly spaced, make a plumb line down the wall in line with the edge of every fourth brick. This will be a reference for every other course of brick. For the courses without a line, the bricks should be centered on the head joints directly above and below them.
26. Successive rows of brick can now be applied. Working from the top of the wall area down, apply a 3/8" bead of adhesive horizontally using cement bag to the upper portion of each brick track and place the bricks firmly into place. As walls are often not perfectly plumb, head joints may need to be varied in order to adjust for such differences. Soldier or rowlock courses can be used, either as decorative details or to avoid using small brick slices above or below wall openings. To achieve this vertical application of brick, peel off the necessary number of brick spacers (2 for soldier course, 1 for row lock) Apply 3/8" beads of adhesive horizontally, two inches apart, to the panel and then apply bricks.
 - a. Grout installation
27. Colored grout - Add mortar colorant to water before adding pre-mixed grout.
28. Thoroughly mix Old Mill type S grout with water according to mixing instructions on the bag, to a smooth consistency to facilitate application with grout bag or grout pump. Allow 10 minute slake time and remix.
29. Apply grout mix over filling joints. Avoid gaps.
30. Tool joints when grout has attained a firm, pliable consistency with min 1" diameter round jointer.
31. Depth of grout joint shall not exceed 1/8" below face of brick.
 - a. Exterior Control Joints / Expansion Joints
32. Vertical control joints are required to be placed in walls at max 20' ft o.c.; additional joints for facades > 50' ft or seismic zones. These joints should be constructed as follows: Panels should be cut at the point at which the joint will be placed. The joint width should be 3/8". Place a backer rod into this area and fill area with sealant.
33. Horizontal control joints should be placed at every floor level. This is to allow for the settling and shrinkage of the structure.
 - a. Cleaning.
34. Brush grout joint with stiff bristle deck brush using diagonal strokes, when grout becomes stiff, to remove excess grout from brick faces and joints.

- 35. Clean brick as required, after grout is cured, in accordance with cleaning compound manufacturer's instruction.
- 36. Rinse brick promptly and thoroughly with clean water
- 37. Use appropriate cleaning solution 24 to 72 hours after grouting.

3.7 FIELD QUALITY CONTROL

- A. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.

3.8 CLEANING AND PROTECTION

- A. Clean products in accordance with the manufacturers recommendations.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION