



Speedymason™ Mortar Bed Panel System for Thin Masonry - Guide Specification US PATEND 10,106,989 B2

The following information has been compiled as a Guide Specification for Speedymason Mortar Bed Panel System for Thin Masonry. The numbers and titles used to identify this and related specification sections are in accordance with the 2004 Construction Specifications Institute Master Format.

This guide specification is intended to assist the Design Professional/Specifier in selecting appropriate products and preparing a project specification section for Speedymason Mortar Bed Panel System for Thin Masonry and is not intended to be all inclusive. Additional Technical Information related to Speedymason and designs utilizing the Speedymason Mortar Bed Panel System for Thin Masonry available upon request. The Design Professional/Specifier is responsible for the use and application of this information.

Confirm and edit guide specifications to ensure conformance to local building codes. Sections beginning with **NOTE TO SPECIFIER:** indicate action is required: edit/select/add/delete to suit specific project requirements. Optional text is indicated by brackets

[]. Delete unused optional text and brackets in final specification. Coordinate all Sections with other materials and project conditions of the contract.

SECTION 04 25 16

Thin Brick Panel System

SPECIFICATIONS: MORTAR BED PANEL SYSTEM FOR THIN

MASONRY

PART 1: GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 general requirements apply to this section.

1.2 SUMMARY

- A. Section Includes: Speedymason- Mortar Bed Panel System for Thin Masonry and related materials.

NOTE TO SPECIFIER: Delete items below not required for project.

1. Thin Brick
2. Thin Concrete Masonry
3. Mortar
4. Cleaning
5. Embedded Flashing
6. Drip Edge
7. Expansion and Control Joints
8. Fasteners

B. Related Sections:

NOTE TO SPECIFIER: Delete any sections below not relevant to this project; add others as required.

1. Division 03 Section – “Cast-in-Place Concrete”
2. Division 03 Section – “Precast Concrete”
3. Division 04 Section – “Unit Masonry”
4. Division 05 Section – “Structural Metal Framing”
5. Division 05 Section – “Cold Form Metal Framing”
6. Division 05 Section – “Metal Fabrications”
7. Division 06 Section – “Rough Carpentry”
8. Division 06 Section – “Sheathing”
9. Division 07 Section – “Damp proofing and Waterproofing”
10. Division 07 Section – “Thermal Protection”
11. Division 07 Section – “Flashing and Sheet Metal”
12. Division 07 Section – “Joint Protection”
13. Division 08 Section – “Wall Vents”
14. Division 09 Section – “Plaster and Gypsum Board”
15. Division 09 Section – “Tile”
16. Division 13 Section – “Pre-Engineered Structures”

1.3 REFERENCES

NOTE TO SPECIFIER: Delete references from the list below that are not required by the text of the edited section.

- A. ASTM C 67 – Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
- B. ASTM C 126 – Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units.
- C. ASTM C 270 – Standard Specification for Mortar for Unit Masonry.
- D. ASTM C 847 – Standard Specification for Metal Lath.
- E. ASTM C 1088 – Standard Specification for Thin Veneer Brick Units Made from Clay or Shale.
- F. ASTM C 1714 – Standard Specification for Preblended Dry Mortar Mix for Unit Masonry.
- G. ASTM D 226 – Standard Specification for Asphalt Saturated Organic Felt Used in Roofing and Waterproofing.
- H. ASTM D 1056 – Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber.
- I. TMS 602/ACI 530.1/ASCE 6 – Specifications for Masonry Structures.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings:
 - 1. Indicate masonry layout, patterns, color arrangement, perimeter conditions, shape requirements, junctions with dissimilar materials, connections, and other related components.
 - 2. Locate and detail expansion and control joints.
- D. Samples: Furnish not less than five (5) individual masonry units as samples, showing extreme variations in color and texture.

1.5 QUALITY ASSURANCE

- A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6 unless modified by requirements in the Contract Documents.
- B. Comply with all applicable codes, regulations, and standards. Where provision of applicable codes, regulations, and standards conflict with requirements of this section, the more demanding shall govern.

NOTE TO SPECIFIER: Insert additional qualifications below if required.

- C. Manufacturer Qualifications:
 - 1. Obtain materials from one manufacturer to ensure compatibility.
 - 2. Composite Panel:
 - a. A history of corporate experience with composite supported unit masonry panels.
 - b. Documented qualifications and capabilities that fully describe the ability to provide the required system and technical support to the Owner.
 - c. At least five (5) completed projects over the last two years, illustrating system performance equal or greater to the criteria listed in this specification.
 - i. Include the project location, award date, the completion date, the contract value, and the name and telephone number of a person employed by the Owner who has personal knowledge of the manufacturer's contractual and technical performance.

- D. Installer Qualifications:

NOTE TO SPECIFIER: Insert additional qualifications below if required.

- 1. Authorized Speedymason Mortar Bed Panel System for Thin Masonry installer or proof of experience in thin brick masonry.
- 2. At least one supervisory journeyman who shall be present at all times during execution of work, who shall be thoroughly familiar with design requirement, type of materials being installed, reference standards and other requirements, and who shall direct all work performed at jobsite.

NOTE TO SPECIFIER: Include a mock-up panel if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified.

- E. Material Certificates: Prior to delivery, submit to Architect/Engineer certificates indicating compliance with the applicable specifications for Thin Brick Grades, Types or Classes included in these specifications.
- F. Thin Brick Test Reports: Submit test reports substantiating compliance with requirements: Sample and test in accordance with ASTM C 67.
 - 1. Testing and reports shall be completed by an independent laboratory.
 - a. Test reports for each type of brick shall be submitted to the Architect/Engineer for review.
 - b. Thin Brick Test reports shall indicate:
 - 1) 2-hour cold water absorption
 - 2) 5-hour boil absorption
 - 3) Saturation coefficient
 - 4) Initial rate of absorption
 - 5) Efflorescence
- G. Costs of Tests: Cost of tests shall be borne by the purchaser, unless tests indicate that units do not conform to the requirements of the specifications, in which case cost shall be borne by the seller.
- H. Shop Drawings: Submit individual drawings to be approved by Architect for special shaped thin brick units.

NOTE TO SPECIFIER: Include a sample panel and/or mockup panel if the project size warrants taking such a precaution. The following is one example of how a mock up panel on a large project might be specified.

- I. Sample Panel: Sample or mock-up panels shall be used to review installation process as well as thin brick and mortar color and serves as the standard of workmanship for the Project.
 - 1. Build **[sample] [mock-up]** panel for walls to receive Speedymason Mortar Bed Panel System as shown on drawings.
 - 2. Build Mock-up panels for Mortar Bed Panel System for Thin Masonry in sizes approximately **[48" (1,200 mm)]** long by **[48" (1,200 mm)]** **<Insert size>** high by full wall thickness.
 - a. All thin brick shipped for the sample shall be included in the panel.
 - b. Use panel as standard of comparison for all masonry work built of same material.
 - c. Where masonry is to match existing, erect panel adjacent and parallel to existing surface.
 - d. Clean **[one-half of]** exposed faces of panel with masonry cleaner as indicated and approved by manufacturer.
 - e. Protect accepted panel from the elements with weather-resistant membrane.
 - f. Approval of panel is for color, texture, and blending of masonry units; relationship of mortar to masonry unit colors; tooling of joints; and aesthetic qualities of workmanship.
 - g. Do not start work until Architect/Engineer/Owner has accepted sample panel.
 - h. Do not destroy or move panel until work is completed and accepted by Architect/Engineer/Owner.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in manufacturer's unopened containers, identified with name, brand, type, and grade.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Store Speedymason Mortar Bed Panel System for Thin Masonry and accessories off the ground to prevent contamination by mud, dust or other materials likely to cause staining or other defects.
- D. Protect materials from contamination, dampness, freezing, or overheating in accordance with manufacturer's instructions.
- E. Store different types of materials separately.

1.7 PROJECT CONDITIONS

- A. Comply with requirements of referenced standards and recommendations of material manufacturers for environmental conditions before, during, and after installation.
- B. Protection of Work:
 - 1. 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 absolute limits.
 - 2. Stain Prevention:
 - a. Prevent mortar from staining the face of masonry.
 - b. Remove immediately grout or mortar in contact with face of such masonry.
 - c. Protect all sills, ledges and projections from droppings of mortar.
 - d. Protect the wall from rain-splashed mud and mortar splatter.
 - e. Turn scaffold boards closest to the wall on edge when work is not in progress to prevent rain from splashing mortar and dirt onto masonry.

NOTE TO SPECIFIER: *Weather conditions affect application and drying time of adhesive and mortar. Hot or dry conditions limit working time and accelerate drying and may require adjustments in the scheduling of work to achieve desired results. Cool or damp conditions extend working time and retard drying and may require additional measures of protection against wind, dust, dirt, rain and freezing.*

- C. Cold Weather Requirements:
 - 1. Do not use frozen materials or materials mixed or coated with ice or frost.
 - 2. Do not build on frozen substrates.
 - 3. Remove and replace unit masonry damaged by frost or by freezing conditions.
 - 4. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.
 - 5. Comply with adhesive manufacturers application and temperature requirements.

D. Hot Weather Requirements:

1. Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.
2. Protect mortar from uneven and excessive evaporation.
 - a. The face of the installed thin brick may be dampened with water prior mortar installation to reduce the absorption of moisture from the mortar joint and increase bond.
 - b. Veneer may be fogged with water to allow the mortar enough time to set. Apply only enough moisture to consistently dampen the wall without allowing water to run down the face.
3. Comply with adhesive manufacturer's application and temperature requirements.

PART 2: PRODUCTS**2.1.1 FULL BED MASONRY SUPPORT PANEL, GENERAL**

- A. Full Bed Masonry Support Panel intended for the interior or exterior structural mechanical support of thin veneer on concrete, masonry, metal or frame construction.

2.1.2 MANUFACTURERS

- A. Acceptable Manufacturer: Speedymason, LLC located at 300 Sherry Lynn Lane, Sparta, WI 54656 Tel: 608-855-5901
• Email: info@speedymason.com • Web: www.speedymason.com
- B. Substitutions: Not permitted.

2.1.3 FULL BED MASONRY SUPPORT PANELS

- A. All Full Bed Panels for Thin Brick Support specified and shown on drawings shall be as manufactured by the Speedymason, LLC.
 1. Flat Panels: 10.67-square foot (1 m²) masonry support panels for flat wall areas 96" (2438.4 mm) x 16" (406 mm) nominal (see below), shall have support spacing as follows (actual dimensions listed):

NOTE TO SPECIFIER: Delete size options and panel type not required for project. Additional sizes may be available; verify availability with local Speedymason Representative. Custom panel lengths can also be ordered

Available Speedymason Matrix Sizes:

- a. 2-5/8" (66.675 mm) for Modular, standard, Norman, and other 2-1/4" (57.2mm) high units.
Standard panel size: 96" (2438.4 mm) x 16" (406 mm)
6 rows of bricks with 6 mortar joints equal 16" (406 mm)
- b. 3-1/8" (79.375 mm) for Engineer, Queen, King and other 2-3/4" (406 mm) high units.
Standard panel size: 96" (2438.4 mm) x 16" (406 mm)
5 rows of bricks with 5 mortar joints equal 16" (406 mm)
- c. 4" (101.6 mm) for Closure, Utility and other 3-5/8" (92.1 mm) high units.
Standard panel size: 96" (2438.4 mm) x 16" (406 mm)
4 rows of bricks with 4 mortar joints equal 16" (406 mm)
- d. 8" (203.2 mm) for 8"-Square/Triple and other 7-5/8" (193.7 mm) high units.
Standard panel size: 96" (2438.4 mm) x 16" (406 mm)
2 rows of tile or stone with 2 mortar joints equal 16" (406 mm)
- e. 16" (406.4 mm) for stone or tile products.
Standard panel size: 96" (2438.4 mm) x 16" (406 mm)
1 row of stone or tile with 1 mortar joint equals 16" (406 mm)

NOTE TO SPECIFIER: Delete corner panels if not required. Corner panels are recommended to reduce possibility of cracking due to differential movement, particularly in wood stud applications. Additional sizes may be available; verify availability with local Speedymason representative.

- B. Pre-Bent Corner Panels: 1.78 sq. ft. (1.44 m²) masonry support panels for external corner applications 16" high (406 mm) with 8" (406 mm) leg and 8" (406 mm) leg.

2.2.1 MASONRY UNITS, GENERAL

- A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed work.

2.2.2 MANUFACTURERS

- A. Acceptable Manufacturer: Speedymason, LLC located at 300 Sherry Lynn Lane, Sparta, WI 54656 Tel: 608-855-5901
 - e-mail: info@speedymason.com • Web: www.speedymason.com
- B. Substitutions: Not permitted.

2.2.3 CLAY MASONRY UNITS

- A. General: Provide shapes indicated and as follows:

NOTE TO SPECIFIER: Standard shapes such as corners, edge caps, 1/2 flats, 1/2 corners and thicker units for corbelling or accents, as well as custom shapes are often available. Verify shapes availability with local Speedymason representative.

1. Provide special shapes for applications where flats (stretcher units) cannot accommodate special conditions, including those at corners, movement joints, bond beams, sashes, shelf angles and lintels. Mitered units shall not be used at standard corners.
2. Provide special shapes for applications requiring thin brick of size, form, color, and texture on exposed surfaces that cannot be produced by sawing.
3. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

NOTE TO SPECIFIER: Insert product name(s) required for project.

- B. All thin brick specified and shown on drawings shall be *[Add thin brick product name(s) here]* as manufactured by the Speedymason, LLC.
 1. Thin Brick: ASTM C 1088, Grade Exterior.

NOTE TO SPECIFIER: Delete types not required.

- a. Type *[TBS], [TBX] [or] [TBA]*
- b. Size (height, length – actual dimensions listed)

NOTE TO SPECIFIER: Delete size options not required for project. Size availability varies by product and may be available in additional sizes not listed below. Verify availability with local Speedymason representative.

- 1) Modular Size: 2-1/4" (57.2 mm) high, 7-5/8" (193.7 mm) long
- 2) Queen Size: 2-3/4" (69.9 mm) high, 7-5/8" (193.7 mm) long
- 3) Standard Size: 2-1/4" (57.2 mm) high, 8" (203.2 mm) long
- 4) Engineer Standard Size: 2-3/4" (69.8 mm), 8" (203.2 mm) long
- 5) King Size: 2-3/4" (69.8 mm), 9-5/8" (244.5 mm)
- 6) Closure Size: 3-5/8" (92.1 mm) high, 7-5/8" (193.7 mm)
long
- 7) 8"-Square/Triple: 7-5/8" (193.7 mm) high, 7-5/8" (193.7 mm)
long
- 8) Norman Size: 2-1/4" (57.2 mm) high, 11-5/8" (295.3 mm) long
- 9) Utility Size: 3-5/8" (92.1 mm) high, 11-5/8" (295.3 mm) long
- 10) (Other) Size: [add size] inches wide, [add size] inches high, [add size] inches long

NOTE TO SPECIFIER: Delete thickness options not required for project. Thickness availability varies by product and may be available in additional thicknesses not listed below including thicknesses for use as soaps (1/2 brick), corbelled areas and other applications. Verify availability with local Speedymason representative.

- c. Thickness: [3/8" (85.7)] [1/2" (13 mm)] [3/4" (19 mm)] [or] [1" (25 mm)]

NOTE TO SPECIFIER: Delete first paragraph and subparagraphs below if no Glazed Thin Brick are required.

2.3 MORTAR

NOTE TO SPECIFIER: Delete mortar not required. Add Project specific requirements.

- A. Must exceed ANSI A 118.4 Shear Bond Requirements and Exceed ASTM C270 Compressive Strength requirements such as Spec Mix Polymer Modified Veneer Mortar (all in one mix).

[OR]

- B. Thin Set Adhesive and Mortar for thin brick. Must be polymer modified mortar.
1. Thin Set Adhesive shall exceed ANSI A 118.4 Shear Bond Requirements
 2. Mortar shall conform to ASTM C 270 Standard Specification for Mortar for Unit Masonry under the guidelines provided in BIA Technical Notes #8 Series.
 3. Mortar shall conform to ASTM C 1714 Standard Specification for Preblended Dry Mortar Mix for Unit Masonry.
 - a. Type [S] [or] [N] (Polymer Modified)

- C. Mortar for thin [concrete] [or] [stone] units.

1. Comply with masonry unit manufacturer's mortar requirements. Mortar shall conform to ASTM C 270 Standard Specification for Mortar for Unit Masonry.
- D. Cold Weather Additives (including accelerators) shall not be used in thin brick mortar mix.

2.4 EMBEDDED FLASHING MATERIALS

NOTE TO SPECIFIER: Starter angle listed below for use as flashing for Speedymason Mortar Bed Panel System for Thin Masonry. Delete flashing options not required for project or referenced in specification Division 07.

- A. Metal Flashing:
 1. Drip Edge [*Galvanized sheet steel: ASTM A 653 0.024" (0.61 mm) (26-gauge), minimum ASTM A 925 G-90 coating*] [*or*] [*Stainless Steel: ASTM A 240/A 240M, Type 304, 0.019" (0.45 mm) (24-gauge)*] pre-bent in 8' (2438.4 mm) lengths.

NOTE TO SPECIFIER: Delete subsection below if not required. Speedymason Mortar Bed Panel System for Thin Masonry® air vent is recommended when using Speedymason Mortar Bed Panel System for Thin Masonry and should be installed per manufacturer's instructions where the panel meets the drip edge to ensure proper ventilation and facilitate water drainage.

2.5 CONTROL AND EXPANSION JOINTS

NOTE TO SPECIFIER: Typical Speedymason Mortar Bed Panel System for Thin Masonry- Panel applications do not require compressible fill. Backer rod may be needed if depth of joint exceeds 3/4" (19 mm) per Division 07 Section "Joint Sealants".

- A. Control and Expansion Joints should not be more than 18 ft (5.5 m) either vertically or horizontally. Areas between movement joints should not exceed 144 sq. ft. (13.4 m²).
- B. Control joints should preferably be square in shape but may have a maximum length-to-height or height-to-length ratio of 2-1/2 to 1.
- C. Backer Rod: Non-gassing polyethylene or flexible polyurethane foam rod 25% wider than width of joint to be filled and depth exceeds requirements in as indicated in Division 07 Section "Joint Sealants".

2.6 FASTENERS

NOTE TO SPECIFIER: Fasteners are dependent upon substrate construction. More than one type of fastener may be required on a single project. REVIEW construction conditions and DELETE fasteners that are unnecessary or inappropriate for specific project.)

NOTE TO SPECIFIER: Consult a corrosion specialist to determine the best fastener for project conditions.

- A. Screw fasteners shall be a minimum [*#6, minimum 0.138" (3.5 mm) shank diameter*] [*or*] [*#8, minimum 0.164" (4.2 mm) shank diameter*] with a [*wafer,*] [*pancake*] head and corrosion resistance provided by [*zinc plating*] [*ceramic coating*] [*or*] [*stainless steel*] with a minimum protection of 800 hrs. when tested according to ASTM B 117.
- B. Nail fasteners shall be ring-shanked stainless-steel Miami/Dade approved roofing nails with a minimum of 1-3/4" (19.05 mm) length.

NOTE TO SPECIFIER: Delete subparagraphs below that are unnecessary or inappropriate for specific project.

- C. Fasteners Length:
 1. Wood frame: Fasteners shall penetrate the studs a minimum of 1" (25 mm).
 2. [*Masonry*][*or*][*Concrete*]: Fasteners shall penetrate the substrate a minimum of 1" (25 mm).
 3. Steel studs, girts or purlins: Self tapping/self-drilling fasteners shall penetrate a minimum 1/4" (6.4 mm), or not less than three exposed threads behind the stud flange, girt or purlin.

NOTE TO SPECIFIER: Delete sheathing section below if not applicable for specific project.

2.7 SHEATHING

- A. Provide sheathing, as designated in Section 06 00 00.

NOTE TO SPECIFIER: Verify specific project needs regarding fire and moisture resistance as well as structural requirements prior to specifying sheathing.

- B. Sheathing shall be one of the following as deemed suitable for specific project conditions:
 1. Exterior grade gypsum sheathing or glass fiber mat-faced sheathing or cement board, not less than 5/8" (15.9 mm) in thickness.

[OR]

 2. Oriented strand board (OSB) not less than 5/8" (15.9 mm) in thickness; or exterior grade plywood not less than 5/8" (15.9 mm) in thickness.

2.8 WEATHER BARRIER

NOTE TO SPECIFIER: Delete subsection if assembly does not require weather barrier (e.g. concrete or masonry substrate). For frame construction, Speedymason recommends a minimum of one Weather Barrier. Climatically specific moisture vapor flow must also be considered in the selection of materials for the water resistive barrier. Determine if the potential for condensation exists within the wall and make necessary changes to the wall design as needed.

- A. Provide weather barrier as designated in Division 07.

2.9 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

NOTE TO SPECIFIER: Contact a Brick Company representative to determine cleaning solution and procedure for thin brick specified. Verify acceptability of cleaner for cleaning masonry with pigmented mortar joints. Delete solution(s) not recommended.

PART 3: EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates and foundations as well as rough-in and built-in construction have been properly prepared.
 - 1. Walls must be structurally sound and the substrate system designed with a wall deflection not greater than L/360.
 - a. Maximum wall frame spacing for stud walls = 24" (609.6 mm) O.C.
 - b. Maximum wall frame spacing for girts = 30" (762 mm) O.C.
 - c. Minimum 0.043" (18-gauge; 1.09 mm) studs for exterior walls.
 - 2. Substrate shall have no planer irregularities greater than 1/4" in 10' (7 mm in 3.05 m).
- B. Verify substrate including, concrete, masonry or framing as well as sheathings and weather barrier are properly installed.
- C. Verify walls are plumb and corners are braced to specifications.
- D. Substrate must be flat, within 1/8" (3.2 mm) within any 4' (1.2 m) square area with no planar irregularities greater than 1/4" per 10 lin. ft.
- E. If substrate, foundations or flashings are the responsibility of another installer, notify Architect and General contractor of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation. All surfaces must be free of water, snow, dirt, mud, oil and other foreign materials prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Trim or flash in place per manufacturer's details and/or BIA Technical Note 7A on flashing of Brick Walls.

3.3 INSTALLATION, GENERAL

- A. Install materials in accordance with manufacturer's instructions.
- B. Select and arrange exposed masonry units to produce a uniform blend of color and texture.
 - 1. Mix units from several pallets or cubes as they are placed.
- C. Comply with tolerances in TMS 602/ACI 530.1/ASCE 6.

3.4 SPEEDYMASON PANEL

- A. Install in accordance with manufacturer's written instructions as applicable to each type of substrate required.
- B. Trim, starter angle and flashing shall be installed prior to panel installation.
- C. Walls shall be constructed of structurally sound masonry, wood, or steel studs, with an approved building sheathing and weather resistant barriers as required.
- D. Panels shall be clean, free of dirt, oil or any other foreign contaminant.
- E. Lay out panels in advance for accurate spacing of tabs to allow installation of full height masonry units at top and bottom of walls, openings, etc. when possible. Note: Panel sizes will vary depending on spacing.
- F. Attach panels flat to the substrate in true and level rows with support ties aligned and level to each other at flat sections as well as corners with the female edge facing down.

- G. Do not allow panels to bridge movement joints in substrate.
- H. Install panels to butt the sides of the panels and butt panels vertically, always leaving a gap at movement joints locations equal to the thickness of the joint.
- I. Stop panel 1/4" to 3/8" from inside corners, openings and other materials to allow for movement.
- J. Fastener Installation: Mechanically attach panels with a minimum of one fastener per 8" of each fastener strip on the Speedymason panel and at the edge along the top and bottom of the wall and around openings.
 - 1. Horizontal fastener spacing shall not exceed 8" for exterior and 16" for interior; vertical fastener spacing shall have a fastener per fastener strip.
 - 2. Provide additional anchors around the perimeter of walls as well as openings larger than 24" (406 mm) in either dimension, as well as building corners not utilizing corner panels as follows:
 - a. Install fasteners a minimum of 4 per sq. ft. (900 cm²).
 - i. At the top and bottom of the walls, fasteners shall be spaced a maximum of 8" (305 mm) horizontally and within the height of a single row or course of masonry.

3.5 FASTENERS (For Speedymason)

NOTE TO SPECIFIER: Revise subparagraphs below to suit Project.

- A. Attach fasteners to the framing through the sheathing.
- B. Fasteners for wood frame shall penetrate the studs a minimum of 1" (25 mm).
- C. Fasteners for steel studs, girts or purlins shall penetrate a minimum 1/4" (6.4 mm) with not less than three exposed threads behind the steel members.
- D. Fasteners for *[masonry][or][concrete]* shall penetrate the substrate a minimum of 1" (25 mm).

3.6 THIN VENEERS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement joints, returns, and offsets.
 - 1. Avoid using less-than-half-size units, particularly at corners and jambs.
 - 2. Ensure unfinished or cut faces are not exposed to view upon completion.
- B. Select and arrange units for exposed unit masonry to produce a uniform blend of color and texture.
- C. Lay masonry in bond pattern as indicated on drawings or general notes.
- D. Back face of thin brick must be dry and clean; free of dirt, oil or any other foreign contaminant.
- E. Leave a uniform 3/8" to 1/2" (9.5 to 12.7 mm) gap at openings to allow for movement joint installation.
- F. Thin veneers shall be applied within 15 minutes after thin set adhesive has been applied and before film begins to form on the thin set adhesive.
- G. Space thin brick to ensure that the head joints do not exceed 5/8" (16 mm) or fall below 1/4" (6.4 mm).
- H. Keep areas intended to receive sealant clean of thin brick, adhesive and other materials during construction.
- I. Do not allow masonry units to bridge movement joints in substrate.

3.7 MORTAR INSTALLATION AND JOINTING

- A. Use Speedymason Mortar Mix (bed & mortar mix) and Spray on to Speedymason Panel using the Speedymason Hopper.
 - 1. Trowel to meter the mortar and expose the coursing on the Speedymason Panel.
 - 2. Place the thin veneer so that the mortar fills between the joints.
 - 3. Strike joints using a joint profile tool.

[OR]

- B. Completely cover back of bricks with Speedymason Mortar Mix or an approved thin set adhesive for setting thin veneers with a trowel and let the adhesive has set a minimum of 6 hours, completely fill head and bed joints between adhered veneer intended to receive mortar
- C. Do not fill the drainage area of the drip edge starter angle.

NOTE TO SPECIFIER: Delete joint profiles not required.

- D. Tool exposed joints to profile listed below:
 - 1. Joint Profile: Tool mortar joints to a concave appearance.
 - 2. Joint Profile: Tool mortar joints to a concave V-shaped appearance.
 - 3. Joint Profile: Tool mortar joints to a concave grapevine appearance.

NOTE TO SPECIFIER: Delete subparagraph below if no glazed thin brick is required.

- E. For glazed thin brick, use nonmetallic jointer.
- F. Flush cut all joints not tooled.
- G. When pointing, completely remove mortar, and refill solidly with pointing mortar, and tool joints.

3.8 FLASHING

- A. Install embedded flashing in Speedymason Mortar Bed Panel System for Thin Masonry assemblies at the base of the wall, above openings, above horizontal movement joints and other obstructions to downward flow of water in wall, and where indicated.
- B. Before covering with wall panel or mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
- C. Carry flashing vertically as detailed, but not less than 3" (76 mm) above horizontal plane.
- D. Lap flashing a minimum of 3" (76 mm) or recommended by local building code.
- E. Seal all flashing laps with compatible lap cement or tape.
- F. Extend head and sill flashings not less than 6" (150 mm) beyond edges of openings; seal with mastic.
- G. Project starter angle from face of wall approximately 1/4" (6 mm) to form a drip.

3.9 CONTROL AND EXPANSION JOINTS

- A. Keep clean of all mortar, adhesive and debris.
- B. Locate joints where indicated on drawings.
- C. Provide vertical and horizontal pressure-relieving joints where indicated by installing sealant, and inserting a compressible filler when required, as specified in Division 07 Section "Joint Sealants," but not less than 3/8" (10 mm). Backer rod may not be required and is dependent upon depth of joint.
- D. Install joints between Mortar Bed Panel System for Thin Masonry wall assemblies and other materials including around windows and doors.
- E. Install joints at changes in substrate and where movement joints occur in substrate.
- F. Vertical joints must not exceed 16' (488 cm) on center in walls without openings; including joint within 4' (122 cm) of the corner.

NOTE TO SPECIFIER: *Revise two subparagraphs below to suit specific project needs.*

- G. Install horizontal joints on wood frame walls at every floor level.
- H. Install horizontal joints on *[steel frame] [or] [masonry] [or] [concrete]* walls every *[1] [or] [2]* stories.

3.10 CLEANING

- A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove adhesive as well as mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 - 1. Cut out all defective mortar joints and holes in exposed masonry and provide new mortar.
 - 2. Clean preselected sample wall area with specified cleaning solution as per manufacturer's recommendations. Do not proceed with cleaning until approved by Architect.
 - 3. Clean thin brick in accordance with manufacturer's written instructions.
 - 4. Protect adjacent stone and non-masonry surfaces from contact with cleaner.
 - 5. All cleaning practices and product used shall be in accordance with cleaning products manufacturer's written instructions.

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