SECTION 04215

BRICK PANEL SYSTEMS

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\*\* NOTE TO SPECIFIER \*\* Brick-It; thin brick, brick panel systems, insulated brick panel systems.
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This section is based on the products of Brick-It, which is located at:
17 Central Ave
Hauppauge, NY 11788
Phone: 631-244-3993
Fax: 631-348-0300
Email: info@brickit.com
Web: http://www.brickit.com
Brick-It™, a complete panel system made with real 1/2 inch (13 mm) clay thin bricks specifically created for thin brick application. For over 20 years, professionals have been using it for all their interior and exterior thin brick veneer. It combines 21st century technology with the timeless elegance of traditional brick. Whether you're a homeowner or a business owner, handyman, interior designer, architect or construction professional, Brick-It™ is for you. Brick-It™ is one of the largest stocking distributors of thin brick in the United States. We provide a wide variety of authentic, clay thin bricks to choose from: bricks in stock, bricks on sale, special order bricks and limited edition thin used brick.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Metal grid system for thin brick.
		2. Insulated panel system for thin brick.
	1. RELATED SECTIONS

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

* + 1. Section 03300 - Cast-In-Place Concrete.
		2. Section 04200 - Masonry Units.
		3. Section 05120 - Structural Steel.
		4. Section 05400 - Cold-Formed Metal Framing.
		5. Section 06100 - Rough Carpentry.
		6. Section 06160 - Sheathing.
		7. Section 07210 - Building Insulation.
		8. Section 07620 - Sheet Metal Flashing and Trim.
		9. Section 07900 - Joint Sealants.
	1. REFERENCES

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

* + 1. ASTM International (ASTM):
			1. ASTM C 216 - Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale); severe weather grade kiln-fired brick.
			2. ASTM C 270 - Standard Specification for Mortar for Unit Masonry; specially formulated mortar mix.
			3. ASTM C 513 - Standard Test Method for Obtaining and Testing Specimens of Hardened Lightweight Insulating Concrete for Compressive Strength; for bricks, minimum compression strength of 1000 PSI.
			4. ASTM C 577 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing.
			5. ASTM C 666 - Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing, brick, pass.
			6. ASTM C 1088 - Standard Test Method for Thin Veneer Brick Units Made From Clay or Shale; severe weather grade kiln-fired brick.
			7. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
			8. ASTM E 754 - Standard Test Method for Pullout Resistance of Ties and Anchors Embedded in Masonry Mortar Joints.
		2. Miami-Date County Performance Testing:
			1. TAS 201 - Large Missile Impact Test.
			2. TAS 202 - Uniform Static Pressure Test.
			3. TAS 203 - Cyclic Wind Pressure Load Test.
	1. SUBMITTALS
		1. Submit under provisions of Section 01300.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Manufacturer's installation instructions, showing required preparation and installation procedures.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
			4. Cleaning and maintenance instructions.
		3. Shop Drawings: Provide drawings prepared by the applicator/contractor showing the wall layout, typical details, connections, expansion joints, plus the installation sequence shall be submitted shall be submitted to the architect upon request. Shop drawings shall include the following:
			1. Submit elevations, sections and details of assembly components; indicate locations, configurations, large scale plans.
			2. Show sequence of installation, attachment details, and weather sealing.
			3. Show location of members, other items of work and related work of other Sections to be coordinated with work of this section.
			4. Submit detail drawings depicting proper installation and flashing techniques. Coordinate locations with those found on the Contract Drawings.
		4. Quality Assurance Submittals:
			1. Copies of test reports by independent laboratories verifying the performance of the system shall be submitted to the Architect upon request.
			2. The certified applicator/contractor shall submit a copy of his current ' Certificate of Trained Applicator' from Brick-It to the architect prior to the application of the Brick-It Metal Grid Panel System.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Verification Samples: For each finish product specified, two samples, minimum size 12 inches (305 mm) by 12 inches (305 mm), representing actual products, styles, colors, patterns, and textures.
		2. Warranty: Copy of manufacturer's standard warranty.
	1. QUALITY ASSURANCE
		1. Single Source Requirements: Provide primary and secondary components required for installation of thin brick systems from a single source.
		2. Manufacturer Qualifications: Minimum 20 years experience manufacturing similar products.
		3. Installer Qualifications:
			1. Received instruction by manufacturer's personnel in the installation of the Brick-It System and received a ' Certificate of Trained Applicator' from Brick-It.
			2. Experienced and competent in the installation of brick type materials.
			3. If requested, submit a list of recently completed projects using similar materials.
		4. Performance Testing: Product shall pass the following Miami-Dade County Performance Testing.
			1. TAS 201 - Large Missile Impact Test - Pass.
			2. TAS 202 - Uniform Static Pressure Test - Pass.
			3. TAS 203 - Cyclic Wind Pressure Load Test - Pass.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up 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. When deciding on the extent of the mock-up, consider all the major different types of work on the project. Delete if not required.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
			1. The mock-up shall demonstrate the proposed range of color, texture, and workmanship to be expected in completed work.
			2. Locate mock-up on site in location as directed by Architect. Clean the sample panel installation using the same materials and tools as planned for the final construction.
			3. Obtain Architect's acceptance of mock-up before start of work.
			4. Do not proceed with remaining work until workmanship, color, style, pattern, and texture are approved by Architect.
			5. Modify mock-up area as required to produce acceptable work.

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs and delete the one not required.

* + - 1. Remove mock-up at the completion of the work.
			2. Mock-up may be incorporated into the work.

\*\* NOTE TO SPECIFIER \*\* The following pre-installation meeting is suggested for all projects. Delete if not required.

* + 1. Conduct a pre-installation meeting to verify all products, application procedures, site conditions and warranty terms. Conduct in accordance with Section 01310.
	1. DELIVERY, STORAGE, AND HANDLING
		1. Materials shall be delivered to the location in unopened factory containers. Upon arrival, materials shall be inspected for damage and manufacturer informed of any discrepancies. Deficient materials shall not be used.
		2. Materials shall be stored in a protected location and safeguarded from damage.
	2. PROJECT CONDITIONS

\*\* NOTE TO SPECIFIER \*\* Weather conditions affect application and drying time. 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 added measures of protection against wind, dust, dirt, rain and freezing..

* + 1. The ambient air temperature shall remain at 36 degrees F (2.2 degrees C) or greater for at least 72 hours after the application of mortar.
		2. Flashing and sealants shall be installed immediately after completion of the system. For outdoor application, provide temporary protection as needed from precipitation, wind, airborne dust and debris, and similar items.
		3. Provide protection of surrounding areas and adjacent surfaces from application of brick panel systems.
	1. COORDINATION/SCHEDULING
		1. The work in this section requires close coordination with related specifications sections and trades. Sufficient labor and equipment shall be employed to ensure a continuous operation satisfactory to the architect.
		2. Coordinate installation of brick panel systems with related wall elements, including, windows, doors, louvers, ducts, signage, flashings, sealants, weather resistive barrier, sealant tapes and membranes, supporting wall framing and sheathing, surface mounted objects, and similar items.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Coordinate with installation of flashing, coping and sealants to ensure that materials are installed in accordance with manufacturer's instructions.
			2. Coordinate with installation of surface-mounted objects to ensure that watertight seal is provided.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. EXTRA MATERIALS
		1. At completion of project, deliver to Owner extra stock of materials used on project as follows:

\*\* NOTE TO SPECIFIER \*\* Modify the following subparagraph to meet the requirements of the project if required.

* + - 1. Minimum 2 percent of attic stock for each brick type specified.
		1. Store in location as directed by Owner. Ensure materials are boxed and identified by manufacturer, type, and color.
	1. WARRANTY
		1. Manufacturer's Warranty: Provide Brick-It standard 20 year limited warranty.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Brick-it, which is located at: 17 Central Ave. Unit 3; Hauppauge, NY 11788; Tel: 631-244-3993; Fax: 631-348-0300; Email: [request info (info@brickit.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Brick-it&coid=45930&rep=&fax=631-348-0300&message=RE:%20Spec%20Question%20(04215bri):%20%20&mf=); Web: [www.brickit.com](http://www.brickit.com)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01600.

\*\* NOTE TO SPECIFIER \*\* Brick-It™ is made with real 1/2 inch (13 mm) clay thin brick. It is not brick imitation, brick faux nor brick tiles. It is not simulated brick siding or faux brick panels. Brick-It panels are used as a cladding material for buildings of all types, including new construction and retrofit construction. They are exterior and interior panels that can be designed for special applications.

* 1. BRICK PANEL SYSTEMS
		1. Brick Panel Systems: System for aligning and locking thin brick to a substrate that does not depend on adhesive for its performance.

\*\* NOTE TO SPECIFIER \*\* Delete system types not required.

* + - 1. System Type: Brick-It Designer Metal Grid System.
			2. System Type: Brick-It Metal Grid System with Read Drainage and Moisture Control.
			3. System Type: Brick-It Insulated Panel System.

\*\* NOTE TO SPECIFIER \*\* The Brick-It Metal Grid Panel can be attached to prefabricated metal stud curtain wall systems, usually constructed off site at a factory location. Delete if not required.

* + - 1. Wall Fabrication: Brick panel system shall be factory assembled and attached to prefabricated metal stud curtain wall system as indicated on the Drawings and in the Contract Documents.

\*\* NOTE TO SPECIFIER \*\* Brick-It metal panel is formed to a patented shape that aligns brick courses.

* + 1. Metal Grid System Panels: Galvanized steel metal components formed to align brick courses and to support and ensure a mechanical bond of each brick in place.
			1. Panels shall be chem-dry treated, and be a minimum 0.014 inch (0.36 mm) thickness with continuous carrying brick ledges (every course of brick) with minimum thickness per ledge: 0.028 inch (0.71 mm).
			2. Panels shall have a continuous interlock every third course, minimum thickness, 0.042 inch (1.07 mm).
			3. Panels shall be able to fold out corners, door and window sections, and have a continuous linear array of holes to receive adhesive and have a continuous array of mortar receptors to lock in mortar mix.
			4. Panels shall be designed to carry brick load evenly on entire wall surface without the use of footings, starter angles or special corner sections.

\*\* NOTE TO SPECIFIER \*\* Delete size options not required.

* + - 1. Size: 48 inches by 8-1/4 inches (1219 mm by 210 mm).
			2. Size: 96 inches by 8-1/4 inches (2438 mm by 210 mm).
			3. Size: Standard size as indicated on the Drawings.
			4. Size: As selected by Architect from manufacturer's full range of standard size options.
			5. Size: Custom size as indicated on the Drawings.
			6. Size: Custom size as selected by Architect.

\*\* NOTE TO SPECIFIER \*\* Delete brick configuration options not required.

* + - 1. Brick Configuration: Staggered, standard.
			2. Brick Configuration: Soldier.
		1. Brick: Kiln-fired brick 1/2 to 1 inch (13 mm to 25 mm) nominal thickness, meeting ASTM C 216 and ASTM C 1088 severe weather requirements, minimum compression strength of 1000 PSI per ASTM C 513, passes freeze/thaw test per ASTM C 666.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Brick Color: Arbor Rose.
			2. Brick Color: Bircham.
			3. Brick Color: Durham.
			4. Brick Color: Flash Mertingale.
			5. Brick Color: Greywood.
			6. Brick Color: King William.
			7. Brick Color: Olde Red Blend.
			8. Brick Color: Rosebud.
			9. Brick Color: Rustic.
			10. Brick Color: Salem.
			11. Brick Color: Springfield.
			12. Brick Color: St. Windsor
			13. Brick Color: Vintage.
			14. Brick Color: Whitestone.
			15. Brick Color: As selected by the Architect from manufacturer's full range of standard available color options.
			16. Brick Color: As indicated on the Drawings.

\*\* NOTE TO SPECIFIER \*\* For Special Order Bricks, please call to speak to a Brick-It™ representative. In most cases these bricks can be obtained in a few days. Delete if not required.

* + - 1. Special Order Brick Color: Autumn Sands.
			2. Special Order Brick Color: Black Sand.
			3. Special Order Brick Color: Brown Sand.
			4. Special Order Brick Color: Brown Sands 1.
			5. Special Order Brick Color: Burgundy Blend w/c.
			6. Special Order Brick Color: Burgundy Sands Heritage.
			7. Special Order Brick Color: Cooperstown.
			8. Special Order Brick Color: Coppertone w/c.
			9. Special Order Brick Color: Dark Ironspot vel.
			10. Special Order Brick Color: Dark Sandstone sm.
			11. Special Order Brick Color: Desert Light sm.
			12. Special Order Brick Color: Desert Sand Heritage.
			13. Special Order Brick Color: Golden Buff sm.
			14. Special Order Brick Color: Grey Sand.
			15. Special Order Brick Color: Grey Sands.
			16. Special Order Brick Color: Hacienda.
			17. Special Order Brick Color: Kentucky Rustic.
			18. Special Order Brick Color: Light Sandstone w/c.
			19. Special Order Brick Color: Manganese Ironspot sm.
			20. Special Order Brick Color: Medium Ironspot #77 w/c.
			21. Special Order Brick Color: Medium Ironspot #46 sm.
			22. Special Order Brick Color: Old Lexington.
			23. Special Order Brick Color: Old Oakley.
			24. Special Order Brick Color: Orleans Sand.
			25. Special Order Brick Color: Red Velour.
			26. Special Order Brick Color: Regatta Red.
			27. Special Order Brick Color: Rose Blend w/c.
			28. Special Order Brick Color: Rosewood.
			29. Special Order Brick Color: Sahara Sand.
			30. Special Order Brick Color: As selected by the Architect from manufacturer's full range of special order available color options.
			31. Special Order Brick Color: As indicated on the Drawings.
		1. Mortar: Premixed mortar supplied by manufacturer, ASTM C 270.

\*\* NOTE TO SPECIFIER \*\* Delete mortar color options not required.

* + - 1. Mortar Color: Grey.
			2. Mortar Color: Beige.
			3. Mortar Color: As selected by the Architect from manufacturer's full range of standard available mortar color options
			4. Mortar Color: As indicated on the Drawings.
		1. Fasteners: Non-corrosive ribbed nails, screws or staples, designed for applicable substrate.
		2. Adhesives: High solid, solvent based adhesive that remains flexible and unaffected by freeze-thaw cycles, as supplied by Brick-It.
		3. Water: Shall be clean, potable, and free of all foreign matter.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Insulation Board: Provide insulation board by a manufacturer approved by Brick-It.
		2. Cleaner: ProSoCo SureKleen 600 or approved equal.
		3. Masonry Sealer: Manufacturer's recommended sealer, applied to brick and mortar joints.
		4. Sealant Systems: Acceptable to Brick-It, color as selected by Architect. Joint design and surface preparation shall be based on sealant manufacturer's recommendation and project conditions.
1. EXECUTION
	1. EXAMINATION

\*\* NOTE TO SPECIFIER\*\* The following are approved substrates for the Brick-It Metal Grid Panel System: Sound concrete, masonry, or brick; sound Portland/Cement stucco; fiber reinforced cement board; sound exterior grade plywood or OSB board; exterior grade gypsum sheathing; glass mat gypsum sheathing. Other substrates shall be approved prior to installation.

* + 1. Prior to installation, examine substrate for conditions including soundness, tightness of connections, crumbling or looseness of surfaces, and projections. Verify substrate is acceptable to authorities having jurisdiction prior to installation of the work of this Section.
		2. Report deviations from the requirements of project specifications or other conditions that might adversely affect the installation to the Contractor. Do not start work until deviations are corrected.
	1. SUBSTRATE PREPARATION
		1. Repair damaged or cracked surfaces. Prepare substrate to be flat, within 1/8 inch (3.2 mm) within any 4 foot (1.2 m) square area.
		2. Remove surface contaminants on concrete and concrete masonry surfaces, such a form release oils, dust, paint, waterproofing, and similar items. If required by manufacturer, apply conditioner to substrate by sprayer or roller to chalking or excessively absorptive surfaces.
	2. INSTALLATION
		1. Install in accordance with manufacturer's written instructions as applicable to each type of substrate required. Install bricks to specified pattern and mortar.
		2. Metal Grid: Apply to substrate surface in the true level rows, interlock at every panel. Install such that panel does not extend 1/4 inch (6 mm) below the face of the brick.
			1. Offset vertical grid joints and leave 1/4 inch (6 mm) between joints. Install for brick to extend past grid by 1/2 inch (13 mm) at grid ends.
			2. Fasten grid system to a sound substrate or wall with a non-corrosive fastener; minimum penetration of substrate is 1 inch (25 mm). Concrete and masonry walls require fasteners and adhesive on rear of metal grid.
			3. Install fasteners on an average of 3 per square foot (0.1 square meters) and at top and bottom courses vertically and a maximum of 16 inches (406 mm) on center horizontally.
		3. Adhesive:
			1. Brick shall be spaced to insure that the head joints do not exceed 5/8 inch (16 mm) or fall below 1/4 inch (6.5 mm). The optimum head joint size is 7/16 inch (11 mm).
			2. Use adhesive supplied by manufacturer. For exterior installations, apply 3/8 inch (9.5 mm) vertical dabs. For interior applications, apply 3/8 inch (9.5 mm) beads over adhesive holes as shown in manufacturer's literature.
			3. Do not use excessive adhesive as this will cause bricks to tilt away from grid. Check periodically and repress to grid.
			4. Allow adhesive 24 hours to dry before mortaring.
		4. Brick Placement:
			1. Applications Requiring Corners:
				1. Start with corner brick, or a corner brick at each corner if there are corners at both ends.
				2. Install bricks adjusting vertical joints for fit or cut brick as required.
			2. Applications that do not required corners:
				1. Install bricks in direction of arrows as shown in manufacturer's literature.
				2. Place adhesive on two rows of grid in the middle of wall.
				3. Adjust vertical joints to fit area, 3/8 inch to 1/2 inch (9.5 mm to 13 mm), to fit wall space.
				4. Cut end bricks as needed. Install bricks horizontally than vertically.
				5. Draw a plumb vertical line every 48 inches (1219 mm) to help maintain spacing.
		5. Mortar:
			1. Allow adhesive to fully cure before mortaring joints.
			2. Use clean, cold water to mix mortar. Flush hoses regularly; especially during warm weather.
			3. Slightly dampen bricks before mortaring; especially during hot weather.
			4. Mix properly and test a sample area.
			5. Do not apply mortar to brick panel system when the ambient outdoor temperature is below 36 degrees F (2.2 degrees C) unless temporary protection and heat can be provided for a minimum of 36 hours after installation.
			6. Apply mortar into horizontal joints first, then vertical joints. Over fill joints with sufficient mortar to avoid leaving any voids. When mortar attains a firm consistency joints shall be tooled.
			7. Use the joint tool supplied with the mortar kit to strike joints. Press the tool against the joint and strike joint to fill and seal mortar to edges of brick. Strike the vertical joints first than horizontal joints. Provide concave finish. Fill voids.
		6. Sealer: Apply only after mortar joints are thoroughly cured. Allow a minimum of 2 weeks prior to application.

\*\* NOTE TO SPECIFIER\*\* Sealing exterior applications is optional. Delete if not required.

* + - 1. Seal exterior applications in accordance with manufacturer's recommendations.

\*\* NOTE TO SPECIFIER\*\* Sealing interior applications is recommended. Delete sealing option for interior applications if not applicable.

* + - 1. Seal interior applications in accordance with manufacturer's recommendations.
	1. FIELD QUALITY CONTROL
		1. Arrange and pay for project inspection by Brick-It or its authorized representative to confirm warranty will be provided. Notify Architect 48 hours in advance of inspection.
	2. CLEANING AND PROTECTION
		1. Cleaning: As recommended by manufacturer. Do not begin cleaning until mortar joints are properly cured. Allow a minimum of 24 to 72 hours. Soak bricks and mortar joints before applying cleaner.
			1. Thoroughly flush wall after cleaning.
			2. Clean adjacent materials and surfaces of all foreign materials resulting from the work of this Section.
		2. Protection:
			1. Protect installed materials from water impinging on the visible surface, chinking, sealants joints, and from behind.
			2. Protect installed materials from dust, dirt, precipitation, freezing, damaged, spilled materials, and continuous high humidity until they are fully dry.

END OF SECTION