SECTION 096313 - BRICK FLOORING

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
	* + 1. SUMMARY
				1. Section Includes:

Brick flooring set on thickset mortar bed.

Brick flooring set in thinset mortar directly on concrete.

* + - * 1. Related Requirements:

Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

[**Section 071326 "Self-Adhering Sheet Waterproofing"**] [**Section 071353 "Elastomeric Sheet Waterproofing"**] [**Section 071354 "Thermoplastic Sheet Waterproofing"**] [**Section 071416 "Cold Fluid-Applied Waterproofing"**] for waterproofing under brick flooring.

Section 079200 "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in brick flooring.

Section 321400 "Unit Paving" for brick pavers installed in pavement applications (exterior) rather than as flooring (interior).

* + - 1. PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" paragraph below if Work of this Section is extensive or complex enough to justify a conference.

* + - * 1. Preinstallation Conference: Conduct conference at Project site.
			1. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

Retain one of two "Product Data" paragraphs below. If retaining second paragraph, revise list to coordinate with products retained in Part 2.

* + - * 1. Product Data: For materials other than water and aggregates.
				2. Product Data: For the following:

Brick.

Packaged mortar mixes.

Packaged grout mixes.

Mortar and grout additives.

Sealer.

Floor polish.

* + - * 1. Sustainable Design Submittals:

Retain option in "Samples for Initial Selection" paragraph below if flooring is grouted and grout color approval is required.

* + - * 1. Samples for Initial Selection: For each type of brick[**and for grout and accessories involving color selection**].
				2. Samples for Verification: Full-size units of each type of brick[**with joints grouted and cured**].

Delete subparagraph below if sealer and floor polish are not used.

Seal and polish Samples on one-half of exposed traffic surface.

Delete "Adhesion and Compatibility Test Reports" paragraph below if latex additive is not used or if requirement for preconstruction adhesion and compatibility testing is deleted.

* + - * 1. Adhesion and Compatibility Test Reports: From latex-additive manufacturer for mortar and grout containing latex additives.
			1. QUALITY ASSURANCE

If "Mockups" paragraph below is retained, indicate location, size, and other details of mockups on Drawings or by inserts. Revise wording if only one mockup is required.

* + - * 1. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

Apply sealer and floor polish over one-half of mockup's traffic surface.

Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

* + - 1. PRECONSTRUCTION TESTING

Retain "Preconstruction Adhesion and Compatibility Testing" paragraph below if latex additives are specified and if testing is considered necessary.

* + - * 1. Preconstruction Adhesion and Compatibility Testing: Submit to latex-additive manufacturer, for testing as indicated below, samples of flooring materials that will contact or affect mortar and grout that contain latex additives.

Use manufacturer's standard test methods to determine whether mortar and grout materials will obtain optimum adhesion with, and will be nonstaining to, installed brick and other materials constituting brick flooring installation.

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Store bricks on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.
				2. Deliver, store, and handle bricks that have temporary protective coating, with coated surfaces placed against other coated surfaces. Do not allow coated surfaces to come in contact with uncoated surfaces.
				3. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
				4. Store aggregates where grading and other required characteristics can be maintained and where contamination can be avoided.
				5. Store liquids in tightly closed containers protected from freezing.
			2. FIELD CONDITIONS
				1. Environmental Limitations: Do not set brick flooring when air temperature or material temperature is below 40 deg F. Maintain minimum ambient temperature of 40 deg F during installation and for 48 hours after completion.
1. PRODUCTS
	* + 1. MANUFACTURERS
				1. Source Limitations: Obtain each type of brick and joint material from single source from single manufacturer or producer.
			2. BRICK PAVERS

* + - * 1. [Manufacturers:](http://www.specagent.com/Lookup?ulid=375) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Belden Brick Company (The)](http://www.specagent.com/Lookup?uid=123457220943).

[Endicott Clay Products Co](http://www.specagent.com/Lookup?uid=123457220946).

[Glen-Gery Corporation](http://www.specagent.com/Lookup?uid=123457220948).

Approved equivalent.

Retain one weather class, traffic type, and application in "Brick Pavers" paragraph below. Class SX is for exposure to freezing weather, and Class MX is for exterior uses that do not expose brick to freezing. Class NX is for interior locations. Type I is for exposure to extensive abrasion, such as sidewalks and driveways in public spaces; Type II is for exposure to intermediate abrasion, such as heavily traveled residential sidewalks and residential driveways; and Type III is for exposure to low abrasion, such as floors and patios in single-family homes. Application PS is normal tolerance; Application PX is exceptionally close dimensional tolerances; and Application PA is nonuniform sized for characteristic architectural effects. If retaining Application PA, specify tolerances.

* + - * 1. Brick Pavers: Light-traffic paving brick complying with ASTM C902, [**Class SX**] [**Class MX**] [**Class NX**], [**Type I**] [**Type II**] [**Type III**], [**Application PS**] [**Application PX**] [**Application PA**], without frogs or cores in surfaces exposed to view in the completed Work.

Retain first option in "Size" paragraph below and show dimensions on Drawings, or retain second option and applicable options in "Thickness" and "Face Dimensions" subparagraphs below. Verify availability of sizes with manufacturers.

* + - * 1. Size: [**As indicated.**] [**Actual dimensions as follows:**]

Thickness: [**1-1/4 inches**] [**1-5/8 inches**] [**2-1/4 inches**].

Face Dimensions: [**3-5/8 by 7-5/8 inches**] [**4 by 8 inches**] [**3-5/8 by 11-5/8 inches**] [**7-5/8 by 7-5/8 inches**].

Retain one option in "Colors and Textures" paragraph below. If retaining first option, indicate colors and textures in a separate schedule.

* + - * 1. Colors and Textures: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's samples**] [**As selected by Director’s Representative from manufacturer's full range**].

Generally retain "Temporary Protective Coating" paragraph below if latex-modified mortar or grout is used.

* + - * 1. Temporary Protective Coating: Precoat exposed surfaces of brick pavers[**at factory**] with a continuous film of a temporary protective coating that is compatible with brick, mortar, and grout products and can be removed without damaging grout or brick. Do not coat unexposed brick surfaces; handle brick to prevent coated surfaces from contacting backs or edges of other units. If, despite these precautions, coating does contact bonding surfaces of brick, remove coating from bonding surfaces before setting brick.
			1. MORTAR SETTING-BED MATERIALS
				1. Portland Cement: ASTM C150, Type I or II.
				2. Hydrated Lime: ASTM C207, Type S.

Revise "Aggregate" paragraph below for latex-modified portland-cement mortar bed if latex-additive manufacturer requires coarser aggregate complying with ASTM C33.

* + - * 1. Aggregate: ASTM C144.

Retain "Latex Additive" paragraph below for thickset applications if latex additive is required to improve flexibility and other properties of mortar setting bed or if latex additive is used for mortar-bed bond coat.

* + - * 1. Latex Additive: [**Manufacturer's standard**] [**acrylic resin**] [**or**] [**styrene-butadiene-rubber**] water emulsion, serving as replacement for part or all of gaging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed portland cement and aggregate mortar bed, and not containing a retarder.

Retain "Cleavage Membrane" paragraph below for work over wood subfloor or for isolation of portland-cement setting bed from concrete subfloor. See the Evaluations.

* + - * 1. Cleavage Membrane: Asphalt-saturated felt, ASTM D226, Type I (No. 15); or polyethylene sheeting, ASTM D4397, 4.0 mils thick.

Retain "Reinforcing Wire Fabric" paragraph below for reinforced mortar bed (always used when cleavage membrane is used). Revise if thicker wire is required. ASTM A82 specifies minimum wire size of 0.08 inch.

* + - * 1. Reinforcing Wire Fabric: Galvanized, welded-wire fabric, 2 by 2 inches by 0.062 inch in diameter; comply with ASTM A185 and ASTM A82 except for minimum wire size.

Retain "Thinset Mortar" paragraph below for thinset applications and for thickset applications if cured mortar-bed installation method is specified. Thinset mortar can also be used for bond coat with wet-set method.

* + - * 1. Thinset Mortar: Latex-portland-cement mortar complying with ANSI A118.4.

[Manufacturers:](http://www.specagent.com/Lookup?ulid=376) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Custom Building Products](http://www.specagent.com/Lookup?uid=123457220956); FlexBond® Premium Crack Prevention Thin­set Mortar.

[Laticrete International, Inc](http://www.specagent.com/Lookup?uid=123457220958).; Laticrete 253 Gold.

[MAPEI Corporation](http://www.specagent.com/Lookup?uid=123457220959); Ultraflex 3.

[Summitville Tiles, Inc](http://www.specagent.com/Lookup?uid=123457220963).; S-1100 Multi-Purpose Premium Thin Set Latex Mortar.

Approved equivalent.

Consider retaining subparagraph below. Some manufacturers make medium-bed mortars, which could be advantageous for setting brick when larger tolerances for brick and subfloors must be accommodated.

Provide product that is approved by manufacturer for application thickness of [**5/8 inch**].

* + - 1. GROUT MATERIALS

Delete this article if Project does not include grouted joints.

Grout in "Sand-Portland-Cement Grout" paragraph below is field-mixed portland cement and fine-graded sand. Delete if only factory-prepared products are allowed.

* + - * 1. Sand-Portland-Cement Grout: ANSI A108.10, composed of white or gray cement and white or colored aggregate as required to produce color indicated.

Retain "Colored Mortar Pigments for Grout" subparagraph below if job-mixed pigmented grout is used. See the Evaluations.

Colored Mortar Pigments for Grout: Natural and synthetic iron and chromium oxides, compounded for use in mortar and grout mixes and complying with ASTM C979. Use only pigments with a record of satisfactory performance in portland-cement grout.

Retain "Standard Cement Grout" or "High-Performance Tile Grout" paragraph below if packaged grout is used instead of job-mixed grout.

* + - * 1. Standard Cement Grout: ANSI A118.6, sanded.

[Products:](http://www.specagent.com/Lookup?ulid=377) Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

[Custom Building Products](http://www.specagent.com/Lookup?uid=123457220972); Fusion Pro® Single Component® Grout.

[Laticrete International, Inc](http://www.specagent.com/Lookup?uid=123457220974).; 1500 Sanded Grout.

[MAPEI Corporation](http://www.specagent.com/Lookup?uid=123457220969); Ultracolor® Plus FA.

[Summitville Tiles, Inc](http://www.specagent.com/Lookup?uid=123457220978) S-687 Fungus and Mildew Resistant Unsanded Grout.

Approved equivalent.

* + - * 1. High-Performance Tile Grout: ANSI A118.7, sanded.

[Products:](http://www.specagent.com/Lookup?ulid=9348) Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

[Custom Building Products](http://www.specagent.com/Lookup?uid=123457220931); Prism® Ultimate Performance Grout.

[Laticrete International, Inc](http://www.specagent.com/Lookup?uid=123457220933).; Laticrete Permacolor® Grout.

[MAPEI Corporation](http://www.specagent.com/Lookup?uid=123457220934); Ultracolor® Plus FA.

[Summitville Tiles, Inc](http://www.specagent.com/Lookup?uid=123457220936).; S-730 ProMax Grout.

Approved equivalent.

Retain one option in "Colors" paragraph below. If retaining first option, indicate colors and textures in a separate schedule.

* + - * 1. Colors: [**As indicated by manufacturer's designations**] [**Match Samples**] [**As selected by Director’s Representative from manufacturer's full range**].

Retain "Water" paragraph below for job-mixed grout and prepackaged grout formulations that only require adding water.

* + - * 1. Water: Potable.
			1. MISCELLANEOUS MATERIALS
				1. Expansion- and Control-Joint-Filler Strips: ASTM D1752, cork or self-expanding cork.
				2. Sealer: Colorless, stain- and slip-resistant sealer, not affecting color or physical properties of brick and grout surfaces and specifically recommended by sealer manufacturer for use indicated.

[Products:](http://www.specagent.com/Lookup?ulid=11189) Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

[Custom Building Products](http://www.specagent.com/Lookup?uid=123457220987); TileLab® SurfaceGard® Sealer.

[Hillyard, Inc](http://www.specagent.com/Lookup?uid=123457220988).; Hil-Tex+® Seal.

[Summitville Tiles, Inc](http://www.specagent.com/Lookup?uid=123457220990).; SL-15 Invisible Seal.

Approved equivalent.

* + - * 1. Floor Polish: ASTM D4078, formulated for use over sealer indicated, acceptable to sealer manufacturer, and specifically recommended by floor-polish manufacturer for use indicated.

"Slip Resistance" subparagraph below is standard criterion for slip resistance of floor polishes.

Slip Resistance: Floor polish shall have a static coefficient of friction of at least 0.5 when tested according to ASTM D2047.

* + - 1. MIXES

Coordinate mixes in this article with materials and products retained in articles specifying mortar setting-bed and joint materials and their installation.

* + - * 1. General: Comply with referenced standards and with manufacturers' written instructions for mix proportions, mixing equipment, mixer speeds, mixing containers, mixing times, and other procedures needed to produce setting-bed and joint materials of uniform quality and with optimum performance characteristics. Discard mortars and grout when they have reached their initial set.

Retain "Portland-Cement-Lime Setting-Bed Mortar" or "Latex-Modified Portland-Cement Setting-Bed Mortar" paragraph below for thickset applications. See the Evaluations.

BIA Technical Notes 14 indicates that either option in first paragraph is suitable for interior applications; Type S is preferred for reinforced applications if maximum tensile-bond strength is needed.

* + - * 1. Portland-Cement-Lime Setting-Bed Mortar: ASTM C270, [**Type S**] [**Type N**], Proportion Specification.
				2. Latex-Modified Portland-Cement Setting-Bed Mortar: Proportion and mix according to written instructions of liquid-latex manufacturer and as necessary to produce stiff mixture with a moist surface when bed is ready to receive brick.

Retain "Mortar-Bed Bond Coat" paragraph below for thickset applications if mortar bed is installed directly over concrete. Latex additive can be used in the mortar-bed bond coat with either latex-modified or unmodified portland-cement-lime setting-bed mortar; only use mortar-bed bond coat mixed with water with unmodified portland-cement-lime setting-bed mortar.

* + - * 1. Mortar-Bed Bond Coat: Mix neat cement and [**latex additive**] [**water**] to a creamy consistency.

Retain "Thinset Mortar Bond Coat" or "Portland-Cement Bond Coat" paragraph below if wet-set installation method is specified. First may be used with mortar bed made of either latex-modified portland-cement mortar or unmodified portland-cement-lime mortar. Second may only be used with mortar bed made of unmodified portland-cement-lime mortar.

* + - * 1. Thinset Mortar Bond Coat: Proportion and mix according to manufacturer's written instructions.
				2. Portland-Cement Bond Coat: Mix neat cement and water to a creamy consistency.

Retain "Thinset Mortar" paragraph below if thinset application or cured mortar-bed installation method is specified. See the Evaluations.

* + - * 1. Thinset Mortar: Proportion and mix according to manufacturer's written instructions.

Retain "Job-Mixed Grout" or "Packaged Grout" paragraph below if brick is laid with grouted joints.

* + - * 1. Job-Mixed Grout: Proportion and mix portland cement and aggregate grout to match setting-bed mortar, except omit hydrated lime and use enough water to produce a pourable mixture.

Retain "Pigmented Grout" or "Colored-Aggregate Grout" subparagraph below with "Job-Mixed Grout paragraph above.

Pigmented Grout: Select and proportion pigments with other ingredients to produce color required. Do not exceed pigment-to-cement ratio of 1 to 10, by weight.

Colored-Aggregate Grout: Produce color required by combining colored aggregates with portland cement of selected color.

* + - * 1. Packaged Grout: Proportion and mix according to grout manufacturer's written instructions.
1. EXECUTION
	* + 1. EXAMINATION

Coordinate conditions required by Work of this Section with requirements in Section where substrate is specified.

* + - * 1. Examine surfaces indicated to receive brick flooring, with Installer present, for compliance with requirements for maximum moisture content, installation tolerances, and other conditions affecting performance of the Work.
				2. Proceed with installation only after unsatisfactory conditions have been corrected.
			1. PREPARATION OF SUBFLOOR

Coordinate this article with requirements in other Sections in which subfloors are specified. For concrete subfloor, retain requirement in Section 033000 "Cast-in-Place Concrete" that forbids using curing and sealing compounds on surfaces to be covered by ceramic tile, but revise to include brick flooring.

* + - * 1. Sweep subfloor to remove dirt, dust, debris, and loose particles.
				2. Remove substances from subfloor that could impair mortar bond, including curing and sealing compounds, form oil, and laitance.
			1. INSTALLATION, GENERAL
				1. Do not use bricks with chips, cracks, voids, discolorations, or other defects that might be visible or cause staining in the finished Work.
				2. Mix bricks from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.
				3. Cut bricks with motor-driven masonry saw to provide clean, sharp, unchipped edges. Hammer cutting is not acceptable. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible.

Retain one of five options in "Joint Pattern" paragraph below, or revise to suit Project.

* + - * 1. Joint Pattern: [**Running bond**] [**Herringbone**] [**Basket weave**] [**As indicated**] [**Match existing brick flooring joint pattern**].

Retain "Hand-Tight Joints" or "Spaced Joint Widths" paragraph below. Retain first if brick flooring is set with hand-tight joints; retain second if joints are grouted. Below are examples only. Retain tolerance to suit manufacturing tolerances of pavers; Application PA brick pavers will require large tolerances.

* + - * 1. Hand-Tight Joints: Set brick with hand-tight joints[**where indicated**].
				2. Spaced Joint Widths: Provide nominal [**3/8-inch**] [**1/2-inch**] joint width with variations not exceeding plus or minus [**1/16 inch**] [**1/8 inch**] [**unless otherwise indicated**].

Retain one two "Finished-Surface Tolerances" paragraph below. Retain first if uniform level or slopes to drains are critical. Retain second when nominal control of floor surface is acceptable.

* + - * 1. Finished-Surface Tolerances: Do not exceed 1/32-inch brick-to-brick offset from flush (lippage) or 1/8 inch in 10 feet from level, or indicated slope, for finished surface of brick flooring.
				2. Finished-Surface Tolerances: Do not exceed 1/16-inch brick-to-brick offset from flush (lippage) nor 1/8 inch in 24 inches and 1/4 inch in 10 feet from level, or indicated slope, for finished surface of brick flooring.
				3. Expansion and Control Joints: Provide for sealant-filled joints at locations and of widths indicated. Provide joint filler as backing for sealant-filled joints where indicated. Install joint filler before setting brick flooring. Sealant materials and installation are specified in Section 079200 "Joint Sealants."
			1. THICKSET BRICK FLOORING

Retain this article for brick flooring set in a portland-cement mortar bed with a minimum thickness of 3/4 to 1-1/4 inches.

Retain first paragraph below for mortar bed bonded to concrete subfloor. Delete if brick is installed over cleavage membrane or waterproofing.

* + - * 1. Apply mortar bed to concrete subfloors to comply with the following requirements:

Saturate concrete subfloor with clean water several hours before placing setting bed. Remove surface water about one hour before placing setting bed.

Apply mortar-bed bond coat over surface of concrete subfloor about 15 minutes before placing mortar bed. Do not exceed 1/16-inch thickness. Limit area of mortar-bed bond coat to avoid its drying out before placing setting bed.

Retain first subparagraph below if reinforcing wire fabric is used in mortar bed.

Place reinforcing wire fabric over mortar-bed bond coat, lapped at joints by at least one full mesh and supported so mesh becomes embedded in the middle of setting bed. Hold edges back from vertical surfaces approximately 1/2 inch.

Apply mortar bed immediately after applying mortar-bed bond coat. Spread and screed setting bed to uniform thickness at elevations required for accurate setting of brick to finished elevations indicated.

Retain "Brick Wet Set on Workable Mortar Bed" or "Brick Set on Cured Mortar Bed" subparagraph below, or retain both for Contractor's option. Cure time in second subparagraph is considered minimum for mortar bed under tile, with longer cure considered desirable. Revise if longer cure is required.

Brick Wet Set on Workable Mortar Bed: Mix and place only that amount of mortar bed that can be covered with brick before initial set. Cut back, bevel edge, and discard setting-bed material that has reached initial set before placing brick.

Brick Set on Cured Mortar Bed: Cure mortar bed for not less than 20 hours at 70 deg F.

Retain first paragraph below for mortar bed applied over cleavage membrane or waterproofing. Delete if bonded mortar bed is the only method required.

* + - * 1. Apply mortar bed over [**cleavage membrane**] [**waterproofing**] to comply with the following requirements:

Delete first subparagraph below if mortar bed is installed directly over waterproofing or protection course and cleavage membrane is not required.

Place cleavage membrane over subfloor surfaces indicated to receive brick flooring, lapped at least 4 inches at joints.

Place reinforcing wire fabric over membrane, lapped at joints by at least one full mesh and supported so mesh becomes embedded in the middle of setting bed. Hold edges back from vertical surfaces approximately 1/2 inch.

Place mortar bed over cleavage membrane with reinforcing wire fabric fully embedded in middle of setting bed. Spread and screed setting bed to uniform thickness at elevations required for accurate setting of brick to finished elevations indicated.

Retain "Brick Wet Set on Workable Mortar Bed" or "Brick Set on Cured Mortar Bed" subparagraph below, or retain both for Contractor's option. Cure time in second subparagraph is considered minimum for mortar bed under tile, with longer cure considered desirable. Revise if longer cure is required.

Brick Wet Set on Workable Mortar Bed: Mix and place only that amount of mortar bed that can be covered with brick before initial set. Cut back, bevel edge, and discard setting-bed material that has reached initial set before placing brick.

Brick Set on Cured Mortar Bed: Cure mortar bed for not less than 20 hours at 70 deg F.

Retain three paragraphs below for Contractor's option to use either wet-set method or cured-bed method. Otherwise, delete first paragraph and retain one of two remaining paragraphs.

* + - * 1. Install brick either in workable mortar bed or over cured mortar bed at Contractor's option.
				2. Install brick in workable mortar bed to comply with the following requirements:

Wet brick before laying if the initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested according to ASTM C67. Allow brick to absorb the water so it is damp but not wet at the time of laying.

Place brick before initial set of mortar takes place. Immediately before placing brick on setting bed, apply uniform 1/16-inch- thick bond coat to mortar bed or to back of each brick with a flat trowel.

Tamp or beat brick with a wooden block or rubber mallet to obtain full contact with setting bed and to bring finished surfaces within indicated tolerances. Set each brick in a single operation before initial set of mortar; do not return to areas already set and disturb bricks for purposes of realigning finished surfaces or adjusting joints.

* + - * 1. Install brick over cured mortar bed to comply with the following requirements:

Wet brick before laying if the initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested according to ASTM C67. Allow brick to absorb the water so it is damp but not wet at the time of laying.

Apply thinset mortar to setting bed with notched trowel complying with manufacturer's specifications for notch depth and configuration and in heavy enough layer to provide a minimum mortar-bed thickness of 3/32 to 1/8 inch after bricks are fully embedded. Key the mortar into setting bed with flat side of trowel and comb with notched side of trowel in one direction. Apply only as much mortar as can be covered with brick before initial set (15 to 30 minutes).

Place brick while thinset mortar is still tacky and before initial set takes place. Immediately before placing brick on setting bed, apply skim coat of thinset mortar to back of brick. Place brick by sliding in direction perpendicular to combed ridges, and tamp or beat brick with a small beating block to obtain full contact with setting bed and to bring finished surfaces within indicated tolerances; do not return to areas already set and disturb bricks for purposes of realigning finished surfaces or adjusting joints.

* + - 1. THINSET BRICK FLOORING

Retain this article for brick flooring installed directly over concrete in a thinset mortar bed (i.e., one that is typically 3/32 to 1/8 inch thick). See the Evaluations.

* + - * 1. Install brick flooring on concrete subfloor with thinset mortar to comply with the following requirements:

Wet brick before laying if the initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested according to ASTM C67. Allow brick to absorb the water, so it is damp but not wet at the time of laying.

Apply thinset mortar to subfloor with notched trowel complying with manufacturer's specifications for notch depth and configuration and in heavy enough layer to provide a minimum mortar-bed thickness of 3/32 to 1/8 inch after bricks are fully embedded. Key the mortar into substrate with flat side of trowel and comb with notched side of trowel in one direction. Apply only as much mortar as can be covered with brick before initial set (15 to 30 minutes).

Place brick while mortar is still tacky and before initial set takes place. Immediately before placing brick, apply skim coat of thinset mortar to back of brick. Place brick by sliding in direction perpendicular to combed ridges, and tamp or beat brick with a small beating block to obtain full contact with mortar and to bring finished surfaces within indicated tolerances; do not return to areas already set and disturb bricks for purposes of realigning finished surfaces or adjusting joints.

* + - 1. JOINT TREATMENT
				1. Hand-Tight Joints: Sweep dry mixture of portland cement and sand into joints, then fog surface with water to set mixture.

Retain first three paragraphs below for grouted joints.

* + - * 1. Grouted Joints: Grout brick joints complying with ANSI A108.10.
				2. Grout joints as soon as possible after initial set of setting bed. Force grout into joints, taking care not to smear grout on adjoining brick and other surfaces. After initial set of grout, finish joints by tooling to produce a slightly concave polished joint, free from drying cracks.
				3. Cure grout by maintaining it in a damp condition for seven days unless otherwise recommended by grout manufacturer.
				4. Movement Joints: Provide expansion, control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and brick. Do not saw-cut joints after installing brick flooring. Keep joint free of mortar and other rigid materials.

Where joints occur in concrete substrates, locate joints in brick flooring directly above them.

* + - 1. REPAIR, POINTING, CLEANING, AND PROTECTION
				1. Remove and replace bricks that are loose or damaged or that do not match other bricks. Provide new bricks to match adjoining bricks and install in same manner as original bricks, with same joint treatment and with no evidence of replacement.

Retain "Pointing" paragraph below if grouted joints are specified.

* + - * 1. Pointing: During tooling of joints, enlarge voids or holes and completely fill with grout. Point up joints at sealant joints to provide a neat, uniform appearance, properly prepared for sealant application.
				2. Cleaning: Remove excess mortar and grout from exposed brick surfaces; wash and scrub clean.

Retain subparagraph below if temporary protective coating is used.

Remove temporary protective coating as recommended by coating manufacturer and as acceptable to brick and grout manufacturers. Trap and remove coating to prevent it from clogging drains.

Retain "Sealing and Polishing" paragraph below if sealer and floor polish are used.

* + - * 1. Sealing and Polishing: After floor has been cleaned and is thoroughly dry, seal and polish traffic surface of brick flooring in a manner that results in a clear, uniform appearance. Apply sealer and floor polish in the number of coats and by application methods that comply with written directions of manufacturer of each product. Do not apply floor polish until sealer has dried.

END OF SECTION 096313