



General Shale Brick

Technical Bulletin – 3 Part CSI Thin Brick Specification

PART 1 - GENERAL

• 1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

• 2 SUMMARY

A) Section Includes:

- 1) Clay thin brick veneer units.
- 2) [Field-adhered thin brick veneer.]
- 3) [Thin brick installed in a proprietary panelized or mechanically fastened support system.]
- 4) [Thin brick embedded in architectural precast concrete or tilt-up concrete.]
- 5) Matching corner, edge-cap, and special-shape units.
- 6) Setting materials, pointing mortar, accessories, and cleaning specifically associated with thin brick installation.

B) Related Sections:

- 1) [Section 03 40 00 - Precast Concrete.]
- 2) [Section 03 47 13 - Tilt-Up Concrete.]
- 3) [Section 04 20 00 - Unit Masonry.]
- 4) [Section 07 25 00 - Weather Barriers.]
- 5) [Section 07 27 00 - Air Barriers.]
- 6) [Section 07 60 00 - Flashing and Sheet Metal.]
- 7) [Section 07 92 00 - Joint Sealants.]

• 3 REFERENCES

Comply with the latest adopted edition of referenced standards unless a specific edition is required by the Contract Documents.

- A) ANSI A118.4 - Modified Dry-Set Cement Mortar.
- B) ANSI A118.15 - Improved Modified Dry-Set Cement Mortar.
- C) ASTM C67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
- D) ASTM C144 - Standard Specification for Aggregate for Masonry Mortar.
- E) ASTM C270 - Standard Specification for Mortar for Unit Masonry.
- F) ASTM C1088 - Standard Specification for Thin Veneer Brick Units Made From Clay or Shale.
- G) ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.
- H) BIA Technical Note 20 - Cleaning Brickwork.
- I) BIA Technical Note 28C - Thin Brick Veneer.
- J) TMS 402/602 - Building Code Requirements and Specification for Masonry Structures.
- K) TCNA Handbook for Ceramic, Glass, and Stone Tile Installation.
- L) PCI - Standard for Embedded Clay Thin Brick in Precast Concrete Panels.



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• 4 ADMINISTRATIVE REQUIREMENTS

- A) Preinstallation Conference: Conduct at Project site before starting thin brick work. Review substrates, weather-resistive barrier continuity, flashing, drainage, movement joints, setting materials, sequencing, protection, and cleaning.
- B) Coordination: Coordinate thin brick layout and dimensions with openings, corners, control and expansion joints, flashing, sealant joints, adjacent materials, and termination details.

• 5 SUBMITTALS

- A) Product Data: Thin brick, special shapes, setting materials, pointing materials, panel/support system, accessories, cleaners, and installation instructions.
- B) Shop Drawings: Elevations showing coursing, bond pattern, unit sizes, corners, terminations, penetrations, openings, movement joints, flashing interfaces, and relationship to adjacent construction.
- C) Samples for Initial Selection: Manufacturer color and texture samples.
- D) Verification Samples: At least two full-size units of each selected color, texture, size, and shape, showing expected range.
- E) Material Certificates: Manufacturer certification that thin brick complies with ASTM C1088, specified grade and type.
- F) Installation-System Submittals: Manufacturer details, evaluation reports, engineering, fastener schedule, and substrate requirements for panelized or mechanically fastened systems.
- G) Sustainable Design Submittals: Product-specific or plant-specific environmental documentation when required by Division 01.

• 6 QUALITY ASSURANCE

- A) Manufacturer Qualifications: Manufacturer regularly producing clay thin brick of the type specified with documented quality-control procedures.
- B) Installer Qualifications: Firm experienced with the selected thin brick installation method and approved or acceptable to the installation-system manufacturer where required.
- C) Mockup: Construct minimum 48 by 48 inches, or minimum 100 thin brick units, at location directed by Architect.
 - 1) Use units from the production run intended for the Project when available.
 - 2) Show approved color and texture range, bond, coursing, corners, special shapes, mortar color, joint profile, sealant interface, and cleaning method.
 - 3) For exterior adhered work, include representative substrate, water-management layers, accessories, and a termination or opening condition.
 - 4) Obtain written acceptance before proceeding. Accepted mockup establishes aesthetic standard but does not authorize deviations from Contract Documents.

• 7 DELIVERY, STORAGE, AND HANDLING

- A) Deliver materials in original, unopened, labeled packaging where applicable.
- B) Store thin brick off ground, protected from contamination, staining, impact, and weather. Maintain ventilation and prevent condensation.
- C) Keep cementitious and polymer-modified materials dry and within manufacturer temperature limits.
- D) Do not use damaged, contaminated, expired, frozen, or moisture-affected materials.
- E) Store different colors, production runs, and accessory types separately and identify clearly.



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• 8 FIELD CONDITIONS

- A) Environmental Limitations: Install only when ambient and substrate conditions comply with setting-material and installation-system manufacturers requirements.
- B) Do not install over frozen, saturated, contaminated, unstable, or out-of-tolerance substrates.
- C) Provide temporary heat, enclosure, shade, and protection as required. Do not use antifreeze compounds unless specifically permitted by material manufacturer and Contract Documents.
- D) Protect adjacent work and finished thin brick from precipitation, rapid drying, freezing, staining, construction traffic, and damage.

PART 2 - PRODUCTS

• 9 MANUFACTURER

- A) Basis-of-Design Thin Brick Manufacturer: General Shale Brick, Inc., 3015 Bristol Highway, Johnson City, Tennessee 37601; 800-414-4661; generalshale.com.
- B) General Shale Brands: [General Shale] [Red River Brick] [Watson town Brick] [Michigan Brick] [Columbus Brick] [Canada Brick] [Summitville] [Best Panel] [Evolution Brick] [other General Shale brand as scheduled].

• 10 CLAY THIN BRICK

- A) Thin Brick: Fired clay or shale thin veneer brick complying with ASTM C1088 and the following:
 - 1) Grade: Exterior for exterior or wet-service exposure; [Exterior] [Interior] for interior applications as scheduled.
 - 2) Type: [TBS, Standard] [TBX, Select] [TBA, Architectural], selected to suit required appearance and dimensional control.
 - 3) Product/Color: General Shale [brand], [plant], [product name/color].
 - 4) Nominal Face Size: [Modular, 2-1/4 by 7-5/8 inches] [Engineer] [Norman] [King] [Utility] [other as scheduled].
 - 5) Thickness: [1/2 inch] [5/8 inch] [1 inch] [manufacturer standard for selected product].
 - 6) Texture: [Smooth] [Velour] [Wirecut] [Tumbled] [Handmade appearance] [other selected texture].
 - 7) Back Surface: Manufacturer standard configuration compatible with selected installation method and setting material.
 - 8) Special Shapes: Provide matching corners, edge caps, returns, and shapes indicated. Use purpose-made shapes rather than field-assembled exposed corner pieces where available.
 - 9) Color and Texture Range: As represented by approved samples and mockup. Blend from multiple packages or pallets during installation.

• 11 FIELD-ADHERED INSTALLATION MATERIALS

- A) Setting Mortar: Polymer-modified mortar complying with ANSI A118.4 or ANSI A118.15 and specifically recommended in writing by mortar manufacturer for clay thin brick, substrate, exposure, and installation method.
- B) Pointing Mortar:
 - 1) Preblended pointing mortar recommended for thin brick installation and compatible with setting mortar and units; or
 - 2) Mortar complying with ASTM C270, Type [N] [S], proportioned and colored as approved.
- C) Water: Potable and free of substances deleterious to mortar, bond, or appearance.
- D) D. Lath, Fasteners, Scratch Coat, and Accessories: Where part of the selected assembly, comply with applicable code, ASTM C1063, installation-system details, and corrosion-resistance requirements for exposure.



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- E) Water-Resistive Barrier, Drainage Materials, Flashing, and Sealants: As specified in Division 07 and compatible with the selected thin brick assembly.

- **12 PANELIZED OR MECHANICALLY FASTENED SYSTEM**

- A) System: Manufacturer-engineered support panel, track, or lath system designed to receive specified thin brick and transfer applicable loads to the backup construction.
- B) Components: Panels or tracks, fasteners, starter and termination accessories, flashing interfaces, mortar or adhesive, pointing mortar, and trim recommended by system manufacturer.
- C) Fasteners: Material, coating, diameter, length, head style, spacing, edge distance, and penetration as shown in approved system-manufacturer documents and project-specific engineering. Provide corrosion resistance appropriate to exposure and treated wood contact where applicable.
- D) Performance: Provide system documentation demonstrating suitability for substrate, building height, design wind pressure, seismic category, exposure, and applicable code requirements.

- **13 EMBEDDED THIN BRICK MATERIALS**

- A) Thin Brick: ASTM C1088 units manufactured and configured for embedding in precast or tilt-up concrete and acceptable to thin brick manufacturer, precaster, and form-liner/template manufacturer.
- B) Templates/Form Liners: Reusable or single-use system designed to maintain coursing, joint geometry, alignment, and bond during concrete placement.
- C) Face Treatment: [Manufacturer standard removable wax coating] [No coating], as required by fabrication and cleaning process.
- D) Embedded Assembly: Comply with PCI requirements and precast or tilt-up design documents. Coordinate concrete, reinforcement, panel joints, and fabrication under Division 03.

- **14 MORTAR COLOR AND JOINT PROFILE**

- A) Mortar Color: [Natural gray] [white] [custom color selected by Architect].
- B) Joint Width: [3/8 inch] [1/2 inch] [as indicated].
- C) Joint Profile: [Concave] [V] [raked] [flush] [as indicated].

- **15 CLEANING MATERIALS**

- A) Cleaner: Proprietary cleaner specifically approved in writing by thin brick manufacturer and cleaner manufacturer for selected brick, mortar, pigments, and adjacent materials.
- B) Do not use unapproved acids, abrasive blasting, metal tools, or cleaning methods that damage thin brick, mortar joints, coatings, sealants, or adjacent work.

PART 3 - EXECUTION

- **16 EXAMINATION**

- A) Examine substrates, framing, sheathing, cement board, concrete, masonry, weather barriers, flashing, penetrations, and adjacent construction with Installer present.
- B) Verify substrates are sound, clean, dry as required, properly cured, plane, and within installation-system tolerances.
- C) Verify required water-resistive barrier, drainage, flashing, weeps, screeds, end dams, and sealant backing are installed and integrated before covering.



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- D) Verify movement joints are located and detailed. Do not bridge building expansion joints, substrate control joints, or designed movement joints with thin brick, mortar, lath, panels, or setting materials.
- E) Proceeding with installation constitutes acceptance of prepared conditions.

• 17 PREPARATION

- A) Protect adjacent surfaces and completed construction.
- B) Remove bond-inhibiting materials, laitance, dirt, oil, curing compounds, sealers, coatings, and loose material by methods accepted by substrate and setting-material manufacturers.
- C) Lay out work to establish coursing, bond, joint widths, openings, corners, special shapes, and terminations. Avoid small cuts at prominent locations.
- D) Preblend thin brick from multiple packages or pallets to distribute the approved color and texture range.

• 18 FIELD-ADHERED THIN BRICK INSTALLATION

- A) Install in accordance with approved submittals, setting-material manufacturer written instructions, General Shale product guidance, BIA Technical Note 28C, applicable TCNA details, TMS 602, and the more stringent project requirement.
- B) Mix setting materials with clean tools and water in stated proportions. Observe slake time, remixing, pot life, open time, and temperature limits.
- C) Apply mortar using trowel size and method required to obtain full, uniform support. Key mortar into substrate and back-butter units where required.
- D) Firmly press and move units into fresh mortar. Periodically remove units to verify required contact and coverage. Do not install into skinned-over mortar.
- E) Maintain straight, level, and plumb coursing; uniform joint width; required bond pattern; and alignment with adjacent work.
- F) Keep movement joints, weeps, drainage paths, and sealant joints free of mortar and debris.
- G) Do not exceed setting-material manufacturers permitted mortar thickness. Use approved leveling or mortar-bed methods where substrate correction is required.

• 19 PANELIZED OR MECHANICALLY FASTENED INSTALLATION

- A) Install panels, tracks, lath, fasteners, accessories, and thin brick strictly in accordance with approved system documents and project-specific engineering.
- B) Fasten only to approved structural substrates. Do not rely on finish materials or sheathing unless specifically permitted by the approved system design.
- C) Maintain required fastener spacing, edge distance, embedment or penetration, panel laps, clearances, and corrosion protection.
- D) Integrate system with flashing, weather barrier, drainage plane, openings, penetrations, and terminations.
- E) Install loose thin brick, corners, edge caps, mortar, and sealants to produce a continuous approved appearance without obstructing drainage.

• 20 EMBEDDED THIN BRICK INSTALLATION

- A) Install templates or form liners on clean formwork and secure against movement.
- B) Place thin brick in templates with approved orientation and spacing. Blend units to achieve approved range.
- C) Prevent concrete paste from contaminating exposed faces and joints beyond limits permitted by approved process.



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- D) Place and consolidate concrete without displacing thin brick.
- E) After stripping, inspect bond, alignment, appearance, joints, and panel surface. Clean wax or residue using approved low-pressure heated-water or other approved procedure.
- F) Comply with PCI requirements, approved precast or tilt-up shop drawings, and thin brick manufacturer instructions.

• 21 POINTING AND JOINTING

- A) Allow setting mortar to cure as required before pointing.
- B) Fill joints completely without voids. Compact and tool when mortar is thumbprint hard to the approved profile.
- C) Keep mortar off exposed faces. Remove smears before they harden using nonmetallic tools and approved methods.
- D) At sealant and movement joints, leave joints open to required depth and install backer rod and sealant under Section 07 92 00.

• 22 INSTALLATION TOLERANCES

- A) Install within tolerances shown in approved submittals and required by the selected installation system.
- B) Unless more stringent requirements are specified, limit variation in joint alignment to 1/4 inch in 10 feet, noncumulative, and maintain visually uniform coursing and joint width.

• 23 FIELD QUALITY CONTROL

- A) [Architect will inspect completed mockup and representative work.]
- B) [Perform adhesion testing at locations and frequency directed by Architect using a test method appropriate to the installed assembly.]
- C) Remove materials and work that do not meet specified requirements and replace without visible evidence of repair.

• 24 CLEANING

- A) Clean as work progresses. Do not permit mortar or grout to remain on exposed faces.
- B) Before final cleaning, allow mortar to cure for the period recommended by mortar and cleaner manufacturers.
- C) Test cleaning method on mockup or inconspicuous area and obtain acceptance before full cleaning.
- D) Use lowest effective cleaner concentration and pressure. Prewet, apply, dwell, agitate, and rinse in accordance with written instructions.
- E) Comply with BIA Technical Note 20 and thin brick manufacturer recommendations.
- F) Do not use hydrofluoric acid. Do not use high-pressure cleaning, sandblasting, metal scrapers, or other damaging methods unless specifically approved in writing for the product and assembly.

• 25 REPAIR AND PROTECTION

- A) Remove and replace loose, cracked, chipped, stained, improperly bonded, or nonmatching units not accepted by Architect.
- B) Repair mortar joints and adjacent materials to eliminate evidence of replacement.
- C) Protect completed work from impact, staining, water intrusion, rapid drying, freezing, and subsequent construction operations.
- D) At completion, leave drainage openings, weeps, flashings, sealant joints, and terminations clear and functional.

END OF SECTION
