

## CSI SECTION 04 05 13 Adhered Masonry Veneer Systems - Exterior Facade

### SPECIFIC SPECIFICATION OVERVIEW

*(This overview is not part of the specification)*

*Parex USA offers a complete line of products for waterproofing and installing thin adhered veneers, including polymer modified Portland cement mortars, joint and skim coat material for cementitious backer units, leveling material for concrete and water-resistive and air barrier coatings.*

*The specification covers products and their installation for thin stone, thin brick and tile adhered to exterior grade cement board.*

### SECTION OVERVIEW

#### PART 1 - GENERAL

##### 1.1 SECTION INCLUDES

- A. Waterproof coatings, setting materials, grouting materials and methods of installation for thin veneer over cement board.

##### 1.2 RELATED SECTIONS

- A. Section 06 16 00 – Sheathing
- B. Section 07 90 00 - Joint Protection

##### 1.3 REFERENCES

- A. ANSI A108.01 General Requirements: Sub-surfaces and Preparations by Other Trades.
- B. ANSI A108.02 General Requirements: Materials, Environmental, and Workmanship.
- C. ANSI A108.10 Installation of Grout in Stonework.
- D. ANSI A118.4 Specifications for Latex-Portland Cement Mortar.
- E. ANSI A118.10 Specifications for Load Bearing, Bonded, Waterproof Membranes for Stone Installations
- F. ANSI A137.1 Specification for Ceramic Tile
- G. ASTM C979 Standard Specification for Pigments for Integrally Colored Concrete
- H. ASTM C1088 Standard Specification for Thin Veneer Brick Units
- I. ASTM C1325 Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units.
- J. ASTM C1670 Standard Specification for Adhered Manufactured Stone Masonry Veneer (AMSMV) Units
- K. ASTM E2925 Standard Specification for Manufactured Polymeric Drainage and Ventilation Materials Used to Provide a Rainscreen Function

##### 1.4 ASSEMBLY DESCRIPTION

- A. Description:
  - 1. Section includes waterproof coating, setting materials, grouting materials, and methods of installation for thin veneer over cement board. Cement board is installed over a water resistive barrier on code- approved sheathing.
- B. Functional Criteria:
  - 1. Performance Requirements - water-resistive barrier coating
    - a. Shall meet the testing requirements of the Parex USA Product Performance Sheet.
  - 2. Substrate Systems:

- a. Shall be engineered to withstand applicable design loads including required safety factor.
  - b. Minimum deflection of substrate system shall be L/360720.
  - c. Substrate dimensional tolerance: Flat as required by the thin veneer manufacturer but shall be maximum within 1/4 in (6 mm) in 10 feet (3050 mm).
3. Expansion Joints: Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and thin veneer units. Do not saw-cut joints after installing units.
- a. Joint width and spacing depends on Architect/Engineer
  - b. Remove all contaminants and foreign material from joint spaces/surfaces, such as dirt, dust, oil, water, frost, setting/grouting materials, sealers and old sealant/backer. Install appropriate Backing Material (e.g. closed cell backer rod) based on expansion joint design and as specified in Section 07920.

## **1.5 SUBMITTALS**

- A. General: Submit Samples, and Certificates in accordance with Division 1 General Requirements Submittal Section.
- B. Samples: Submit samples for approval. Samples shall be of materials specified and of suitable size as required to accurately represent each color and texture used on project. Prepare each sample using same tools and techniques for actual project application. Maintain and make available, at job site, approved samples.

## **1.6 QUALITY ASSURANCE**

- A. Qualifications:
  - 1. Manufacturer: Shall have manufactured waterproofing and tile setting products in United States for at least ten years.
  - 2. Applicator: Completed thin veneer installations similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

## **1.7 DELIVERY, STORAGE, AND HANDLING**

- A. Delivery: Deliver Parex USA products in original packaging with manufacturer's identification.
- B. Storage: Store materials supplied by Parex USA in a cool, dry location, out of sunlight, protected from weather and other harmful environment, and at a temperature above 40 °F (4 °C) and below 110 °F (43 °C) in accordance with manufacturer's instructions.

## **1.8 PROJECT / SITE CONDITIONS**

- A. Installation Ambient Air Temperature: Minimum of 50 °F (10 °C) and rising, and remain so for 72 hours thereafter
- B. Substrate Temperature: Do not apply Parex USA materials to substrates whose temperature are below 40 °F (4 °C) or contain frost or ice.
- C. Inclement Weather: Do not apply materials during inclement weather, unless appropriate protection is employed.
- D. Prior to installation, the wall shall be inspected for surface contamination, or other defects that may adversely affect the performance of the materials and shall be free of residual moisture.
- E. Vent temporary heaters to outside to avoid carbon dioxide damage to new thin veneer application.
- F. Follow manufacturer's instructions for cement board installation,

## **1.9 COORDINATION AND SCHEDULING:**

Coordination: Coordinate Parex USA installation with other construction operations.

## **1.10 WARRANTY**

Warranty: Upon request, at completion of installation, provide Parex USA Systems Limited Warranty. See warranty schedule for available Warranties.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturer: Parex USA, Inc., 4125 E. LaPalma Ave., Suite 250, Anaheim, CA 92807
1. Obtain components of Parex USA products from authorized distributors. No substitutions or additions of other materials are permitted without prior written permission from Parex USA for this project.
  2. Source Limitations for: Obtain each veneer material color, grade, finish, type, composition, and variety from one source with resources to provide products from the same production run for each contiguous area of consistent quality in appearance and physical properties without delaying the Work.

### 2.2 MATERIALS

- A. Water Resistive Barrier:
1. Parex USA WeatherSeal Spray & Roll-On water resistive and air barrier coating, fluid consistency, conforming to ASTM 2570, applied by roller, sprayer, or brush.
  2. Parex USA WeatherSeal Trowel-On water resistive and air barrier coating, paste consistency, conforming to ASTM E2570, applied by trowel or taping knife.
  3. Parex USA 396 Sheathing Tape: Non-woven synthetic fiber tape to reinforce WeatherSeal Spray & Roll-On roll on water-resistive barrier at sheathing board joints, into rough openings and other terminations into dissimilar materials available in 4 in, 6 in and 9 in widths.
  4. Parex USA 365 Flashing Membrane: Self sealing, Polyester faced, rubberized asphalt membrane, 30 mils (0.76 mm) thick.
  5. Parex USA WeatherFlash: Exterior waterproof filler and joint treatment. Single-component, non-sag, moisture curing sealant. Used in conjunction with Parex USA WRBs to fill penetrations and open joints up to 1/2 inch (13MM).
- B. Optional Drainage
1. Tyvek StuccoWrap
  2. Drainage Mat
- C. Cement Board Waterproofing: Load Bearing, Bonded, Waterproof Membrane For Thin-Set Ceramic
1. Parex USA WeatherBlock ; a waterproofing membrane.
- D. Specialty Adhesive Mortar Latex-Portland Cement Stone Setting Mortar
1. Parex USA Masonry Veneer Adhesive; a premium medium bed latex modified Portland cement dry set mortar for installations requiring a mortar to compensate for irregularities in the substrate or thin veneer stone.
- E. Thin Veneer Materials

**EDITOR NOTE: SPECIFY VENEER UNITS BELOW. DELETE UNUSED CATEGORIES.**

- [1. Thin brick conforming to ASTM C1088 and as follows:
  - a. Manufacturer:
  - b. Size: [\_\_\_\_\_].
  - c. Thickness: [\_\_\_\_\_].
  - d. Pattern: [\_\_\_\_\_] [\_\_\_\_\_].
  - e. Color: [\_\_\_\_\_] [\_\_\_\_\_] [as scheduled] [\_\_\_\_\_], to match approved sample range.
  - f. Finish: [\_\_\_\_\_] [\_\_\_\_\_] [\_\_\_\_\_].
- [2. Manufactured Thin stone masonry veneer as follows:
  - a. Manufacturer: \_\_\_\_\_
  - b. Maximum Weight: 12 pounds per square foot (if heavier contact Parex USA Technical Service Department), no longer than 36"
  - c. Size: [\_\_\_\_\_]. Maximum Stone size of 720 square inches

- d. Thickness: [\_\_\_\_]. (Max: 2.5 inch)
  - e. Pattern: [\_\_\_\_] [\_\_\_\_].
  - f. Color: [\_\_\_\_] [\_\_\_\_] [as scheduled] [\_\_\_\_], to match approved sample range.
  - g. Finish: [\_\_\_\_] [\_\_\_\_] [\_\_\_\_]
- [3. Thin Ceramic Tile
- a. Manufacturer
  - b. Maximum Weight
  - c. Size: [\_\_\_\_]. (Maximum 12"x12")
  - d. Thickness: [\_\_\_\_].
  - e. Color: [\_\_\_\_] [\_\_\_\_] [as scheduled] [\_\_\_\_], to match approved sample range.
- [4. Molding and Trim pieces as follows: [\_\_\_\_] [\_\_\_\_] [\_\_\_\_] [\_\_\_\_].
- D. Portland Cement Grout for Ceramic Tile: ANSI A118.6 or ANSI A118.7
- 1. Sanded Color Grout; a sanded Portland cement grout, color # \_\_\_\_\_ Forms a colorfast, dense matrix grout for thin veneer stone with widths 1/4 inch to 1 inch.
- E. Grout for thin brick and manufactured stone masonry veneer joints:
- 1. Masonry mortar conforming to ASTM C270. Color: [Natural] [Colored with pigment conforming to ASTM C979 to match approved sample]
- [I. Water repellant for manufactured stone masonry veneer (Optional)
- 1. Parex USA ProTect siloxane based clear, non-yellowing water repellant for cementitious materials (Not for thin brick or ceramic tile). Protect shall be tested on a representative sample of the specified manufactured stone masonry veneer and joint mortar for acceptable appearance before specifying.
- F. Grout for stone masonry veneer joints:
- 1. Masonry mortar conforming to ASTM C270.
  - 2. Color: [Natural] [Colored with pigment conforming to ASTM C979 to match approved sample]

### 2.3 RELATED MATERIALS AND ACCESSORIES

- A. Cement Board – Permabase by National Gypsum or equal approved by Parex USA.
- 1. Minimum ½ inch (13 mm) thick conforming to ASTM C1325
- B. Substrate Materials:
- 1. Sheathing shall be installed in accordance with its industry standards and applicable building code.
  - 2. Gypsum Sheathing shall conform to ASTM C79, C1396, or C1177 glass mat gypsum sheathing, minimum thickness 1/2" (12.7 mm).
  - 3. Plywood shall be not less than 15/32" (11 mm) thick, PS-1 Exposure 1 or Exterior grade.
  - 4. Oriented strand board (OSB) shall be not less than 7/16" thick (11.1 mm), PS-2 Exposure 1.
  - 5. For wood-based sheathing (Plywood and OSB), comply with APA-The Engineered Wood Association spacing recommendations for edge and end joints. Gap wood sheathing panels minimum 1/8".
  - 6. Sheathing shall be protected from weather before application of the water-resistive barrier
  - 7. Concrete masonry units conforming to ASTM C90.
- E. Flashing: Refer to Division 7 Flashing Section for flashing materials

**EDITOR NOTE: PART 3 EXECUTION BELOW INVOLVES ONSITE WORK AND SHOULD INCLUDE PROVISIONS FOR INCORPORATING MATERIALS AND PRODUCTS INTO PROJECT. TYPICALLY, "CONDITIONS OF THE CONTRACT" ESTABLISH RESPONSIBILITY FOR "MEANS, METHODS, TECHNIQUES, AND SAFETY" REQUIREMENTS OF CONSTRUCTION WITH CONTRACTOR. SPECIFICATIONS SHOULD AVOID CONFLICTS WITH THIS CONTRACTUAL PRINCIPLE.**

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verify project site conditions under provisions of Section 01 00 00.
- B. Compliance: Comply with manufacturer's instructions for installation of Parex products
- C. Substrate Examination: Examine prior to Parex product installation as follows:
  - 1. Substrate shall be of a type approved by Parex USA.
  - 2. Substrate shall be examined for soundness, and the presence of harmful conditions.
  - 3. Substrate shall be within the flatness tolerances specified.
  - 4. Substrate shall be free of dust, dirt, laitance, efflorescence, and other harmful contaminants.
  - 5. Substrate construction in accordance with substrate material manufacturer's specifications and applicable building codes.
- D. Sealants and Backer Rod: To be installed, where required, in accordance with the sealant manufacturer's specifications and published literature, and using the sealant manufacturer's recommended primers.
- E. Advise Contractor of discrepancies preventing installation of the Parex USA products. Do not proceed with the work until unsatisfactory conditions are corrected.

### **3.2 PREPARATION**

- A. Protection: Protect surrounding material surfaces and areas during installation of materials.
- B. Clean surfaces thoroughly prior to installation.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### **3.3 MIXING:** Follow the manufacturer's published mixing instructions.

### **3.4 APPLICATION**

- A. General: Installation shall conform to this specification and Parex USA Systems written instructions and drawing details.
- B. Drainage Accessories and Water Resistive Barrier:
  - 1. Treat all glass mat gypsum sheathing, cement board sheathing, OSB and plywood joints with either Parex USA WeatherSeal Spray & Roll-On or Parex USA WeatherSeal Trowel-On water-resistive barrier and embed Parex USA 396 Sheathing Tape or Parex USA WeatherFlash.
  - 2. Flash all rough openings with either Parex USA WeatherSeal Spray & Roll-On or Parex USA Trowel-On water-resistive barrier and embedded Parex USA 396 Sheathing Tape or Parex USA WeatherFlash.
  - 3. Flash heads of all openings with metal head flashing as shown in the project detail drawings.
  - 4. Apply WeatherSeal Spray & Roll-on to the surface of the substrate (2 coats may be required on plywood, OSB, and masonry). Over concrete and masonry, a skim coat Parex USA Stucco Level Coat may be use to fill porous surfaces and allowed to dry prior to Parex USA WeatherSeal application. Center Parex USA 396 Sheathing Tape on edges of all vertical legs of flashing and track and embed in Parex USA WeatherSeal.
- C. Install Drainage as/if specified
- D. Install cement tile backer board in accordance with its manufacturer's instructions.
- E. Cement Board Preparation
  - 1. Embed the cement board manufacturer's specified fiberglass joint tape in Parex USA Masonry Veneer Adhesive at all cement board joints other than through the wall expansion joints.
  - 2. Pre-fill all gaps up to 1/2" between items penetrating the cement board or portland cement plaster basecoat with Parex USA WeatherFlash. Correct larger gaps in sheathing or plaster.
  - 3. Apply a liberal coat of Parex USA WeatherBlock around joints, cracks and protrusions.
- F. Parex USA WeatherBlock must be applied to the face of the cement board in two coats.
- G. Thin Veneer Installation- General

1. Comply with TCNA installation methods indicated or, if not otherwise indicated, as applicable to installation conditions shown.
  2. Extend thin veneer work into recesses and under or behind equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown.
  3. Accurately form intersections and returns. Perform cutting and drilling of thin veneer without marring visible surfaces. Carefully grind cut edges of thin veneer abutting trim, finish or built-in items for straight aligned joints.
  4. Unless otherwise shown:
    - a. Lay out stone masonry veneer as specified for the stone type.
    - b. Adjust to minimize thin veneer cutting. Provide uniform joint widths, unless otherwise shown.
  5. Locate expansion joints and other sealant filled joints, including control, contraction and isolation joints, where indicated and approved by Designer.
  6. Prepare joints and apply sealants to comply with referenced installation standards and sealant manufacturer's instructions.
- H. Stone Masonry Veneer:
1. Ensure complete coverage of Masonry Veneer Adhesive between the WeatherBlock covered cement board and the back side of the thin veneer units.
  2. Install tile and thin brick with Masonry Veneer Adhesive to comply with referenced Tile Council of North America (TCNA) TCA 202 and ANSI A108.5 installation standards.
  3. Spread only as much adhesive as can be covered while the mortar surface is still wet and tacky.
  4. Fit thin veneer units around corners, fitments, fixtures, drains and other built-in objects to maintain uniform joint appearance.
  5. Make cut edges smooth, even and free from chipping. Do not split veneer units
  6. Stone masonry veneer:
    - a. Use the appropriate trowel notch size to ensure proper bedding of the stone masonry veneer, work the Parex USA Masonry Veneer Adhesive into good contact with the substrate and comb with notched side of trowel. Completely cover back of stone masonry veneer with Parex USA Masonry Veneer Adhesive. Firmly press or tap stone masonry veneer into.
    - b. Set stones so that joints generally average not more than 1/2" wide.
  7. Expansion and Perimeter Joints: The veneer units are installed up to the joint leaving a gap the width of the joint. Keep all control and expansion joints free of setting materials
  8. Curing time of veneer adhesive:
 

72 hours before grouting when the temperature is low or the humidity is high.

48 hours before grouting when hot, dry conditions exist.

Check the bond strength carefully before grouting.
- I. Grouting:
1. Verify grout joints are free of dirt, debris or tile spacers. Sponge or wipe dust/dirt off veneer face and remove any water standing in joints. Surface and air temperature must be between 40-90°F (4-32°C).
  2. Keep grout out of spaces to receive sealants.
  3. Stone masonry veneer grouting:
    - a. Fill joints using a grout bag, mortar gun or other mortar delivery device. When thumbprint hard, rake out excess mortar, compact and seal edges around stones. A wet brush or sponge should never be used to treat the mortar joints as this will cause staining that will be difficult or impossible to remove.
- J. Soft joints that are in the veneer only.
1. Stone masonry veneer: Approximately every 300 sq ft.

### **3.5 CLEAN-UP**

- A. Removal: Remove and legally dispose of Parex USA and Thin Veneer component debris material from job site.
- B. Clean exposed surfaces using materials and methods recommended by the manufacturer of the material or product being cleaned. Remove and replace work that cannot be cleaned to the satisfaction of the Project Designer/Owner.
- C. Clean work area of foreign materials resulting from operations.

**3.6 PROTECTION**

- A. Provide protection of installed materials from water infiltration into or behind them.
- B. Upon completion of setting and grouting, clean all stone surfaces so they are free of foreign matter.
- C. Provide protection of installed finish from dust, dirt, precipitation, freezing and continuous high humidity until fully cured and dry.
- D. Finished Thin Veneer Work: Leave finished installation clean and free of cracked, chipped, broken, unbonded, or otherwise defective thin veneer work.

END OF SECTION

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*Disclaimer: This guide specification is intended for use by a qualified designer. The guide specification is not intended to be used verbatim as an actual specification without appropriate modifications for the specific use intended. The guide specification must be integrated into and coordinated with the procedures of each design firm, and the requirements of a specific project. For additional assistance, contact Parex USA's Architectural Sales (866.516.0061) or Technical Support (800-224-2626).*