



FACADESXi

**ADHERED VENEER ASSEMBLY
WITH FXI MASONRY VENEER MORTAR**

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FACADESXi MASONRY VENEER ASSEMBLY

CSI SECTION 04 43 13 – Adhered Stone Masonry Veneer

This specification is to assist in correctly specifying the FACADESXi Masonry Veneer Assembly, products and installation and should be used in conjunction with Assembly Details. The assembly includes portland cement plaster mortar bed, masonry veneer mortar and adhered veneer installed over a code compliant water resistive barrier and means of drainage.

The specifier MUST edit these specifications to fit the needs of each specific project and the design is the responsibility of the specifier to determine if a product is applicable.

FACADESXi Wall systems provides these specifications, Typical Assembly details, and product data sheets for use in the design of the project.

FACADESXi is not liable for any errors or omissions in design details, structure capability, attachment details, or shop drawings. See Full Disclaimer at end of document.

Although not a part of the Assembly, water resistant barriers, flashings and sealants are elements of all exterior wall assemblies and must be designed, integrated and installed, in conjunction with the wall cladding to create an air and water-resistant assembly. Masonry Veneer assemblies must be designed to allow water to drain to the exterior.

Construction Types: I-V, Fire Rated and Non-combustible, Commercial and Residential Non-combustible and Fire Rated construction: ensure that the system chosen has been tested and is compliant with the necessary tests for these assemblies.

LIMITATIONS

- Adhered Veneers are not to exceed 36 inches in any face dimension, 5 square feet in total face areas, .25 inches thick or 15 pounds per square foot.
- Ambient / surface temperature must remain above 40°F (4°C) during and for 24-hours after set occurs.
- Efflorescence is a natural occurrence when using cement-based products subject to exterior or wet environments and is not a defect of the product.
- For use on vertical above grade walls only.
- .

Contact FACADESXi technical services to assist in appropriate product selection.

For Assemblies incorporating:

- Cement Board – FXI Masonry Veneer Cement Board Assembly
- WaterShield and Drainage - FXI Masonry Veneer WaterShield Assembly
- Xterior Insulation - Xterior Insulation Masonry Veneer System

Notes to Specifier are in White Italics and should be deleted before publishing.

[Select or Delete] Assembly Options. Choose one and delete the remaining options. Delete the brackets and un-bold the selected option(s).

<Text> Include the appropriate information.

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Materials and installation of an exterior adhered masonry veneer assembly including, code compliant lath, mortar bed, masonry veneer mortar adhesive and adhered veneer over a code compliant water resistive barrier and means of drainage.

1.2 RELATED SECTIONS

- A. Section 06 11 00 Wood Framing
- B. Section 06 16 00 Sheathing
- C. Section 07 27 00 Air barriers
- D. Section 07 60 00 Flashing and Sheet Metal
- E. Section 07 90 00 Joint Protection
- F. Section 08 40 00 Entrances, storefronts, curtain walls
- G. Section 08 50 00 Windows
- H. Section 09 21 16 Gypsum Board Assemblies

1.3 REFERENCES

A. ASTM

- 1. C847 Standard Specification for Metal Lath
- 2. C897 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plaster
- 3. C926 Standard Specification for Application of Portland Cement-Based Plaster
- 4. C933 Standard Specification for Welded Wire Lath
- 5. C1063 Standard Specification for Lathing and Furring Accessories, and Fasteners, for Interior and Exterior Portland Cement-Based Plaster
- 6. C1177 Specification for Glass Mat Gypsum for Use as Sheathing
- 7. C1861 Standard Specification for Lathing and Furring Accessories, and Fasteners, for Interior and Exterior Portland Cement-Based Plaster
- 8. D226 Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
- 9. D1784 Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compound
- 10. E84 Test Method for Surface Burning Characteristics of Building Material
- 11. E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- 12. E330 Test Method for Structural Performance of Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference

B. APA

- 1. Voluntary Product Standard: PS 1, Structural Plywood
- 2. Voluntary Product Standard: PS 2, Performance Standard for Wood Based Wood structural panels.

C. NFPA

- 1. NFPA 285 Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components
- 2. NFPA 268 Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source

1.4 SUBMITTALS

- A. Submit under the provisions of Section [01 33 00]
- B. Product data on assembly materials, including specifications, assembly details, installation and warranty information.
- C. Shop drawings to be provided by the subcontractor.
- D. Samples: two 6 inches by 6-inch finish coat sample per designers' request

1.5 DESIGN CRITERIA

- A. **Structural**
 - 1. Maximum deflection not to exceed $L / 360$ of the span under positive or negative design load.
 - 2. Structural Design for wind load shall be engineered by others.
- B. **Moisture / air control**
 - 1. The exterior wall must be designed and installed to allow moisture to drain to the exterior in accordance with the International Building codes.
 - 2. Do not use vapor retarders on the interior side of the wall. Using vapor retarders on the exterior is the decision of the designer.
 - 3. Design flashing to direct water to the exterior, including above window and door heads, window and door sills, at roof/ wall intersections, decks, Floor lines, high to low wall intersections, at the base of the wall, and where required by code and in the project details.
- C. **Fire Rated Assemblies / Non-combustible Assembly**
 - 1. Ensure that the assembly complies with an associated UL assembly, Fire rated assembly, Non-combustible, NFPA 285 tested, or listed in the code compliance report.

NOTE TO SPECIFIER: It is not the responsibility of the contractor to determine the placement of control and expansion joints or their design. The project designer must determine the placement and size of all joints.

ASTM C1063 requires that the lath be discontinuous behind joints, however it is common practice to run the lath continuous and is allowed by FacadesXi with the approval of the building code official and the designer, If this desired by the designer, then this section should be modified and the framing must be designed to accommodate this.

- D. **System Joints**
 - 1. Locate control joints on the vertical wall every 144 square foot minimum with a maximum length or width of 18 lineal ft. and a maximum length to width ration of 2.5: 1
 - 2. Plaster base may be continuous (with the approval of the designer and the building code official) or discontinuous at locations of control joints. If the plaster base is to be discontinuous, additional framing must be provided so that the plaster base may be securely fastened to a framing member at both sides of the control joint, and the control joints wire tied to the plaster base.
 - 3. For continuous plaster base, the control joint shall be installed over the plaster base and wire tied to it. Vertical control joints shall be continuous, with horizontal control joints abutting them and set in a bead of sealant.
 - 4. Two Piece Expansion joints are required at building expansion joints, at floor lines, where dissimilar materials meet, or other areas where movement in the structure is anticipated. Sheathing must not span these breaks in construction.
 - 5. The placement of the control joints, expansion joints, is not the responsibility of the contractor. Designer to show placement on the project drawings.
 - 6. Where thin veneer is adhered to a masonry or concrete substrate, the movement joints through the veneer should be installed directly over and aligned with movement joints in the substrate.
 - 7. Tile Movement Joints: Tile: In accordance with TCNA EJ171

E. Assembly installation

1. Not to be used below grade or on walls with negative water pressure.
2. On framed walls, terminate a minimum of 4 inch (100 mm) above earth grade, minimum 2 inch (51 mm) above finished grade or not less than 1/2 inch above exterior walking surfaces that are supported by the same foundation that supports the exterior wall.
3. For use on vertical walls only.

1.6 QUALITY ASSURANCE

A. Manufacturer

1. Stucco products have been installed for over 20 years on over 10 million square feet.

B. Applicator

1. Listed by FACADESXi Wall Systems. Licensed, insured and engaged in application of cement board, and cement board coatings for a minimum of 3 years.
2. Employ mechanics who are skilled and experienced in Coatings applications and knowledgeable in the FACADESXi Coatings and cement board installation.

C. Conform to all applicable building code requirements.

D. Construct one sample panel<SIZE> in the field for each color and texture, using the same methods to be used in the actual construction. Maintain on jobsite.

E. Third party inspection where required by code or contract documents, are to be contracted by the owner. Inspections are not performed by the coating's manufacturer.

1.7 PERFORMANCE CRITERIA

A. Masonry Veneer Mortar

1. Compressive strength of Masonry Veneer Mortar, ASTM C109
2. Slip on Wall, ISO 13007-2,2005, 4.2
3. Shear Strength, ANSI 118.15
4. Shear Bond of Stone Veneer, ASTM C 482
5. Shear Bond of Stone Veneer to cement board, ASTM C 482
6. Shear Bond of manufactured Stone Veneer to FacadesOne Stucco, ASTM C 482
7. Shear Bond of Natural Stone Veneer to FacadesOne Stucco, ASTM C 482
8. Shear Bond of thin brick veneer to FacadesOne Stucco, ASTM C 482

1.8 DELIVERY/STORAGE/HANDLING

A. Deliver, store and handle products per product data and under Section []

B. Deliver FACADESXi materials in original unopened packages with labels intact.

C. Protect FACADESXi materials during transportation and installation to avoid physical damage.

D. Protect Portland cement-based material (bag products) from moisture and humidity. Store under cover and off the ground in a dry location.

E. Store FACADESXi materials in cool, dry place, out of direct sunlight, protect from freezing.

F. Store insulation boards in original packaging, flat and out of heat and direct sunlight.

1.9 PROJECT CONDITIONS

A. Ambient and surface temperature must be above 40 degrees F during application and for 24 hours after application of FACADESXi materials.

B. Provide supplementary heat /shading for installation, if necessary, to maintain minimum or maximum allowable

- temperatures.
- C. Do not install coatings in temperatures above 100 F.
 - D. Protect surrounding areas and adjacent surfaces from application of materials.

1.10 COORDINATION AND SCHEDULING

- A. Interior drywall, all floor, roof construction and other work that imposes dead loads on the walls should be completed prior to the DAFS to prevent excessive deflection and help prevent cracking at the cement board joints.
- B. Coordinate and schedule installation of FACADESXi with related work; windows, doors, flashing, AC units, foundation waterproofing, roofing, trim, flashing, and joint sealers; to prevent water infiltration behind and the drainage of the system.
- C. Protect sheathing per industry and/or sheathing manufacturer's instructions.
- D. Install sealant immediately after base coat has dried, do not install sealant to finish coat.
- E. Attach penetrations through the stucco per FacadesXi Details.

1.11 WARRANTY

- A. Provide FACADESXi limited material warranty under project provisions. This Assembly is warranted for materials only of the FACADESXi Stucco base coat and Masonry Veneer Mortar. For a full Assembly Warranty - See Masonry Veneer WaterShield Assembly.
- B. See Facade Warranty Technical Document for specific warranties available.

PART 2 - PRODUCTS

2.1 MANUFACTURER

FACADESXi, 15262 Capital Port, San Antonio TX 78249 | 1.800.611.6602 | www.FACADESXi.com

2.2 SYSTEM/MATERIALS

- A. Adhered Veneer Wall Assembly with FXI Masonry Veneer Mortar: water resistive barrier, code compliant lath, mortar bed at minimum 1/2", FacadesXi Masonry Veneer Mortar, and Adhered Veneer.
- B. **Materials**
 - 1. Water Resistive Barrier Per IBC Section 1403.2 (2018) or 1404.2 (2015-2009) Select One
 - a. International Building Code
 - 1) 1403.2 (2018) or 1404.2 (2015-2009) [Not fewer than one layer of No.15 asphalt felt complying with ASTM D226 for Type 1 felt or other approved materials]
 - 2) Wood Based Sheathing: Water resistant barrier with water resistance complying with ASTM E2556, Type II
 - b. International Residential Code
 - 1) One layer of No. 15 asphalt felt complying with ASTM D226 for Type 1 felt
 - 2) Wood Based Sheathing: water resistance equal to or greater than that of 60-minute Grade D paper
 - c. [Water Resistive Barrier with an Evaluation Report showing equivalency to the International Building/Residential Code.]
 - d. [Water Resistive Barrier Coating with an Evaluation Report showing equivalency to

- the International Building/Residential Code]
2. Air Barrier if applicable, choose a water resistive barrier that also complies with the International Energy Code for Air Permeance.
 3. [Optional Drainage:
 - a. Drainage Mat: Three-dimensional mat laminated to a non-woven lightweight, breathable fabric to provide a separation from the stucco base coat
 - b. Polyolephin building paper with drainage or equal]
 4. Lath (by others) (Select One)
 - a. [Expanded metal lath Minimum 2.5 lb/yd² (1.4 kg/m²), meeting ASTM C847 Specification for Metal Lath. Furring crimps shall be provided at maximum 6-inch (152mm) intervals each.
way and shall fur the body of the lath a minimum of 1/4-inch (6.4mm) from the substrate after installation.]
 - b. When the base coat thickness is 1/2-inches (12.7 mm) thick or less, the body of metal plaster base shall be furred a nominal of 1/8-inch (3.2 mm) from the substrate
 - c. Lath Fasteners per ASTM C1063
 5. Accessories
 - a. Lathing accessories in conformance with ASTM C1861 Specification for Lathing and Furring Accessories, and Fasteners, for Interior and Exterior Portland Cement-Based
 - b. PVC in compliance with ASTM D 1784.
 - c. Zinc in compliance with ASTM B69.
 - d. Galvanized metal in compliance with ASTM A653 with G60 coating.
 6. Mortar Bed (Min. 1/2" Thick)
 - a. FacadesThree or FacadesOne Concentrate/Xi-Admix and Bonding Agent (required): Scratch and Brown portland cement Stucco Base coat, mixed with water, admix and sand in the field.
 - b. FacadesThree or FacadesOne Sanded/ Xi-Admix and Bonding Agent : Pre Sanded Scratch and Brown portland cement Stucco Base coat mixed with water and admix in the field.
 - c. Sand: ASTM C 897 or ASTM C 144, per ASTM C926
 - d. Water: Clean and potable.
 7. Xi-Admix and Bonding Agent – Required admix in the Mortar Bed.
 8. Xi-Masonry Veneer Mortar: Polymer modified Adhered Veneer Mortar mixed with Water in the field.

Adhered Veneers are not to exceed 36 inches in any face dimension, 5 square feet in total face areas, .25 inches thick or 15 pounds per square foot.

9. Adhered Veneers (by others)
 - a. [Manufactured Stone Veneer: Having a current Evaluation Report showing compliance to the code or complying with ASTM C1670]
 - b. [Thin Brick Veneer: Complying with ASTM C1088, Standard Specification for thin veneer Brick Units made from Clay or Shale]
 - c. Tile: Shall comply with the requirements of the TCNA/ASNI A137.1 Standard for Ceramic Tile.
 - d. [Natural Stone Veneer; Contact Stone manufacturer for acceptance in this specific installation.]
 - 1) Veneer:
 - 2) Size:
 - 3) Color:

- 4) Finish:
10. Grout: Complies with ASTM C270 Type N or Type S or Preblended ASTM C1714/C1714M Type N or Type S

PART 3 - INSTALLATION/EXECUTION

3.1 EXAMINATION

- A. **Verify the following:**
1. Substrate is allowable and code compliant.
 2. Surfaces must be free of mildew, dirt, efflorescent, oils, damage deterioration or any foreign materials.
 3. Openings, Roofs, terminations have been properly flashed.
- B. **Substrate – Fire Rated wall should be per the assembly - Choose one**
[½” minimum Exterior Glass mat gypsum Sheathing complying with ASTM C1177]
[½” minimum Exterior fiber reinforced cement sheathing complying with ASTM C1325] [½” minimum APA Exposure 1 or exterior plywood (Grade C/D or better)]
[½” minimum APA Exposure I OSB] [Gypsum sheathing (ASTM C79/C1396)] [Insulated Concrete Forms] Huber Zip (sheathing)] [CMU] [Brick] [Concrete]
[Other substrate, or Painted as approved by Facades XI]
- C. **Unsatisfactory conditions shall be corrected before the installation of any FACADESXi System materials. The contractor must notify the general contractor and/or owner and /or architect of all discrepancies. Do not proceed with water/air barrier until conditions are resolved.**

3.2 PREPARATION

- A. **Framing, Sheathing, Substrate**
1. Framing and Sheathing must be installed per the applicable manufacturer /industry standards.
 2. CMU/Concrete:
 - a. Cured a minimum of 28 days
 - b. Remove any contaminants, oils, form release agents and any other materials from the surface before application of the water barrier coating. Adhesion should be tested before application.
 - c. Repair cracks, fill holes, and remove projections in the surface and allow to dry before installing the water barrier coating.
- B. **Flashing**
1. Head, jamb and sills of all openings must be flashed in conjunction with the water /air barrier per project details and to create positive drainage.
 2. Roof Flashing, Kick out Flashing must be installed per project design
 3. Install copings and sealants after Stucco assembly has been installed and is completely dry.
- C. **Flashing**
1. Do not proceed until all unsatisfactory conditions have been correct
 1. Head, jamb and sills of all openings must be flashed in conjunction with the water /air barrier per project details and to create positive drainage.
 2. Roof Flashing, Kick out Flashing must be installed per project design.
 3. Install copings and sealants after assembly has been installed and is completely dry.
 4. Do not proceed until all unsatisfactory conditions have been corrected.

3.3 APPLICATION

A. Mixing

1. Mix each product in accordance with the most current product datasheet.
2. No additives are permitted to any components unless specifically approved by FXI.
3. Mix Xi-Admix and Bonding Agent into the FacadesXi Stucco Base in accordance with the product datasheet

B. Air/Water Barrier

1. Air/Water Barrier must be installed per the applicable manufacturer /industry standard.
2. Coordinate installation with all flashing, terminations, roofing, accessories, windows, other adjacent water barrier materials to provide an air/watertight assembly.
3. Install Water resistive barrier per manufacturers installation instructions.
4. All transitions, joints, corners, rough openings, terminations must be installed to create a monolithic air and water barrier.
5. When installing 2 layers of water resistive barriers, the individual layers shall be installed independently such that each layer provides a separate continuous plane and any flashing intended to drain to the water-resistive barrier is directed between the layers.
6. Install air seals per project design to create a continuous air barrier.

C. [Means of Drainage - Optional

1. Temporarily install Water resistive barrier with integral drainage or drainage mat with fabric side out with as few fasteners as possible. The Lath fasteners will permanently hold in place.]

D. Accessories /Lath

1. Install Weep Screed in accordance with ASTM C1063, A corrosion-resistant screed or flashing of a minimum 0.019-inch (0.48 mm) or 26 gage galvanized or plastic with a minimum vertical attachment

The placement and design of control and expansion joints must be per the project designer.

flange of 3-1/2 inches (89 mm) shall be installed to extend not less than 1 inch (25 mm) below the foundation plate line on exterior stud walls in accordance with International Building Code Section 1404.4. The water-resistive barrier shall lap over the exterior of the attachment flange of the screed or flashing.

2. On exterior stud walls, adhered masonry veneer shall be installed not less than 4 inches (102 mm) above the earth, or not less than 2 inches (51 mm) above paved areas, or not less than 1/2 inch (12.7 mm) above exterior walking surfaces that are supported by the same foundation that supports the exterior wall.
3. Install Control joints and Expansion joints in accordance with ASTM C1063, and per the architects design.
4. Install Lath in accordance with ASTM C1063.

E. Mortar Bed

1. Apply stucco with sufficient pressure to key into and embed the metal lath at a nominal 1/2-inch-thick (12.7 mm).
2. After application of the portland cement plaster base coat/brown coat; rod, darby or trowel it to produce the level desired.
3. Moist cure 48 hours. Moist curing will reduce cracking and increase hydration
4. If installing in 2 passes, install in accordance with FacadesXi Base coat product datasheet and Moist cure for 48 hours after each coat.

F. Masonry Veneer Mortar/ Adhered Veneer

1. Apply a thin layer of Masonry Veneer Mortar onto the substrate, approximately 1/8" thick. Only install material that will be covered within 15 minutes.

2. Also, apply a layer of MVM using the appropriate notched trowel onto the back side of the stone, tile, or brick.
3. Press the veneer into the wet mortar on the wall and slide it into its desired location – sliding back and forth to set the veneer.
4. **The end result should be 100% coverage between the substrate and the veneer unit.**
5. Every 100 sf check adhesion and coverage of a sample veneer.
6. There should be some mortar that squeezes out during installation to show a full coverage; clean excess mortar out between veneers.
7. Do not grout until it can be done without moving the veneer units .
8. Any veneers that are disturbed before completely setting, should be removed, mortar removed from the wall and the veneer and then reinstalled. Protect the from rain, freezing, until cured at least 24 hours, longer in cold or humid climates before application of primer / finish coat

G. Grout/Pointing Mortar

1. Allow the veneer to set a minimum of 24 hours before grouting.

3.3 QUALITY CONTROL

- A. The contractor is responsible for the proper application of the FACADESXi products.
- B. FacadesXi is not responsible for on-site inspections, if inspections are required, the owner must engage a third-party inspector.

3.5 CLEANING

- A. Clean under the provisions of Section [01 74 00]
- B. All excess materials must be removed from the project siter per the project Provisions
- C. Clean adjacent surfaces of excess materials or debris.

3.6 PROTECTION

- A. Protect installed materials under provisions of Section [01 74 00]

END OF SECTION

Disclaimer prepared in good faith based on the information available at the time of publication.

All information contained in this specification conforms to standard detail and product recommendations for the installation of FACADESXi products and should be used for guidance only. There may be additional information and/or equivalent means of installation that are not referenced in FACADESXi's specifications. All FACADESXi products shall be installed in accordance with FACADESXi product datasheets and all applicable building codes and industry standard practices.

The design, engineering and final details incorporating any FACADESXi product are the sole responsibility of the project design professional. FACADESXi is not responsible for determining the acceptability and/or applicability of any FACADESXi product for any specific project or condition. FACADESXi disclaims all liability for improper installation, workmanship, or design by a third-party. EXCEPT FOR ANY EXPRESS REPRESENTATIONS AND WARRANTIES BY FACADESXi, ALL IMPLIED WARRANTIES OF ANY KIND, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COMPLIANCE WITH LAWS OR GOVERNMENT RULES OR

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