



FACADESXi

**WATERSHIELD MASONRY VENEER
CEMENT BOARD ASSEMBLY**

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FACADESXi WATERSHIELD MASONRY VENEER CEMENT BOARD ASSEMBLY

CSI SECTION 04 43 13 – Adhered Stone Masonry Veneer

CSI SECTION 07 27 26 – Fluid-Applied Membrane Air Barriers

CSI SECTION 07 25 00 – Weather Barriers

This specification is to assist in correctly specifying the FACADESXi WaterShield Masonry Veneer Cement Board Assembly, products, and installation and should be used in conjunction with Assembly Details. The assembly includes WaterShield water resistive air barrier, drainage mat, portland cement plaster mortar bed, masonry veneer mortar, and adhered veneer.

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 the 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

- The system is generally recommended for low-rise construction and commercial construction less than 5 stories. see wind load data and verify requirements.
- 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 the set occurs.
- Efflorescence is a natural occurrence when using cement-based products subject to the exterior or wet environments and is not a defect of the product.
- For use on vertical above-grade walls only.

This system incorporates the XI WaterShield Assembly and is required for this system. When using a water/air barrier by others, see the Masonry Veneer Assembly specifications for the installation of the FXI products.

Contact FACADESXi technical services to assist in appropriate product selection.

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 cement board assembly including, Xi-WaterShield and accessory products, drainage mat, ASTM C1325 cement board, masonry veneer mortar adhesive, and adhered veneer.**

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. C1063 Standard Specification for Lathing and Furring Accessories, and Fasteners, for Interior and Exterior Portland Cement-Based Plaster
- 5. C1177 Specification for Glass Mat Gypsum for Use as Sheathing
- 6. C1325 Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units
- 7. C1861 Standard Specification for Lathing and Furring Accessories, and Fasteners, for Interior and Exterior Portland Cement-Based Plaster
- 8. D1784 Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compound
- 9. E84 Test Method for Surface Burning Characteristics of Building Material
- 10. E119 Standard Test Methods for Fire Tests of Building Construction and Materials
- 11. 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.

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 by 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.

D. System Joints

1. Locate control joints approx. every 600 square feet of wall surface area with a maximum length or width of 24 lineal ft. and a maximum length to width ratio of 2.5:1.
2. Expansion joints are required at building expansion joints, wood-framed floor lines, and where structural movement is anticipated. Locations must be called out in construction drawings.
3. Control joints must be placed in line with cement board joints and additional framing will be needed for the attachment of the cement board at vertical control joints.
4. Minimum 3/8" joints are required at all penetrations and transitions to dissimilar materials.
5. Accessories are required at cement board terminations.
6. Tile Movement Joints: Per 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 inches (100 mm) above earth grade, minimum of 2 inches (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. Manufacturers' 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 the 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 is to be contracted by the owner. Inspections are not performed by the coating's manufacturer.

1.7 PERFORMANCE CRITERIA

- A. Air /Weather Barrier Coatings: Compliant with Acceptance Criteria AC 212/ASTM E2570 Water-resistive Coatings Used as Water-resistive Barriers over Exterior Sheathing
- B. Cement Board must comply with ASTM C1325 for exterior use.
- C. Masonry Veneer Mortar
 - 1. Compressive strength of Masonry Veneer Mortar, ASTM C109
 - 2. Shear Strength, ANSI 118.15
 - 3. Shear Bond of Stone Veneer, ASTM C 482
 - 4. Shear Bond of Stone Veneer to cement board, 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 a cool, dry place, out of direct sunlight, and protect from freezing.
- F. Store insulation boards in original packaging, flat and out of the 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 a minimum or maximum allowable temperatures.
- C. Do not install coatings in temperatures above 100 F.
- D. Protect surrounding areas and adjacent surfaces from the 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 before the cladding to prevent excessive deflection and help prevent cracking.
- 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 the base coat has dried. Do not install sealant to finish coat.
- E. Attach penetrations through the system per FACADESXi Details.

1.11 WARRANTY

- A. Provide FACADESXi limited material warranty under project provisions.
- B. See Facade Warranty Technical Document for specific warranties available.

PART 2 - PRODUCTS

2.1 MANUFACTURER

FACADESXi, 15262 Capital Port, San Antonio TX 78249 | 833-899-0787 | www.FACADESXi.com

2.2 SYSTEM/MATERIALS

- A. WaterShield Masonry Veneer Wall Assembly: Xi-WaterShield Water /Air Barrier and accessories, drainage mat, cement board, FacadesXi Masonry Veneer Mortar, and Adhered Veneer.

B. Materials

1. WaterShield Assembly
 - a. WaterShield – Liquid applied air/ water barrier
 - b. WaterShield Joint Mesh– Reinforcement for Watershield over joints and gaps
 - c. WaterShield Flashing Tape: Primer-Free peel and stick Tape designed with a polyester fabric top layer provides an excellent bonding surface for cementitious and synthetic stucco coatings.
 - d. Xi-FlashFill: Gunnable or trowelable waterproofing sealant applied at 12 mils.
2. 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
3. Cement Board (by others): ½" PermaBase™ Cement Board in Compliance with ASTM C1325
4. Cement Board Fasteners (by others): Per National Gypsum PermaBase installation instructions and code compliance for the required wind load.
5. Accessories:
 - a. Starter Track, Casing Bead, Control Joints, Corner Bead PVC in compliance with ASTM D1784.
6. Cemenoard Joint Reinforcement
 - a. Base Coat: [Xi-Dry Acrylic Base Coat or Xi-Acrylic Base Coat: Dry polymer containing Portland cement mixed with water in the field or 100% acrylic base coat mixed with Portland cement in the field.]
 - b. Reinforcing Mesh: 4" Xi-Mesh Standard Reinforcing Mesh: 4.2 oz/ yd² open weave glass fiber coated reinforcing mesh.]
7. 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, 2-5/8 inches thick or 15 pounds per square foot.

8. 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:
9. 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, and 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]
[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 the 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.
- B. **Flashing**
1. Head, jamb, and sills of all openings must be flashed in conjunction with the water/air barrier per project details 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 per the most current product datasheet.
 2. No additives are permitted to any components unless specifically approved by FXI.
- B. **Air/Water Barrier**
1. Coordinate installation with all flashing, terminations, roofing, accessories, windows, and other adjacent water barrier materials to provide an air/watertight assembly.
 2. Install WaterShield and WaterShield accessory products per the WaterShield Product datasheet and system details.
 3. Treat all Gaps, joints, corners, and dissimilar transitions with the appropriate Joint Treatments to ensure a water and airtight assembly.
 4. After Flashings, window fins, and penetrations are installed, install Watershield transition treatment per project details to create a waterproof connection and positive drainage.
 5. Watershield Field Application: Install per the WaterShield Product datasheet and system details.
 6. The wet mil will be approximately 10-12 wet mils.
 - a. OSB/Plywood: Plywood/OSB surface may create imperfections in the WaterShield. The WaterShield must be reapplied in any areas that are not completely covered.
 - b. CMU: CMU will require more Watershield than other substrates or it may be skimmed out with Xi-Base or Xi-VersaBase.
 - c. Some substrates may require 2 Coats: When applying 2 coats, allow the first coat to fully dry. It may require back rolling with a ¾” nap roller for complete coverage without pinholes.

7. Transition between Water Resistive Barriers:
 - a. When there is a transition between WaterShield and Non-FacadesXi materials, consult FacadesXi Technical Services. The adhesion between products is not always known and testing may be necessary.

C. Means of Drainage: Temporarily install with as few fasteners as possible to hold the paper in place until the installation of the lath.

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

D. Accessories

1. If the accessory does not lay flat on the wall, blocking may be required.
2. Base of Wall: Attach the starter track at the base of the wall as shown on details at 16" o.c. with the proper fastener. Abut pieces together and miter outside corners.
3. All Terminations: At all cement board terminations such as windows, doors, floor lines, rooflines, etc; attach the accessories, starting at least 1" from each end, at 16" o.c. into the framing 1/2" into wood studs and 3 screw threads into steel studs. Adhesives approved by the cement board manufacturer are allowed to level out the mechanical attachment.
4. Expansion Joints: Install back-to-back casing beads or expansion joint accessories at building expansion joints, through wall joints, at dissimilar substrates, building height changes, and floor lines if required.
5. Trim intersections: Gap abutting pieces approx. 1/8" apart and set intersection in a bed of adhesive. Vertical trims should be continuous.

E. Cement Board

1. Install Cement board over the drainage medium, vertically or horizontally.
2. Offset cement board joints from sheathing joints a min of 6 inches.
3. Stagger vertical joints of the cement board, butt edges close, and flush at the surface.
4. Boards must be "L" shaped around openings and large penetrations. Alternative to L-shaped cement boards, 9" wide strips of reinforcing mesh can be installed in diagonals at corners.
5. Install edges into starter tracks and casing beads as indicated on drawings.
6. Fasten boards through the sheathing and into the framing 8" oc around the perimeter and 12" in the field of the boards along with the studs; the fasteners must be flush with the surface of the cement board. Fastener locations may depend upon designed wind loads.

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 Xi-Masonry Veneer Mortar using the appropriate notched trowel onto the backside 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 the 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 them 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 site 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 per 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 REGULATIONS APPLICABLE TO THE PROJECT, ARE HEREBY DISCLAIMED.

FACADESXi's website should always be consulted for the latest version of any details, specifications, and/or product information. Contact FACADESXi for any technical assistance.

FACADESXi

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