



FACADESXi

FACADETHREE MAX
WALL ASSEMBLY

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FACADESXi FACADESTHREE MAX WALL ASSEMBLY

CSI SECTION 09 24 23 CEMENT STUCCO

This specification is to assist in correctly specifying the FACADESXi FacadesThree Wall Assembly, products and installation and should be used in conjunction with Assembly Details. The stucco assembly includes a code compliant water resistive air barrier, drainage mat, code compliant lath, cement-based stucco (3/4 inch thick), primer and acrylic finish.

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 FacadesThree Assembly, 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. Stucco Wall assemblies will allow water to flow through it; the wall should be designed for this consideration.

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

- 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.
- Cracking will occur in portland cement stucco, as is with any Portland cement-based product, and is not a defect of the product. Cracking can be minimized by following best practices, including proper installation of lath, proper use of control and expansion joints, proper sand selection, proper mix proportions, limit excess water, moist curing of the stucco, and proper sequencing of construction to avoid stresses.
- For use on vertical above grade walls only.
- Moist curing must be provided per the applicable building code.
- Where snow may occur, increase the distance required between grade and the stucco and increase the slope requirement of the Stucco and Foam Shapes
- Maintenance is Required with periodic cleaning, repair of cracks and impact damage, if they occur, and/or recoating to enhance appearance of weathered finish.
- Dark colors show more efflorescence and imperfection in the stucco base coat compared to light colors. With Foam Shapes, select a color with a light reflectance value (LRV) of 20 percent or higher. EPS has a service temperature limitation of approximately 160 degrees F (71 degrees C).

Contact FACADESXi technical services to assist in appropriate product selection

For Stucco Assemblies incorporating:

- Crack Resistant Layer -FacadesThree FractureStop
- Continuous Insulation, FacadesThree - Series Xi
- WaterShield Water/Air barrier – FacadesThree WaterShield
- WaterShield, Drainage Mat & Fracture Stop - FacadesThree IronClad
- Direct Application to Concrete/Masonry/CMU - FacadesThree-CMU
- Cement Finishes over Stucco Base coat - FacadesThree-Hacienda

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

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

<Text> Include the appropriate information.

FractureStop crack resistant layer is an optional layer for all Facades Stucco Assemblies, it can either be included in this Specification or See FacadesThree FractureStop Specification.

Primer is an Optional Layer that will enhance the color uniformity of the acrylic finish coat, especially in hot weather.

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. **Materials and installation of an exterior stucco assembly including: code compliant water resistive and barrier, drainage mat, code compliant lath, stucco base coat, [OPTIONAL reinforced base coat for crack resistance], [primer] and 100% acrylic textured finish coat**

1.2 RELATED SECTIONS

- A. **Section 03 30 00 Cast in Place Concrete**
- B. **Section 04 20 00 Unit Masonry**
- C. **Section 06 11 00 Wood Framing**
- D. **Section 06 16 00 Sheathing**
- E. **Section 07 27 00 Air barriers**
- F. **Section 07 60 00 Flashing and Sheet Metal**
- G. **Section 07 90 00 Joint Protection**
- H. **Section 08 40 00 Entrances, storefronts, curtain walls**
- I. **Section 08 50 00 Windows**
- J. **Section 09 22 00 Supports for Plaster and Gypsum Board**
- K. **Section 09 22 36 Lath**
- L. **Section 09 21 16 Gypsum Board Assemblies**

1.3 REFERENCES

- A. **ASTM**
 - 1. E84 Test for surface burning characteristics of building materials
 - 2. C144 Specification for Aggregate for Masonry Mortar
 - 3. C847 Standard Specification for Metal Lath
 - 4. C897 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plaster
 - 5. C926 Standard Specification for Application of Portland Cement-Based Plaster
 - 6. C1177 Specification for Glass Mat Gypsum for Use as Sheathing
 - 7. D226 Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
 - 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. E2430 Standard Specification for Expanded Polystyrene ("EPS") Thermal Insulation Boards For Use in Exterior Insulation and Finish Systems ("EIFS")

- 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**
- E. Lath Fasteners pull-out testing, if outside of the ER Scope of Wind Loads allowances**

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. For specific instructions on Accessory installation see ASTM C1063.
6. The placement of the control joints, expansion joints, is not the responsibility of the contractor. Designer to show placement on the project drawings.

1.6 QUALITY ASSURANCE

- A. **Manufacturer**
 1. Stucco product has 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 stucco and coatings for a minimum of 3 years.
 2. Employ mechanics who are skilled and experienced in stucco applications.
- 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 stucco manufacturer.**

1.7 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 of 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.**

1.8 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. **Prevent uneven or excessive evaporation of moisture from base coat during dry, hot weather. Do not install coatings in temperatures above 100 F.**
- D. **Protect surrounding areas and adjacent surfaces from application of materials.**

1.9 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 FacadesThree Wall System to prevent excessive deflection and help prevent cracking of the stucco.**
- 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 stucco finish has dried.**
- E. **Attach penetrations through the stucco per Façades Xi Application Details.**

1.10 WARRANTY

- A. Provide FACADESXi Wall systems limited material warranty under project provisions.
- B. See FacadesXi 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. **System: FacadesThree Wall system: Substrate, water resistive barrier, code compliant lath, Scratch and Brown stucco base coat, [fiberglass mesh reinforced base coat] [primer], acrylic integrally colored finish coat.**
- B. **Materials**
 - 1. Water Resistive Barrier Per IBC Section 1403.2 (2018) or 1404.2 (2015-2009) ([Select One](#))
 - a. [Not fewer that one layer of No.15 asphalt felt complying with ASTM D226 for Type 1 felt or other approved materials]
 - b. [Water Resistive Barrier with an Evaluation Report showing equivalency to the International Building Code.]
 - c. [Wood Sheathing]
 - 1) [Water-resistive vapor-permeable barrier with a performance at least equivalent to two layers of water-resistive barrier complying with ASTM E2556, Type I.]
 - 2) [Water-resistive barrier complying with ASTM E2556, Type II and is separated from the stucco by an intervening, substantially non-water-absorbing layer or drainage space, including continuous insulation
 - 3) [Climate Zone 1a, 2A, or 3A, a ventilated air space shall be provided between the stucco and water-resistive barrier (2018 IBC).
 - 4) [Water Resistive Barrier with an Evaluation Report showing equivalency to the International Building Code]
 - 2. Air Barrier if applicable, choose a water resistive barrier that also complies with the International Energy Code for Air Permeance.

For Fire rated construction, the lath must per the fire rated assembly.

Selecting the appropriate type of plaster base and accessories shall be up to the design professional. Plaster base and accessories should be selected to be compatible with the environment and climatic conditions specific to the location of the project. These conditions include, but are not limited to, salt air, high moisture, and industrial pollution.

Metal plaster bases, lath and trim accessories, furring accessories, and fasteners shall be selected for compatibility to minimize galvanic corrosion between each other and any other components they may encounter.

- 3. Drainage Mat
 - a. Three-dimensional mat laminated to a non-woven lightweight, breathable fabric to provide a separation from the stucco base coat.
- 4. Lath (by others) ([Select One](#))
 - a. [Expanded metal lath Minimum 2.5 lb/yd² (1.4 kg/m²), meeting ASTM C847 Specification for

- d. Reinforcing Mesh: Facades Xi-Mesh Standard Reinforcing Mesh: 4.5 oz/ yd² open weave glass fiber coated reinforcing mesh.

Specifiers note: the use of primer will enhance the color uniformity of the acrylic finish coat, especially in hot weather. If the pH of the stucco surface is greater than 10, the primer must be used to lower the pH.

- 9. [Xi-Primer (OPTIONAL PER SPECIFIER): 100% Acrylic tintable primer]
- 10. Xi-Textured Acrylic Finish Coat
 - a. Dirt Pick up resistant/ (everyone uses this term – do we have something better?) 100% Acrylic polymer textured finish coat water based acrylic coating with integra color and texture
 - b. Color:
 - c. Texture: Xi-Smooth, XI- Ultra Fine Sand .75 Xi-Fine Sand 1.0 Xi-Medium Sand 1.25 Xi Coarse Sand 1.5 Xi-Fine Swirl 1.5 Xi- Coarse Swirl 2.0

This is a lathed installation of a stucco assembly. For an assembly where the stucco is directly installed to CMU/masonry – See the Façade one – CMU Assembly specification.

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. Surfaces must be free from excessive moisture; moisture content should be recorded before installation of the water barrier materials.
 - 4. Openings, Roofs, terminations have been properly flashed
- B. **Substrate – Fire Rated wall should be per the assembly - (Select 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. Sheathing must be installed per the applicable manufacturer /industry standards.
 - 2. CMU/Concrete:
 - a. 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.
 - b. 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.
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.

The transition of water barriers on the project with other materials and/or with other water barriers on the project must be considered by the designer before installation.

B. Air/Water Barrier

1. Coordinate installation with all flashing, terminations, roofing, accessories, windows, other adjacent water barrier materials to provide an air/watertight assembly.
2. Install Water resistive barrier per manufacturers installation instructions.
3. All transitions, joints, corners, rough openings, terminations must be installed to create a monolithic air and water barrier.
4. 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.
5. Install air seals per project design to create a continuous air barrier.
6. Wood Base Sheathing / Climate Zone 1A, 2A, 3A (IBC 2018)- a ventilated air space must be provided

If applicable, Stucco materials should not be installed directly over water barrier coatings and a slip sheet should be installed to prevent adhesion of the stucco to the Air/Water Barrier Coatings which can cause Stucco cracking.

C. **Drainage Mat: Install drainage mat with fabric side out with as few fasteners as possible. The Lath fasteners will permanently hold the drainage mat in place.**

D. Accessories /Lath

1. Install Weep Screed in accordance with ASTM C1063.
2. Install Casing Bead, Trim accessories, and Expansion joints in accordance with ASTM C1063.
3. Install Lath in accordance with ASTM C1063.

E. **Stucco Base Coat, for complete application see ASTM C926**

1. Apply stucco with sufficient pressure to key into and embed the metal lath. Apply sufficient material, 3/8 Per ASTM C926, apply portland cement plaster by hand-troweling or machine-spraying to a nominal thickness of 3/8-inch (9.5mm) for scratch coat. Scratch coat shall substantially cover the lath and be applied with sufficient pressure to encase the lath in cement. Slickers to apply cement plaster are prohibited. Score in a horizontal pattern.
2. Moist cure 48 hours.
3. Apply a second coat to a nominal thickness of 3/8-inch (9.5 mm) brown coat. Total basecoat shall be a nominal 3/4 inch thickness.
4. Apply brown coat to fill and complete basecoat. Nominal 3/4 inch thickness. Rod to a flat plane. When excess moisture leaves brown coat, hard float to provide densification per ASTM C926
5. Moist Curing: Provide sufficient moisture by fog or moist curing to permit proper hydration of the cementitious materials. The length of time and most effective procedure for curing will depend on climatic and job conditions.

F. [Foam Shapes]

1. Apply the base coat to the entire surface on one face of the insulation board, then using a 5/8" x 5/8" x 5/8" (16mm x 16mm x 16mm) notched trowel, run the adhesive in ribbons to a uniform thickness to run vertically when positioned on the wall (do not install adhesive directly to the stucco base coat).
2. Immediately install foam shapes, ornamental pieces applying uniform pressure to promote maximum adhesive contact.
3. Allow the foam insulation shapes to set undisturbed overnight. Cold and humid conditions may require greater than 24 hours before rasping.
4. Rasp the surface of the insulation board smooth, if applicable.
5. Uniformly cover the entire foam board surface with the base coat to approximately 1/16" - 1/8" thick. With the flat edge of a stainless-steel trowel, embed reinforcing mesh into the base coat, from the center to the edges, wrapping it around the edges and system terminations, extending as far onto the structural elements as possible. Use the mesh to gauge base coat thickness. The mesh-reinforced surface should be flat and smooth with no wrinkles. A damp, NOT WET, brush may be used on fresh or uncured base coat to maintain sharp edges of grooves or for smoothing trowel marks. The thickness must be such that the mesh color is not visible at a minimum of 1/16".
6. The base coat and mesh can either be backwrapped behind the shape or lapped onto the stucco surface. You must ensure to feather out the base coat and mesh onto the stucco surface.
7. On the sloped surface of foam shapes slope or shapes greater than 12", WaterLock Waterproof Cementitious base coat must be used on these areas over the Reinforced Base coat.

G. [Fracture Stop]

1. Apply mixed Base coat and reinforce with Xi reinforcing mesh to the entire surface the stucco base coat with a stainless-steel trowel to a minimum thickness of 1/16".
2. Allow the base coat to completely dry before installation of the primer/finish coat.]

H. Apply primer to the base coat per the product datasheet.

I. Apply Selected Finish coat per the product datasheet.

3.4 QUALITY CONTROL

- A. The contractor is responsible for the proper application of the FACADESXi wall System products.
- B. FacadeXi 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 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.

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