



FACADESXi

Xterior Insulation System

TABLE OF CONTENTS

LIMITATIONS	3
PART 1 - GENERAL	4
1.1 SECTION INCLUDES	4
1.2 RELATED SECTIONS	4
1.3 REFERENCES	4
1.4 SUBMITTALS	5
1.5 DESIGN CRITERIA	5
1.6 QUALITY ASSURANCE	6
1.7 PERFORMANCE CRITERIA	6
1.8 DELIVERY/STORAGE/HANDLING	7
1.9 PROJECT CONDITIONS	7
1.10 COORDINATION AND SCHEDULING	7
1.11 WARRANTY	7
PART 2 - PRODUCTS	7
2.1 MANUFACTURER	7
2.2 SYSTEM/MATERIALS	7
PART 3 - INSTALLATION/EXECUTION	10
3.1 EXAMINATION	10
3.2 PREPARATION	10
3.3 APPLICATION	10
3.4 QUALITY CONTROL	11
3.5 CLEANING	12
3.6 PROTECTION	12

FACADESXi XTERIOR INSULATION SYSTEM

CSI SECTION 07 24 00 EXTERIOR INSULATION FINISH SYSTEMS

This specification is to assist in correctly specifying the FACADESXi Xi- Xterior Insulation System, products, and installation and should be used in conjunction with Assembly Details. The system includes insulation board, reinforced polymer-modified base coat, optional primer, and acrylic finish installed over concrete, masonry or other mass barrier wall that does not require a water resistive barrier.

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. These specifications cover multiple options within the System. For assistance, contact your FacadesXi Technical Department.

FACADESXi Wall systems provide 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 Xterior Insulation System, 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 and a means for drainage of incidental moisture from within the system. All components within the assembly must be compatible with the EIF System materials.

Construction Types: V, 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 until materials are dry, usually 24 hours.
- Select a finish coat color in relation to the overall project location in mind. It is generally recommended to select a finish color with a light reflectance value (LRV) of 20 percent or higher due to the EPS service temperature limitation of approximately 160 degrees F (71 degrees C).
- For use on vertical above-grade walls only or within the allowable slope and waterproof base coats.
- Where snow may occur, increase the distance required between grade and the stucco and increase the slope requirement of the Foam Shapes
- Maintenance is Required with periodic cleaning.
- Always follow product data sheet information.

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 Xterior Insulation System including continuous insulation, reinforced base coat [primer], and textured finish coat.**

1.2 RELATED SECTIONS

- A. Section 04 20 00 Unit Masonry**
- B. Section 07 90 00 Joint Protection**
- C. Section 08 40 00 Entrances, storefronts, curtain walls**
- D. Section 08 50 00 Windows**

1.3 REFERENCES

A. ASTM

- 1. B117 Test Method for Salt Spray (Fog) Testing
- 2. C297 Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions
- 3. C578 Specification for Preformed, Cellular Polystyrene Thermal Insulation
- 4. D2247 Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
- 5. E84 Test Method for Surface Burning Characteristics of Building Material
- 6. E96 Test Methods for Water Vapor Transmission of Materials
- 7. E330 Test Method for Structural Performance of Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
- 8. E331 Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
- 9. E2098 Test Method for Determining Tensile Breaking Strength of Glass Fiber Reinforcing Mesh for Use in Class PB Exterior Insulation and Finish System after Exposure to a Sodium Hydroxide Solution
- 10. E2134 Test Method for Evaluating the Tensile-Adhesion Performance of an Exterior Insulation and Finish System (EIFS)
- 11. E2430 Standard Specification for Expanded Polystyrene ("EPS") Thermal Insulation Boards For Use in Exterior Insulation and Finish Systems ("EIFS")
- 12. E2485 Standard Test Method for Freeze/Thaw Resistance of Exterior Insulation and Finish Systems (EIFS) and Water Resistive Barrier Coatings
- 13. E2486 Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)
- 14. E2568 Standard Specification for PB Exterior Insulation and Finish Systems
- 15. G155 Standard Practice For Operating Xenon Arc Light Apparatus For Exposure Of Non-Metallic Materials

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. Current Manufacturer's Code Evaluation Report**
- D. Shop drawings to be provided by the subcontractor.**
- E. Samples: two 6 inches by 6-inch finish coat samples per designers' request**
- F. Applicator's certificate**

1.5 DESIGN CRITERIA

A. Structural

1. Maximum deflection not to exceed L/240 of the span under positive or negative design load.
2. See Evaluation report for Wind Load testing.
3. Wind Load Testing and Limitations: See Current Evaluation Report

B. Moisture/air control

1. Do not use vapor retarders on the interior side of the wall. Using vapor retarders on the exterior is the decision of the designer.
2. 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.
3. When required design air leakage continuity transitions to other wall components, at all penetrations and wall connections.

C. Impact

1. High or Ultra High impact resistance is recommended on wall areas subjected to pedestrian traffic or other exposure to impact up to a minimum height of 6 feet above grade.
2. Impact areas other than Standard impact must be indicated on drawings.

D. Color: Select a finish coat with a light reflectance value of 20 or greater. (The use of dark colors is not recommended over expanded polystyrene [EPS]. EPS has a service temperature limitation of approximately 165° F [74°C]).

E. Fire Rated Assemblies Ensure that the assembly complies with an associated UL assembly, Fire-rated assembly.

F. Expansion Joints

1. The placement of the expansion joints is not the responsibility of the contractor. Designer to show placement on the project drawings.
2. Minimum ½ inch joints (or as per the designer) are required at Penetrations through the EIFS such as windows, doors, electrical, mechanical
3. Minimum ¾ inch joints (or as per the designer) are required at:
 - a. Building expansion joints
 - b. Wood floor lines where deflection is expected
 - c. At dissimilar materials or dissimilar walls
 - d. Changes in building height

G. System Terminations

1. The System must be properly back-wrapped, prewrapped, or encased in approved vinyl trim accessories at all terminations.
2. The System must be terminated above grade (generally 6 inches) and finished grade per the applicable building code allowance. See System Details

H. Foam Shapes / Reveals

1. Horizontal/Sloped surfaces greater than 2 inches of Foam shapes must be coated with Xi - WaterLock
2. Slope Minimums; Standing Snow areas – 6:12, No Standing Snow - 3:12
3. Horizontal surfaces need more maintenance and design due to the higher probability of dirt gathering, increase heat, and weather exposure.
4. Reveals must have a minimum of ¾ inch of flat insulation at the base of the reveal.

1.6 QUALITY ASSURANCE

A. Manufacturer

1. All system components must be manufactured by or approved by FXI
2. Code compliant and listed Exterior Insulation and Finish System

B. Applicator

1. Listed by FACADESXi Wall Systems. Licensed, insured, and engaged in the application of EIFS and

- 2. coatings for a minimum of 3 years and have completed 3 projects within the same scope of work.
- 2. Employ mechanics who are skilled and experienced in EIFS applications and knowledgeable in the FACADESXi Xterior Insulation System.
- 3. Submit a current copy of the manufacturer's Contractor Certificate for the EIF system specified.
- C. **Insulation Board Manufacturer Qualifications:**
 - 1. EPS Board molder must be listed by an approved listing agency
 - 2. EPS Board must be labeled in accordance with the FacadesXi Evaluation report requirements.
- D. **Mock-Ups**
 - 1. 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. **Inspections: FACADESXi is not responsible for Third-Party inspections, if inspections are required, the owner must engage a third-party inspector.**

1.7 PERFORMANCE CRITERIA

A. EIFS Clad Wall Assembly– Physical and Structural

TEST	METHOD	CRITERIA	RESULTS
Accelerated Weathering	ASTM G155	No deleterious effects after 2000 hours.	Pass
Freeze-Thaw	ASTM C67, E2485 A	No deleterious effects after 60 cycles	Pass
Salt Fog Resistance	ASTM B117	No deleterious effects after 300 hours	Pass
Transverse Wind-load	ASTM E330		See Evaluation Report
Water Penetration	ASTM E331	No water penetration after 15 minutes @ 137 Pa (2.86 psf)	Pass, 6.24, etc.
Water Resistance	ASTM D2247	No deleterious effects after 14 days of exposure	Pass

B. Reinforcing Mesh

TEST	METHOD	CRITERIA	RESULTS
Alkali Resistance of Reinforcing Mesh	ASTM E2098	Greater than 120 pli (21 dN/CM) tensile strength	Pass (all mesh)
Xi-Mesh	ASTM E2486	25-49 inch-lbs. (2.8-5.6 j)	84 inch-lbs
Xi-Mesh 6	ASTM E2486	25-49 inch-lbs. (2.8-5.6 j)	100 inch-lbs
Xi-Mesh 11	ASTM E2486	50-89 inch-lbs. (5.7-10.1 j)	200 inch-lbs
BearMat 15 / Xi-Mesh	ASTM E2486	90-150 inch-lbs. (10.2-17.0 j)	284 inch-lbs * not tested to failure
BearMat 20 / Xi-Mesh	ASTM E2486	150 inch-lbs. (17 j)	284 inch-lbs * not tested to failure

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 undercover and off the ground in a dry location.
- E. Store FACADESXi materials in a cool, dry place, out of direct sunlight, 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. Prevent uneven or excessive evaporation of moisture from base coat during dry, hot weather. Do not install coatings in temperatures above 100 degrees F.
- D. Protect surrounding areas and adjacent surfaces from the application of materials.
- E. Separate the EPS insulation board from the interior of the building by a minimum 15-minute thermal barrier.

1.10 COORDINATION AND SCHEDULING

- A. A preconstruction meeting is recommended and should include the Manufacturer, the applicator, the owner, coordinating material representative, and [consultants] before the installation of the materials.
- B. Air and water seals between adjoining materials and FXI materials should be designed to maintain the continuity of the assembly.
- C. 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.
- D. Protect rough openings before installing windows, doors, and other penetrations are installed and coordinate the installation so that the water and air barrier remain continuous.
- E. Protect sheathing per industry and/or sheathing manufacturer's instructions.
- F. Install parapet cap/copings and sealant immediately after base coat finish has dried or if installing after finish coat has been installed, the room must be left to seal to the base coat.
- G. Attach other small penetrations through the system per application details and provide a watertight seal.
- H. Install window/door and large penetration head flashing immediately after windows and doors are installed.
- I. Install penetrations when possible, such as ducts and pipes, and seal at the water barrier layer to create a continuous water and air barrier

1.11 WARRANTY

- A. Provide FACADESXi Wall systems limited labor and material warranty under project provisions.
- B. Workmanship is not included in the warranty and if required must be provided by the installer.
- C. See FACADESXi Warranty Technical Document for specific warranties available.

PART 2 - PRODUCTS

2.1 MANUFACTURER

FACADESXi, 15262 Capital Port, San Antonio TX 78249 | [972.834.9070](tel:972.834.9070) / [1-833-899-0787](tel:1-833-899-0787) | www.FACADESXi.com

2.2 SYSTEM/MATERIALS

- A. System: Xterior Insulation System: Insulation board, fiberglass mesh reinforced base coat, [primer], acrylic integrally colored finish coat.
- B. Materials
 - 1. All components of the system must be supplied by FacadesXi or their authorized distributors.
 - 2. Insulation Board
 - a. Expanded Polystyrene (EPS), Nominal 1.0 lb/ft³ (16 kg/m³) in compliance with ASTM C578 Type I /ASTM E2430.
 - b. Minimum Thickness allowed: 1.5"

Specifiers note: *The designer must select the appropriate meshes for the project. FacadesXi recommends using BearMat 15 or 20 in conjunction with Xi-Mesh for areas that could receive traffic or damage.*

- 3. Reinforcing Mesh

- c. Xi-Mesh Standard Reinforcing Mesh: 4.2 oz/ yd² open weave glass fiber coated reinforcing mesh.
 - d. Xi-Mesh 6: 6 oz/ yd² open weave glass fiber coated reinforcing mesh for standard impact resistance
 - e. Xi-Mesh 12: 12 oz/ yd² open weave glass fiber coated reinforcing mesh for intermediate impact resistance
 - f. BearMat 15 / Xi-Mesh 4: 15 oz/ yd² open weave glass fiber coated reinforcing mesh for high impact resistance (must be used in conjunction with Xi-Mesh)
 - g. BearMat 20 / Xi-Mesh 4: 20 oz/ yd² open weave glass fiber coated reinforcing mesh for ultra-high impact resistance (must be used in conjunction with Xi-Mesh)
4. Base Coat:
- a. Xi-WaterLock: Waterproof Base Coat for Sloped surfaces - acrylic-based, fiber-reinforced, waterproofer mixed with Portland cement in the field.
 - b. Xi-Acrylic Base Coat/Xi-Dry Acrylic Base Coat: 100% acrylic base coat mixed with Portland cement in the field or Dry polymer mix containing Portland cement mixed with water in the field.

Specifiers note: the use of primer will enhance the color uniformity of the acrylic finish coat, especially in hot weather.

- 8. [Xi-Primer] (OPTIONAL PER SPECIFIER): 100% Acrylic tintable primer]
- 9. Xi-Textured Acrylic Finish Coat
 - a. 100% Acrylic polymer, dirt pick-up resistant textured finish coat water-based acrylic coating with integral 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

C. Accessory Materials

- 1. PVC Drainage Track with weep holes, complying with ASTM D 1784 and ASTM C 1063.
- 2. Backer Rod and Joint Sealants: Closed-cell back rod and sealant from the acceptable sealant list.

PART 3 - INSTALLATION/EXECUTION

3.1 EXAMINATION

- A. **Unsatisfactory conditions shall be corrected before the installation of any FACADESi 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.**
- B. **Verify the following:**
 - 1. Substrate is allowable and code compliant and installed per the manufacturer or appropriate product installation instructions.
 - 2. Verify the deflection of the substrate does not exceed 1/240 times the span.
 - 3. Surfaces must be free of mildew, dirt, efflorescent, oils, damage deterioration, or any foreign materials.
 - 4. Verify substrate is flat within 1/4 in (6.4 mm) in an 8 ft (2.4 m).
 - 5. Surfaces must be free from excessive moisture, and moisture content should be recorded before the installation of the water barrier materials.
- C. **Substrate**
Unpainted masonry, cmu or concrete

3.2 PREPARATION

- A. **Framing, Sheathing, Substrate**

1. Sheathing must be installed per the applicable manufacturer /industry standards.

B. Flashing

1. All rough openings, penetrations, balconies, and decks are flashed per the project details and in a manner to prevent water penetration. 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, and Kick out Flashing must be installed per project design

3.3 APPLICATION

Specifiers Note: Delete Products not specified in Section 2.0

Follow EIFS Installation Guide for full instructions.

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. Backwrapping/Terminations

1. Insulation Boards must be completely encapsulated with Reinforced Base Coat (Backwrapped or Pre-wrapped) or starter Track.
2. Backwrap: Attach Detail Mesh at the perimeter of all openings, penetrations, and other system terminations onto the walls 2-1/2" and at a length that will extend onto the face of the insulation board 2-1/2". Mesh may be stapled or attached with Xi-Base and embedding the Detail Mesh.
3. Starter track: Attach to the wall per the manufacturer's installation instructions.

C. Insulation Board

1. Begin at the base of the wall, using temporary support if necessary.
2. Slide insulation boards into the Starter Tracks where backwrap or pre-wrap are not being used.
3. Offset panel joints Insulation board joints from sheathing board joints by 12 inches minimum.
4. Follow the fastening pattern as required by the Evaluation report and required wind load requirements per the project sheathing/framing. The washer Face should be flush with the surface of the insulation board.
5. Insulation boards are installed in running bond.
6. Boards must butt tightly to each other, do not allow base coat between the board joints.

D. Base Coat/ Reinforcing Mesh

1. Uniformly cover the entire foam board surface with the base coat to be 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.
2. 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.
3. The thickness must be such that the mesh color is not visible at a minimum of 1/16". If color is visible a second layer of base coat can be applied.
4. Lap reinforcing mesh 2 1/2" minimum at edges.
5. Allow to dry (normally 8 hours)
6. Sloped Surfaces: Apply a layer of Xi-WaterLock over the reinforced base coat on sloped surfaces with a stainless steel trowel

E. Apply primer to the dried base coat per the product datasheet.

F. 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. 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