SECTION 07 24 00

EXTERIOR INSULATION AND FINISH SYSTEMS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM B117	(2011) Standard Practice for Operating Salt Spray (Fog) Apparatus
ASTM C1177/C1177M	(2013) Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
ASTM C1278/C1278M	(2007a; R 2015) Standard Specification for Fiber-Reinforced Gypsum Panel
ASTM C150/C150M	(2015) Standard Specification for Portland Cement
ASTM C473	(2015) Physical Testing of Gypsum Panel Products
ASTM C578	(2015b) Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
ASTM C67	(2014) Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile
ASTM C847	(2014a) Standard Specification for Metal Lath
ASTM C920	(2014a) Standard Specification for Elastomeric Joint Sealants
ASTM D2247	(2015) Testing Water Resistance of Coatings in 100% Relative Humidity
ASTM D3273	(2012; E 2015) Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
ASTM D968	(2015) Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM E2098/E2098M	(2013) Determining Tensile Breaking Strength of Glass Fiber Reinforcing Mesh for Use in Class PB Exterior Insulation and Finish Systems (EIFS) after Exposure to a Sodium Hydroxide Solution

ASTM E2486	(2006) Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)
ASTM E2570/E2570M	(2007; R 2014; E 2014) Standard Test Methods for Evaluating Water-Resistive Barrier (WRB) Coatings Used under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage
ASTM E330/E330M	(2014) Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E331	(2000; R 2009) Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E695	(2003; R 2015; E 2015) Measuring Relative Resistance of Wall, Floor, and Roof Construction to Impact Loading
ASTM E84	(2015b) Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM G153	(2013) Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials

INTERNATIONAL CODE COUNCIL (ICC)

ICC IBC	(2012) International Building Code

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 268	(2012) Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source
NFPA 285	(2012) Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components

1.2 SYSTEM DESCRIPTION AND REQUIREMENTS

The exterior insulation and finish system (EIFS) must be a job-fabricated, drainable, exterior wall covering consisting of sheathing, insulation board, reinforcing fabric, base coat, finish coat, adhesive and mechanical fasteners as applicable. The system components must be compatible with each other and with the substrate as recommended or approved by, and the products of, a single manufacturer regularly engaged in furnishing Exterior Insulation and Finish Systems. All materials must be installed by an applicator approved by the system manufacturer. EIFS must be Class PB

and must be color and finish indicated..

1.2.1 System Requirements and Tests

The system must meet the performance requirements as verified by the tests listed below. Where a wall system of similar type, size, and design as specified for this project has been previously tested under the condition specified herein, the resulting test reports may be submitted in lieu of job specific tests.

1.2.1.1 Water Penetration

Test the system for water penetration by uniform static air pressure in accordance with ASTM E331. There must be no penetration of water beyond the plane of the base coat/EPS board interface after 15 minutes at 6.4 psf, or 20 percent of positive design wind pressure, whichever is greater.

1.2.1.2 Wind Load

Test the system for wind load by uniform static air pressure in accordance with ASTM E330/E330M (procedure A) to a minimum pressure of __20___ psf. There must be no permanent deformation, delamination, or other deterioration.

1.2.1.3 Full scale or intermediate scale fire test

Conduct wall fire test using apparatus, specimen, performance criteria, and procedure in accordance with NFPA 285 when required by ICC IBC 2603.5.5. The following requirements must be met:

a. No vertical spread of flame within core of panel from one story to the next.

b. No flame spread over the exterior surface.

c. No vertical flame spread over the interior surface from one story to the next.

d. No significant lateral spread of flame from compartment of fire origin to adjacent spaces.

1.2.1.4 Mock-Up Installation of EIFS

Complete wall mock-up installation 8 ft high by 6 ft wide, including typical control joints and at least one window opening. Control joints to be filled with sealant of type, manufacturer, and color selected. Construct mock-up installation at job site. Build mock-up to comply with the following requirements, using materials indicated for the completed work:

a. Locate mock-up installation(s)in the location and size indicated .

b. Demonstrate the proposed range of color, texture, thickness, insulation, and workmanship.

c. Obtain Contracting Officer's written approval of mock-up before starting fabrication of work.

d. Maintain mock-up installation(s) during construction as a standard for

judging the completed work by protecting them from weather and construction activities.

e. When directed, demolish and remove mock-up from the site.

1.2.2 Component Requirements and Tests

The components of the system must meet the performance requirements as verified by the tests listed below.

1.2.2.1 Surface Burning Characteristics

Conduct ASTM E84 test on samples consisting of base coat, reinforcing fabric, and finish coat. Cure for 28 days. The flame spread index must be 25 or less and the smoke developed index must be 450 or less.

1.2.2.2 Radiant Heat

The system must be tested in accordance with NFPA 268 on both the minimum and maximum thickness of insulation intended for use with no ignition during the 20-minute period.

1.2.2.3 Impact Resistance

a. Class PB Systems: Hemispherical Head Test; 28 day cured specimen of PB EIFS in accordance with ASTM E2486. The test specimen must exhibit no broken reinforcing fabric per ASTM E2486 at an impact of __75___ in/lb.

b. Impact Mass: Test 28 day cured specimen of PM EIFS in accordance with ASTM E695. The test specimen must exhibit no cracking or denting after twelve impacts by 30 lbs lead shot mass from 6 in to 6 ft drop heights in 6 in intervals.

1.2.3 Sub-Component Requirements and Tests

Unless otherwise stated, the test specimen must consist of reinforcing mesh, base coat, and finish coat applied in accordance with manufacturer's printed recommendations to the insulation board to be used on the building. For mildew resistance, only the finish coat is applied onto glass slides for testing. These specimen must be suitably sized for the apparatus used and be allowed to cure for a minimum of 28 days prior to testing.

1.2.3.1 Abrasion Resistance

Test in accordance with ASTM D968, Method A. Test a minimum of two specimens. After testing, the specimens must show only very slight smoothing, with no loss of film integrity after 132 gallons of sand.

1.2.3.2 Accelerated Weathering

Test in accordance with ASTM G153, Cycle 1. After 2000 hours specimens must exhibit no visible cracking, flaking, peeling, blistering, yellowing, fading, or other such deterioration.

1.2.3.3 Mildew Resistance

Test in accordance with ASTM D3273. The specimen shall consist of the finish coat material, applied to clean 3 inch by 4 inch glass slides and must be allowed to cure for 28 days. After 28 days of exposure, the specimen must not show any growth.

1.2.3.4 Salt Spray Resistance

Test in accordance with ASTM B117. The specimen must be a minimum of 4 inch by 6 inch and must be tested for a minimum of 300 hours. After exposure, the specimen must exhibit no observable deterioration, such as chalking, fading , or rust staining.

1.2.3.5 Water Resistance

Test in accordance with ASTM D2247. The specimen must be a minimum of 4 inch by 6 inch. After 14 days, the specimen must exhibit no cracking, checking, crazing, erosion, blistering, peeling, or delamination.

1.2.3.6 Absorption-Freeze/Thaw

Class PB systems must be tested in accordance with ASTM E2570/E2570M for 60 cycles of freezing and thawing. After testing, the specimen must exhibit no cracking, checking, or splitting, and negligible weight gain. Class PM systems must be tested in accordance with ASTM C67 for 50 cycles of freezing and thawing. After testing, the specimens must exhibit no cracking or checking and have negligible weight gain.

1.2.3.7 Sample Boards

Unless otherwise stated, provide sample EIFS Component 12 by 24 inches, on sheathing board, including finish color and texture, typical joints and sealant. If more than one color, finish, or pattern is used, provide one sample for each. The test specimen must consist of reinforcing mesh, base coat, and finish coat applied in accordance with manufacturer's printed recommendations to the insulation board to be used on the building.

1.2.4 Moisture Analysis

Perform a job specific vapor transmission analysis based on project specific climate and specified wall components and materials. Indicate the temperatures and relative humidities for the inside and outside of the building; a complete listing of the building components, their thickness, thermal resistance and permeance, as well as building location and use. If a mathematical model was used for the analysis, include the name of the model and the supplier/developer.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Shop Drawings; G

Show wall layout, construction and expansion joints, decorative grooves, layout of sheathing board, thermal insulation board, and reinforcing mesh and strip reinforcing fabric; joint and flashing details; details at wall penetrations; types and location of fasteners; details at windows and doors; and details at additional locations as required by the contract documents.

SD-03 Product Data

Sheathing Board

Thermal Insulation

Adhesive

Mechanical Fasteners

Accessories

Base Coat

Portland Cement

Reinforcing Fabric

Finish Coat

Joint Sealant

Sealant Primer

Bond Breaker

Backer Rod

Insulation Board

Warranty

Include joint and other details, such as end conditions, corners, windows, and parapet. Include shelf life and recommended cleaning solvents in data for sealants. Include material safety data sheets (MSDS)for all components of the EIFS. The MSDS shall be available at the job site.

SD-04 Samples

Sample Boards; G

Color and Texture

Mock-up Installation of EIFS; G

SD-05 Design Data

Wind Load Calculations

Moisture Analysis Calculations

SD-06 Test Reports

Abrasion Resistance

Accelerated Weathering

Impact Resistance

Mildew Resistance

Salt Spray Resistance

Water Vapor Transmission

Absorption-Freeze-Thaw

Wall Fire Test

Water Penetration

Water Resistance

Full Scale or Intermediate Scale Fire Test

Surface Burning Characteristics

Radiant Heat

Substrate

Wind Load

SD-07 Certificates

Qualifications of EIFS Manufacturer

Qualification of EIFS Installer

Qualification of Sealant Applicator

Certify that EIFS installer meets requirements specified under paragraph "Qualification of Installer," and that sealant applicator is approved by the EIFS Manufacturer.

Qualifications of Third Party Inspector

Inspection Check List; G

Submit filled-out inspection check list as required in paragraph "Quality Control," certifying that the installation of critical items meets the requirements of this specification.

SD-08 Manufacturer's Instructions

Installation

Manufacturer's standard printed instructions for the installation of the EIFS. Include requirements for condition and preparation of substrate, installation of EIFS, and requirements for sealants

and sealing.

SD-10 Operation and Maintenance Data

EIFS

Include detailed finish repair procedures and information regarding compatibility of sealants with base and finish coatings.

1.4 QUALITY ASSURANCE

1.4.1 Qualifications of EIFS Manufacturer

The EIFS must be the product of a manufacturer who has been in the practice of manufacturing and designing EIFS for a period of not less than 3 years, and has been involved in at least five projects similar to this project in size, scope, and complexity, in the same or a similar climate as this project.

1.4.2 Qualification of EIFS Installer

The EIFS Installer must be trained by the EIFS manufacturer to perform the installation of the System and must have successfully installed at least five projects at or near the size and complexity of this project. The contractor must employ qualified workers trained and experienced in installing the manufacturer's EIFS.

1.4.3 Qualification of Sealant Applicator

The sealant applicator must be experienced and competent in the installation of high performance industrial and commercial sealants and must have successfully installed at least five projects at or near the size and complexity of this project.

1.4.4 Qualifications of Third Party Inspector

Submit evidence that third party inspector has current certification from the Exterior Design Institute or equal inspector certification as inspector for the installation of EIFS.

1.4.5 Insulation Board-

Insulation Board must be approved and labeled under third party quality program as required by applicable building code.

1.4.6 Pre-Installation Conference

After approval of submittals and before commencing any work on the EIFS, including installation of any insulation, and associated work, the Contracting Officer will hold a pre-installation conference to review:

a. Drawings, specifications, and samples;

b. Procedure for on site inspection and acceptance of EIFS substrate and pertinent details (for example, mock-up installation);

c. Contractor's plan for coordination of work of the various trades

involved in providing EIF system and other components;

d. Inspection procedures; and

e. Safety requirements.

Pre-installation conference must be attended by the Contractor, EIFS Q.C. Specialist (EIFS Inspector), and all personnel directly responsible for installation of the EIF system, including sealant applicator, and personnel responsible for related work, such as flashing and sheet metal, windows and doors, and a representative of the EIFS manufacturer. Before beginning EIFS work, the contractor must confirm in writing the resolution of conflicts among those attending the pre-installation conference.

1.5 DELIVERY AND STORAGE

Deliver materials to job site in original unopened packages, marked with manufacturer's name, brand name, and description of contents. Store materials off the ground and in accordance with the manufacturer's recommendations in a clean, dry, well-ventilated area. Protect stored materials from rain, sunlight, and excessive heat. Keep coating materials which would be damaged by freezing at a temperature not less than 40 degrees F. Do not expose insulation board to flame or other ignition sources.

1.6 ENVIRONMENTAL CONDITIONS

a. Do not prepare materials or apply EIFS during inclement weather unless appropriate protection is provided. Protect installed materials from inclement weather until they are dry.

b. Apply sealants and wet materials only at ambient temperatures of 40 degrees F or above and rising, unless supplemental heat is provided. The system must be protected from inclement weather and maintain this temperature for a minimum of 24 hours after installation.

c. Do not leave insulation board exposed to sunlight after installation.

1.7 WARRANTY

Furnish manufacturer's standard warranty for the EIFS. Warranty must run directly to Government and cover a period of not less than 5 years from date Government accepted the work.

PART 2 PRODUCTS

2.1 COMPATIBILITY

Provide all materials compatible with each other and with the substrate, and as recommended by EIFS manufacturer.

2.2 SHEATHING BOARD

2.2.1 Glass Mat Gypsum Sheathing Board

a. Conform to ASTM C1177/C1177M; or.

b. ASTM C1278/C1278M, Water Resistant Exterior Type only

c. Flexural Strength __>80 lbf___

d. Nail Pull Resistance: No less than 120 lb when tested in accordance with ASTM C473.

2.3 ADHESIVE

Manufacturer's standard product, including primer as required, must be compatible with substrate and insulation board to which the system is applied.

2.4 LATHING AND FURRING

Conform to ASTM C847, 2.5 lb/sqyd, self-furring, galvanized.

2.5 MECHANICAL FASTENERS

Corrosion resistant and as approved by EIFS manufacturer. Select fastener type and pattern based on applicable wind loads and substrate into which fastener will be attached, to provide the necessary pull-out, tensile, and shear strengths.

2.6 THERMAL INSULATION

2.6.1 Manufacturer's Recommendations

Provide only thermal insulation recommended by the EIFS manufacturer for the type of application intended.

2.6.2 Insulation Board

Insulation board must be standard product of manufacturer and must be compatible with other systems components. Boards must be factory marked individually with the manufacturer's name or trade mark, the material specification number, the R-value at 75 degree F, and thickness. No layer of insulation shall be less than 3/4 inch thick. The maximum thickness of all layers must not exceed 4 inches. Insulation Board must be certified as aged, in block form, prior to cutting and shipping, a minimum of 6 weeks by air drying, or equivalent.

a. Thermal resistance: As indicated on drawings.

b. Insulating material: ASTM C578 Type I as recommended by the EIFS manufacturer and treated to be compatible with other EIFS components. Age insulation by air drying a minimum of 6 weeks prior to cutting and shipping.

c. Drainage: Preform channels into the interior face of insulation board or provide polypropylene drainage lath spacer to provide water drainage system.

2.7 BASE COAT

Manufacturer's standard product and compatible with other systems components.

2.8 PORTLAND CEMENT

Conform to ASTM C150/C150M, Type I or II as required, fresh and free of lumps, and approved by the systems manufacturer.

2.9 REINFORCING FABRIC

Reinforcing fabric mesh must be alkali-resistant, balanced, open weave , glass fiber fabric made from twisted multi-end strands specifically treated for compatibility with the other system materials, and comply with ASTM E2098/E2098M and as recommended by EIFS manufacturer.

2.10 FINISH COAT

Manufacturer's standard product conforming to the requirements in the paragraph on Sub-Component Requirements and Tests. For color consistency, use materials from the same batch or lot number.

2.11 SEALANT PRIMER

Non-staining, quick-drying type recommended by sealant manufacturer and EIFS manufacturer.

2.12 ACCESSORIES

Conform to recommendations of EIFS manufacturer, including trim, edging, anchors, and expansion joints. All metal items and fasteners to be corrosion resistant.

2.13 JOINT SEALANT

Non-staining, quick-drying type meeting ASTM C920, as Type S or M, minimum Grade NS, minimum Class 25 and compatible with the finish system type and grade, and recommended by both the sealant manufacturer and EIFS manufacturer.

2.14 BOND BREAKER

As required by EIFS manufacturer and recommended by sealant manufacturer and EIFS manufacturer.

2.15 BACKER ROD

Closed cell polyethylene free from oil or other staining elements and as recommended by sealant manufacturer and EIFS manufacturer. Do not use absorptive materials as backer rod. The backer rod should be sized 25 percent larger than the width of the joint.

PART 3 EXECUTION

3.1 EXAMINATION

Examine substrate and existing conditions to determine that the EIFS can be installed as required by the EIFS manufacturer and that all work related to the EIFS is properly coordinated. Surface must be sound and free of oil, loose materials or protrusions which will interfere with the system installation. If deficiencies are found, notify the Contracting Officer and do not proceed with installation until the deficiencies are

corrected. The substrate must be plane, with no deviation greater than 1/4 inch when tested with a 10 foot straightedge. Determine flatness, plumbness, and any other conditions for conformance to manufacturer's instructions.

3.2 SURFACE PREPARATION

Prepare existing surfaces for application of the EIFS to meet flatness tolerances and surface preparation according to manufacturer's installation instructions but provide a flatness of not more that 1/4 inch in 10 feet. Provide clean surfaces free of oil and loose material without protrusions adversely affecting the installation of the insulation board. For adhesively attached EIFS, existing deteriorated paint must be removed. Due to substrate conditions or as recommended by the system manufacturer, a primer may be required. Apply the primer to existing surfaces as recommended by the manufacturer. Use masking tape to protect areas adjacent to the EIFS to prevent base or finish coat to be applied to areas not intended to be covered with the EIFS. The contractor must not proceed with the installation until all noted deficiencies of the substrate are corrected.

3.3 INSTALLATION

Install EIFS as indicated, comply with manufacturer's instructions except as otherwise specified, and in accordance with the shop drawings. EIFS must be installed only by an applicator trained by the EIFS manufacturer. Specifically, include all manufacturer recommended provisions regarding flashing and treatment of wall penetrations. Any materials that show visual evidence of biological growth due to the presence of moisture must not be installed on the building project.

3.3.1 Sheathing Board

Edges and ends of boards must be butted snugly with vertical joints staggered to provide full and even support for the insulation. Do not align sheathing board joints with wall openings. Provide support at both vertical and horizontal joints. Attach sheathing board to metal studs with self-tapping drywall screws . Place fasteners sufficiently close to support imposed loads, but not more than:

a. Maximum of 8 inches apart on each supporting stud

Space fasteners more closely when required for negative wind load resistance.

3.3.2 Insulation Board

Unless otherwise specified by the system manufacturer, place the long edge horizontally from level base line. Stagger vertical joints and interlock at corners. Butt joints tightly. Provide flush surfaces at joints. Offset insulation board joints from joints in sheathing by at least 8 inches. Align drainage channels of integral drainage system or provide polypropylene drainage lath space to provide a path for any water weeped from behind the insulation to escape wall construction. Use L-shaped insulation board pieces at corners of openings. Joints of insulation must be butted tightly. Surfaces of adjacent insulation boards must be flush at joints. Gaps greater than 1/16 inch between the insulation boards must

be filled with slivers of insulation. Uneven board surfaces with irregularities projecting more than 1/16 inch must be rasped in accordance with the manufacturer's instructions to produce an even surface. Attach insulation board as recommended by manufacturer. The adhered insulation board must be allowed to remain undisturbed for 24 hours prior to proceeding with the installation of the base coat/reinforcing mesh, or longer if necessary for the adhesive to dry. However, do not leave insulation board exposed longer than recommended by insulation manufacturer.

3.3.2.1 Adhesively Fastened Insulation Boards

Apply insulation board using adhesive spread with a notched trowel to the back of the insulation boards in accordance with the manufacturer’s instructions.

3.3.3 Base Coat and Reinforcing Fabric Mesh,

3.3.3.1 Class PB Systems

Allow the adhered insulation board to dry for 24 hours, or longer if necessary, prior to proceeding with the installation of the base coat/reinforcing fabric mesh. Install reinforcing fabric in accordance with manufacturer's instructions. Mix base coat in accordance with the manufacturer's instructions and apply to insulated wall surfaces to the thickness specified by the system manufacturer and provide any other reinforcement recommended by EIFS manufacturer. Trowel the reinforcing fabric mesh into the wet base coat material. Fully embed the mesh in the base coat. When properly worked-in, the pattern of the reinforcing fabric mesh must not be visible. Provide diagonal reinforcement at opening corners. Back-wrap or edge wrap all terminations of the EIFS. Overlap the reinforcing fabric mesh a minimum of 2.5 inches on previously installed mesh, or butted, in accordance with the manufacturer’s instructions.

3.3.3.2

3.3.4 Finish Coat

The base coat/reinforcing mesh must be allowed to dry a minimum of 24 hours prior to application of the finish coat. Surface irregularities in the base coat, such as trowel marks, board lines, reinforcing mesh laps, etc., must be corrected prior to the application of the finish coat. Apply and level finish coat in one operation. Obtain final texture by trowels, floats, or by spray application as necessary to achieve the required finish matching approved mock-up installation. Apply the finish coat to the dry base coat maintaining a wet edge at all times to obtain a uniform appearance. The thickness of the finish coat must be in accordance with the system manufacturer’s current published instructions. Apply finish coat so that it does not cover surfaces to which joint sealants are to be applied.

3.4 JOINT SEALING

Seal EIFS at openings as recommended by the system manufacturer. Apply sealant only to the base coat or base coat with EIFS Manufacturer's color coating. Do not apply sealant to the finish coat.

3.4.1 Surface Preparation, Backer Rod, and Primer

Immediately prior to application, remove loose matter from joint. Ensure that joint is dry and free of finish coat, or other foreign matter. Install backer rod. Apply primer as required by sealant and EIFS manufacturer. Check that joint width is as shown on drawings but in no case shall it be less than 0.5 inch for perimeter seals and 0.75 inch for expansion joints. The width must not be less than 4 times the anticipated movement. Check sealant manufacturer's recommendations regarding proper width to depth ratio.

3.4.2 Sealant

Do not apply sealant until all EIFS coatings are fully dry. Apply sealant in accordance with sealant manufacturer's instructions with gun having nozzle that fits joint width. Do not use sealant that has exceeded shelf life or cannot be discharged in a continuous flow. Completely fill the joint solidly with sealant without air pockets so that full contact is made with both sides of the joint. Tool sealant with a round instrument that provides a concave profile and a uniformly smooth and wrinkle free sealant surface. Do not wet tool the joint with soap, water, or any other liquid tooling aid. During inclement weather, protect the joints until sealant application. Use particular caution in sealing joints between window and door frames and the EIFS wall and at all other wall penetrations. Clean all surfaces to remove excess sealant.

3.5 FIELD QUALITY CONTROL

Throughout the installation, the contractor must establish and maintain an inspection procedure to assure compliance of the installed EIFS with contract requirements. Work not in compliance must be removed and replaced or corrected in an approved manner. The inspection procedures, from acceptance of deliveries through installation of sealants and final acceptance must be performed by qualified inspector trained by the manufacturer. No work on the EIFS is allowed unless the inspector is present at the job site.

3.5.1 Inspection Check List

During the installation and at the completion of installation, perform inspections covering at the minimum all applicable items enumerated on the attached check list. The inspector must initial and date all applicable items, sign the check list, and submit it to the Contracting Officer at the completion of the EIFS erection.

CHECK LIST

Item	Description	Appr'd/Date
a.	Materials are handled and stored correctly.	
b.	Environmental conditions are within specified limits, including temperature not below 4 degrees C (40 degrees F), and the work is protected from the elements as required.	
c.	Preparation and installation is performed by qualified personnel using the correct tools.	

CHECK LIST

Item	Description	Appr'd/Date
d.	Adjacent areas to which EIFS is not to be applied (such as on window and door frames) are protected with masking tape, plastic films, drop cloths, etc. to prevent accidental application of EIFS materials.	_____
e.	Control, expansion and aesthetic joints are installed as indicated or recommended. Accessories are properly installed.	_____
f.	Substrate is in-plane, properly attached, clean, dry, and free of contaminants. Concrete substrate is free of efflorescence.	_____
g.	Materials are mixed thoroughly and in proper proportions.	_____
h.	Adhesive is applied in sufficient quantity with proper-size notched trowel.	_____
i.	Mechanical attachments have proper spacing, layout and fastener depth.	_____
j.	Insulation boards are tightly abutted, in running bond pattern, with joints staggered with the sheathing, board corners interlocked, L-shaped boards around openings, edges free of adhesive, and provision for joints. Gaps are filled and surfaces rasped.	_____
k.	Insulation adhesive must be allowed to dry (a minimum of 24-hours) prior to the application of the base coat.	_____
l.	Reinforcing fabric mesh is properly back-wrapped at terminations.	_____
m.	Reinforcing fabric mesh is fully embedded and properly placed. Corners are reinforced. Openings are diagonally reinforced. Mesh overlaps minimum 65 mm (2-1/2 inches).	_____
n.	Base coat thickness is within specified limits.	_____
o.	The base coat/reinforcing fabric mesh must be allowed to dry (a minimum of 24-hours) prior to the application of the finish coat.	_____
p.	Finish coat is applied with sufficient number of personnel and stopped at suitable points. Floats and methods of texturing are uniform.	_____
q.	All flashings are properly installed.	_____
r.	All joints are properly sealed in their entire length at time and under environmental conditions as specified by the manufacturer.	_____

CHECK LIST

Item	Description	Appr'd/Date
s.	All scaffolding, equipment, materials, debris and temporary protection are removed from site upon completion.	

Name of Inspector:_____ Signed:_____
Date:_____

3.6 CLEANUP

Upon completion, remove all scaffolding, equipment, materials and debris from site. Remove all temporary protection installed to facilitate installation of EIFS.

-- End of Section --