

SECTION 07240  
EXTERIOR INSULATION AND FINISH SYSTEM

PART 1 - GENERAL

1.01 PROVISIONS INCLUDED

- A. The general provisions of the Contract, including General and Supplementary Conditions and Division 1 - General Requirements, apply to work specified in this Section.

1.02 SUMMARY

- A. This Section includes the following types of work:
  - 1. Exterior insulation and finish system (EIFS) with secondary weather barrier and drainage, applied over glass fiber faced gypsum sheathing.
  - 2. High performance finish coating applied directly over concrete. (This coating is called-out on Drawings and referred to in these specifications as "concrete coating.")
- B. Alternates: Work of this Section is affected by Alternate No. 6. Refer to Section 01230 for a description of the Alternates and procedural requirements applicable to Alternates. Refer to Drawings for the extent of this Alternate.
- C. Related Work Specified in Other Sections:
  - 1. Metal framing: Section 05410, "Cold-Formed Metal Framing"
  - 2. Section 07920, "Joint Sealants."
  - 3. Sheathing: Section 09255, "Gypsum Sheathing"

1.03 DEFINITIONS

- A. EIFS: Exterior insulation and finish system(s).

1.04 SYSTEM DESCRIPTION AND PERFORMANCE REQUIREMENTS

- A. System Description: Exterior insulation and finish system consisting of an insulation board attached either adhesively, mechanically, or both to the substrate; an integrally reinforced base coat; and a textured protective finish coat, as defined by ASTM C 1397; this system is referred to as "Class PB EIFS."
- B. EIFS Performance: Comply with the following:
  - 1. Bond Integrity: Free from bond failure within EIFS components or between system and supporting wall construction, resulting from exposure to fire, wind loads, weather, or other in-service conditions.
  - 2. Moisture Control: System shall be designed, detailed and installed in a manner which prevents the accumulation of water behind the exterior insulation and finish system, whether by condensation or leakage through the wall construction.

- C. Provide EIFS having physical properties and structural performance that comply with the following when tested per methods referenced:
1. Abrasion Resistance: No cracking, checking, or loss of film integrity after exposure to 528 quarts (500 L) of sand when tested per ASTM D 968, Method A.
  2. Accelerated Weathering Characteristics: No cracking, checking, crazing, erosion, rusting, blistering, peeling, or delamination of sample cured for 28 days after testing for 2000 hours when viewed under 5 times magnification per ASTM G 23, Method 1, or ASTM G 53.
  3. Absorption-Freeze Resistance: No visible deleterious effects and negligible weight loss after 60 cycles per EIMA 101.01.
  4. Mildew Resistance of Finish Coat: No growth when tested per ASTM D 3273.
  5. Salt-Spray Resistance: No cracking, checking, crazing, erosion, rusting, blistering, peeling, or delamination after testing for 300 hours per ASTM B 117.
  6. Tensile Adhesion: No failure in the adhesive, base coat, or finish coat. Minimum 5-psi (34.5-kPa) tensile strength before and after freeze-thaw and accelerated weathering tests per EIMA 101.03.
  7. Water Penetration: No water penetration beyond the plane of the base coat to insulation board interface, after 15 minutes at 6.24 lbf/sq. ft. of air pressure difference or 20 percent of positive design wind pressure, whichever is greater, across the specimen during a test period when tested per EIMA 101.02.
  8. Water Resistance: No cracking, checking, crazing, erosion, rusting, blistering, peeling, or delamination after testing for 14 days per ASTM D 2247.
  9. Impact Resistance: When tested per EIMA 101.86, meets or exceeds Standard Impact Resistance classification, 25 to 49 inch-lb (2.8 to 5.6 J).
  10. Positive and Negative Wind-Load Performance: Withstands design wind loads indicated (specified in Section 05410) when tested per ASTM E 330.
  11. Drainage: 3 samples capable of draining water, and having an average minimum true drainage efficiency of 90 percent when tested per EIMA 200.2.
- D. Air and Water Barrier Coating: With physical properties that comply with the following when tested on substrate per methods referenced:
1. Water Penetration Resistance: Tested per AATCC 127 (Water Column), resist 21.6 in (55 cm) water for 5 hours before and after aging.
  2. Tensile Adhesion: No failure in bond when tested per ASTM C 297 at a minimum 15 psi (105-kPa) flatwise tensile strength.

3. Water Penetration Resistance after Cyclic Wind Loading: Tested per ASTM E 1233 and ASTM E 331, no water at exterior plane of sheathing after 10 cycles @ 80% design load and 75 minutes water spray at 6.24 psf (299 Pa) differential
4. Water Resistance: No cracking, checking, crazing, erosion, blistering, peeling, or delamination after testing for 14 days per ASTM D 2247.
5. Water Vapor Transmission: 4.0 Perms or higher when tested per ASTM E 96 after conditioning at 75 ± 5°F (24 ± 3°C) and 50% relative humidity for 40 hours.
6. Air Leakage: Not to exceed 0.06 cfm/ft<sup>2</sup> when tested per ASTM E 283.
7. Structural Integrity: No failure when tested per ASTM E 330 at 2-inches (51 mm) H<sub>2</sub>O pressure (positive & negative) for 1 hour.
8. Dry Tensile Strength: When tested per ASTM D 882, 20 lbs/in (3503 N/m), minimum before and after aging.
9. Pliability: No Cracking or Delamination using 1/8" (3 mm) mandrel at 14°F (-10°C) before and after aging, when tested per ASTM D 522.
10. Surface Burning: ASTM E 84 Flame Spread 0 – 25 for NFPA Class A.
11. Tensile Adhesion: No less than 15 psi (103 kPa) when tested per ASTM C 297 on the type of sheathing used for this Project.

#### 1.05 SUBMITTALS

- A. Product Data: For each type and component of EIFS indicated.
- B. Shop Drawings: For EIFS. Include plans, elevations, sections, details of components, details of penetration and termination, flashing details, expansion joint locations, aesthetic reveal locations and configurations, fastening and anchorage details including mechanical fasteners, and connections and attachments to other work.
- C. Samples for Initial Selection: For each type of finish-coat color and texture indicated.
- D. Samples for Verification: ~~24-inch-~~ (600-mm-) square panels for each type of finish-coat color and texture indicated, prepared using same tools and techniques intended for actual work including a typical control joint filled with sealant of color selected.
- E. Manufacturer Certificates: Signed by manufacturers certifying that EIFS comply with requirements.
- F. Qualification Data: For Installer and testing agency.
- G. Material Test Reports: For water-/weather-resistive barrier, insulation, reinforcing mesh, and each type of coating.
- H. Material Certificates: For cementitious materials and aggregates and for each insulation and joint sealant, signed by manufacturers or a third-party agency approved by EIFS manufacturer.

- I. Research/Evaluation Reports: For water-/weather-resistive barrier, insulation and EIFS.
- J. Maintenance Data: For EIFS to include in maintenance manuals.

#### 1.06 QUALITY ASSURANCE

- A. Installer Qualifications: An installer who has been trained by EIFS manufacturer to install that manufacturer's system, and who has been engaged in the application of water-barrier type EIF systems similar to that required for this project for at least 3 years, and who can demonstrate completion of at least 3 successful projects of similar type.
- B. Source Limitations: Obtain EIFS through one source from a single EIFS manufacturer and from sources approved by EIFS manufacturer as compatible with system components.
- C. Fire-Test-Response Characteristics: Provide EIFS and system components with the following fire-test-response characteristics as determined by testing identical EIFS and system components per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing and inspecting agency.
  - 1. Radiant Heat Exposure, Unrestricted Installation: Tolerable level of incident radiant heat energy of at least 12.5 kW/sq. m when tested according to the BOCA Code.
  - 2. Surface-Burning Characteristics: Provide insulation board, adhesives, base coats, and finish coats with flame-spread index of 25 or less and smoke-developed index of 450 or less, per ASTM E 84.

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original, unopened packages with manufacturers' labels intact and clearly identifying products.
- B. Store materials inside and under cover; keep them dry and protected from weather, direct sunlight, surface contamination, aging, corrosion, damaging temperatures, construction traffic, and other causes.
  - 1. Stack insulation board flat and off the ground.
  - 2. Protect plastic insulation against ignition at all times. Do not deliver plastic insulating materials to Project site before installation time.
  - 3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

#### 1.08 PROJECT CONDITIONS

- A. Weather Limitations: Maintain ambient temperatures above 40 deg F (4.4 deg C) for a minimum of 24 hours before, during, and after adhesives or coatings are applied. Do not apply EIFS adhesives or coatings during rainfall. Proceed with installation only when existing and forecasted weather conditions and ambient outdoor air and substrate temperatures permit EIFS

to be applied, dried, and cured according to manufacturers' written instructions and warranty requirements.

- B. Apply concrete coating only to surfaces which are clean, dry, sound, and frost-free. Apply coating only when ambient and surface temperatures are within the range recommended by the manufacturer, and above 40°F (4° C), during the application and drying period.

#### 1.09 COORDINATION

- A. Coordinate installation of EIFS with related Work specified in other Sections to ensure that wall assemblies, including sheathing, air and water barrier, flashing, trim, joint sealants, windows, and doors, are protected against damage from the effects of weather, age, corrosion, moisture, and other causes. Do not allow water to penetrate behind flashing and air/water barrier behind EIFS with drainage.
- B. Coordinate surface preparation for, and application of, the high-performance concrete coating with removal and replacement of control joint sealants in the area which is to be coated so that the joints are not open to water infiltration during surface cleaning.

#### 1.10 WARRANTY

- A. Total System Warranty: Labor and materials warranty, executed jointly by the Manufacturer and the Installer, agreeing to repair or replace defective materials and workmanship, and covering all components of the cladding system (air/water barrier, adhesives, insulation, finish system). This warranty shall state that materials are free of manufacturing defects, will not lose their bond, peel, flake, chip, and color will not change or fade; that the cladding system will effectively drain moisture from the space between the cladding and the sheathing.
  - 1. Period of Warranty: 12 years from the date of Substantial Completion.
- B. The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

### PART 2 - PRODUCTS

#### 2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Dryvit Systems, Inc.
  - 2. Parex, Inc.
  - 3. Pleko Systems International, Inc.
  - 4. Senergy Inc; SKW-MBT Construction Chemicals.
  - 5. Sto Corp.
- B. Basis of Design: Sto "Premier NExT System."

## 2.02 EIF SYSTEM MATERIALS

- A. Compatibility: Provide substrates, water-/weather-resistive barriers, adhesive, fasteners, board insulation, reinforcing meshes, base- and finish-coat systems, sealants, and accessories that are compatible with one another and approved for use by EIFS manufacturer for Project.
- B. Colors and Textures of Finish Coat:
1. Stair No. 6: For both the EIFS top coat and the concrete coating, match color and texture of EIFS finish coat on the existing penthouse; Architect will select best match from manufacturer's full range.
  2. Alternate No. 6: For concrete coating applied to existing facades of the Science Building, Architect will select a brick red color.
- C. Water-/Weather-Resistive Barrier Coating: EIFS manufacturer's standard formulation and accessories designed for indicated use, compatible with substrate, and complying with performance requirements indicated in Part 1.
1. Acceptable Products: Examples of intended product from several of the named manufacturers is as follows:
    - a. Sto "Sto Guard" system, constructed using "Gold Fill" joint treatment and reinforcing mesh and "Sto Gold Coat" coating.
    - b. Dryvit "Backstop" over taped and filled sheathing joints.
    - c. Parex "Weather Resistive Barrier" field constructed using Parex "Liquid Membrane 395," "Sheathing Tape 396" and "Flashing Membrane 365"
  2. Sheathing Joint Tape: Type recommended by EIFS manufacturer for sealing joints between and penetrations through sheathing.
- D. Adhesive for Application of Insulation: EIFS manufacturer's standard formulation designed for indicated use, compatible with substrate, and complying with one of the following requirements:
1. Factory-blended dry formulation of portland cement, dry polymer admixture, and fillers specified for base coat.
  2. Factory-mixed noncementitious formulation designed for adhesive attachment of insulation to substrates of type indicated, as recommended by EIFS manufacturer.
- E. Molded, Rigid Cellular Polystyrene Board Insulation: Comply with EIFS manufacturer's requirements, ASTM C 578 for Type I, and EIMA's "EIMA Guideline Specification for Expanded Polystyrene (EPS) Insulation Board" for more stringent requirements for material performance and qualities of insulation, including dimensions and permissible variations, and the following:
1. Aging: Before cutting and shipping, age insulation in block form by air drying for not less than six weeks or by another method approved by EIMA that produces equivalent results.

2. Flame-Spread and Smoke-Developed Indexes: 25 and 450 or less, respectively, per ASTM E 84.
  3. Dimensions: Provide insulation boards not more than 24 by 48 inches (610 by 1219 mm) and in thickness indicated but not more than 4 inches (102 mm) thick or less than thickness allowed by ASTM C 1397.
  4. Channeled Board Insulation: EIFS manufacturer's standard factory-fabricated profile with linear, vertical drainage channels, slots, or waves on the back side of board.
- F. Reinforcing Mesh: Balanced, alkali-resistant, open-weave glass-fiber mesh treated for compatibility with other EIFS materials, made from continuous multiend strands with retained mesh tensile strength of not less than 120 lbf/in. (21 dN/cm) per EIMA 105.01, complying with ASTM D 578 and the following requirements for minimum weight:
1. Standard-Impact Reinforcing Mesh: Not less than 4.0 oz./sq. yd. (136 g/sq. m).
  2. Strip Reinforcing Mesh: Not less than 3.75 oz./sq. yd. (127 g/sq. m).
  3. Detail Reinforcing Mesh: Not less than 4.0 oz./sq. yd. (136 g/sq. m).
  4. Corner Reinforcing Mesh: Not less than 7.2 oz./sq. yd. (244 g/sq. m).
- G. Base-Coat Materials: EIFS manufacturer's standard mixture complying with one of the following requirements for material composition and method of combining materials:
1. Job-mixed formulation of portland cement complying with ASTM C 150, Type I, white or natural color; and manufacturer's standard polymer-emulsion adhesive designed for use indicated.
  2. Job-combined formulation of manufacturer's standard polymer-emulsion adhesive and manufacturer's standard dry mix containing portland cement.
  3. Factory-blended dry formulation of portland cement, dry polymer admixture, and inert fillers to which only water is added at Project site.
  4. Factory-mixed noncementitious formulation of polymer-emulsion adhesive and inert fillers that is ready to use without adding other materials.
- H. Primer: EIFS manufacturer's standard factory-mixed elastomeric-polymer primer for preparing base-coat surface for application of finish coat.
- I. Finish-Coat Materials: Acrylic-based, silicone-enhanced, integrally colored and textured coating, consisting of factory-mixed formulation of polymer-emulsion binder; colorfast mineral pigments; sound, graded marble aggregate; and fillers. Finish coat material, when installed as a component of the EIFS system, shall result in a system which meets the system performance requirements specified in Part 1 of this Section.
1. Product: Sto "StoSilco Lit" or equal by one of the other named manufacturers.
  2. Color and Texture: To be selected from manufacturer's full range.

- J. Water: Potable.
- K. Trim Accessories: Type as designated or required to suit conditions indicated and to comply with EIFS manufacturer's written requirements; manufactured from UV-stabilized PVC; and complying with ASTM D 1784, manufacturer's standard Cell Class for use intended, and ASTM C 1063.
  - 1. Casing Bead: Prefabricated one-piece type for attachment behind insulation, of depth required to suit thickness of coating and insulation, with face leg perforated for bonding to coating and back leg.
  - 2. Drip Screed/Track: Prefabricated one-piece type for attachment behind insulation with face leg extended to form a drip, of depth required to suit thickness of coating and insulation, with face leg perforated for bonding to coating and back leg.
  - 3. Weep Screed/Track: Prefabricated one-piece type for attachment behind insulation with perforated face leg extended to form a drip and weep holes in track bottom, of depth required to suit thickness of coating and insulation, with face leg perforated for bonding to coating and back leg; designed to drain incidental moisture that gets into wall construction to the exterior at terminations of EIFS with drainage.
  - 4. Expansion Joint: Prefabricated one-piece V profile; designed to relieve stress of movement.

## 2.03 CONCRETE COATING

- A. Manufacturer: Same as the EIFS manufacturer.
- B. Product: Water-based, silicone-acrylic coating, moisture-resistant, vapor-permeable, smooth wall coating, recommended by the coating manufacturer for application over existing concrete, and performing as follows:
  - 1. Adhesion to Concrete: ASTM D-4541, 28 days, 305 psi.
  - 2. Surface Burning: ASTM E-84, Class A, flame spread less than 25, smoke developed less than 450.
  - 3. Elongation at Break: ASTM D-412, 28 days, 6.9% minimum.
  - 4. Tensile Strength: ASTM D-412, 28 days, 1454 psi minimum.
  - 5. Water Vapor Permeability: ASTM E-96, 28 days, 40 perms minimum.
  - 6. Mold Resistance: ASTM D 3273, 28 days, 85% humidity; no mold growth.
  - 7. Moisture Resistance: No deterioration after 14 days tested per ASTM D 2247.
  - 8. VOC Content: Code compliant. (StoSilco Shield 1.3 lbs/gal.)
- C. Product: Sto "StoSilco Shield" (Product No. 228) or equal.



## 2.04 SURFACE PREPARATION MATERIALS

- A. Concrete Repair Materials: Rust inhibitor and concrete bonding and patching compounds recommended by materials manufacturer to suit project conditions and compatible with the concrete coating material; as manufactured by Sto, Sika, Euclid, or Thoro.

## 2.05 MIXING

- A. General: Comply with EIFS manufacturer's requirements for combining and mixing materials. Do not introduce admixtures, water, or other materials except as recommended by EIFS manufacturer. Mix materials in clean containers. Use materials within time period specified by EIFS manufacturer or discard.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of EIFS.
- B. Examine roof edges, wall framing, flashings, openings, substrates, and junctures at other construction for suitable conditions where EIFS will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.02 PREPARATION

- A. Protect contiguous work from moisture deterioration and soiling caused by application of EIFS. Provide temporary covering and other protection needed to prevent spattering of exterior finish coats on other work.
- B. Protect EIFS, substrates, and wall construction behind them from inclement weather during installation. Prevent penetration of moisture behind drainage plane of EIFS and deterioration of substrates.
- C. Prepare and clean substrates to comply with EIFS manufacturer's written requirements to obtain optimum bond between substrate and adhesive for insulation.

### 3.03 SUBSTRATE PREPARATION

- A. Sheathing Joint Treatment: Per EIFS manufacturer's instructions, using joint treatment materials compatible with the air and water barrier coating.
  - 1. For Sto system which is the basis of this Specification, treat sheathing joints, exposed edges and terminations, rough openings, and inside and outside corners by trowelling "Sto Gold Fill" over these joints, embedding detail mesh in the fill, and then trowelling smooth. Use minimum 4" wide detail mesh over sheathing joints and minimum 9" wide detail mesh at rough openings and corners. Spot fasteners and surface defects with the same compound.

- B. Air and Water Barrier Coating: Apply over substrates to protect substrates from degradation and to provide water-/weather-resistive barrier.
  - 1. For Sto system which is the basis of this Specification, apply "Sto Gold Coat" by roller in a single, uniform application, at a wet thickness of 10 mils. Use nap size recommended by coating manufacturer for the type of sheathing used.
- C. Preparation for Concrete Coating: See Article 3.05.

### 3.04 EIFS INSTALLATION

- A. General: Comply with ASTM C 1397 and EIFS manufacturer's written instructions for installation of EIFS as applicable to each type of substrate indicated.
- B. Trim: Apply trim accessories at perimeter of EIFS, at expansion joints, and elsewhere as indicated, according to EIFS manufacturer's written instructions. Coordinate with installation of insulation.
  - 1. Drip Screed/Track: Use at bottom edges of EIFS, unless otherwise indicated.
  - 2. Weep Screed/Track: Use at bottom termination edges, at door heads of EIFS with drainage, unless otherwise indicated.
  - 3. Expansion Joint: Use where indicated on Drawings.
- C. Backwrapping: Apply a strip of detail mesh to the dry air/moisture barrier at all system terminations (windows, doors, expansion joints, etc.) except where the Starter Track is installed. The mesh must be wide enough to adhere approximately 4 inches (100 mm) of mesh onto the wall, be able to wrap around the insulation board edge and cover a minimum of 2 1/2 inches (64 mm) on the outside surface of the insulation board. Adhere mesh strips to the water barrier and allow them to dangle until the backwrap procedure is completed. (See D.13)
- D. Board Insulation: Adhesively attach insulation to substrate in compliance with ASTM C 1397, EIFS manufacturer's written requirements, and the following:
  - 1. Apply adhesive to ridges on back of insulation by notched-trowel method in a manner that results in full adhesive contact over the entire surface of ridges, leaving channels free of adhesive once insulation is adhered to substrate. Apply adhesive to a thickness of not less than **1/4 inch (6.4 mm)** for factory mixed and not less than **3/8 inch (9.6 mm)** for field mixed, measured from surface of insulation before placement.
  - 2. Press and slide insulation into place. Apply pressure over the entire surface of insulation to accomplish uniform contact, high initial grab, and overall level surface.
  - 3. Allow adhered insulation to remain undisturbed for period recommended by EIFS manufacturer, but not less than 24 hours, before beginning rasping and sanding insulation, or applying base coat and reinforcing mesh.
  - 4. Apply insulation over dry substrates in courses with long edges of boards oriented horizontally. Begin first course of insulation from screed/track and work upward. Work from perimeter casing beads toward interior of panels if possible.

5. Stagger vertical joints of insulation boards in successive courses to produce running bond pattern. Locate joints so no piece of insulation is less than **12 inches (300 mm)** wide or **6 inches (150 mm)** high. Offset joints not less than **6 inches (150 mm)** from corners of door openings and not less than **4 inches (100 mm)** from aesthetic reveals.
  - a. Adhesive Attachment: Offset joints of insulation not less than **6 inches (150 mm)** from horizontal and **4 inches (100 mm)** from vertical joints in sheathing.
6. Place insulation with adhesive strips and channels, slots, or waves aligned in the vertical position for drainage.
7. Interlock ends at internal and external corners.
8. Abut insulation tightly at joints within and between each course to produce flush, continuously even surfaces without gaps or raised edges between boards. If gaps greater than **1/16 inch (1.6 mm)** occur, fill with insulation cut to fit gaps exactly; insert insulation without using adhesive or other material.
9. Cut insulation to fit openings, corners, and projections precisely and to produce edges and shapes complying with details indicated.
10. Rasp or sand flush entire surface of insulation to remove irregularities projecting more than **1/16 inch (1.6 mm)** from surface of insulation and to remove yellowed areas due to sun exposure; do not create depressions deeper than **1/16 inch (1.6 mm)**.
11. Cut aesthetic reveals in outside face of insulation with high-speed router and bit configured to produce grooves, rabbets, and other features that comply with profiles and locations indicated. Do not reduce insulation thickness at aesthetic reveals to less than **3/4 inch (19 mm)**.
12. Form joints for sealant application by leaving gaps between adjoining insulation edges and between insulation edges and dissimilar adjoining surfaces. Make gaps wide enough to produce joint widths indicated after encapsulating joint substrates with base coat and reinforcing mesh.
13. Completion of Backwrapping: After installing insulation and before applying field-applied reinforcing mesh, fully wrap board edges. Complete the backwrapping procedure by applying base coat to exposed edges of insulation board and approximately 4 inches (100 mm) onto the face of the insulation board. Pull mesh tight around the board and embed it in the base coat with a stainless steel trowel. Use a corner trowel for clean, straight lines. Smooth any wrinkles or gaps in the mesh.
14. Treat other exposed edges of insulation as follows:
  - a. Except for edges forming substrates of sealant joints, encapsulate with base coat, reinforcing mesh, and finish coat.
  - b. Encapsulate edges forming substrates of sealant joints within EIFS or between EIFS and other work with base coat and reinforcing mesh.
  - c. At edges trimmed by accessories, extend base coat, reinforcing mesh, and finish coat over face leg of accessories.

15. Coordinate installation of flashing and insulation to produce wall assembly that does not allow water to penetrate behind flashing and water-/weather-resistive barrier.
- E. Expansion Joints: Install at locations indicated, where required by EIFS manufacturer, and as follows; interrupt insulation for expansion joints:
  1. Where expansion joints are indicated in substrates behind EIFS.
  2. Where EIFS adjoin dissimilar substrates, materials, and construction.
  3. Where wall height changes.
  4. At floor lines.
- F. Base Coat: Apply to exposed surfaces of insulation in minimum thickness recommended in writing by EIFS manufacturer, but not less than **1/16-inch (1.6-mm)** dry-coat thickness.
- G. Reinforcing Mesh: Embed reinforcing mesh in wet base coat to produce wrinkle-free installation with mesh continuous at corners and overlapped not less than **2-1/2 inches (64 mm)** or otherwise treated at joints to comply with ASTM C 1397 and EIFS manufacturer's written requirements. Do not lap reinforcing mesh within **8 inches (204 mm)** of corners. Completely embed mesh, applying additional base-coat material if necessary, so reinforcing-mesh color and pattern are not visible.
- H. Additional Reinforcing Mesh: Apply strip reinforcing mesh around openings extending **4 inches (100 mm)** beyond perimeter. Apply additional **9-by-12-inch (230-by-300-mm)** strip reinforcing mesh diagonally at corners of openings (re-entrant corners). Apply **8-inch- (200-mm-)** wide strip reinforcing mesh at both inside and outside corners unless base layer of mesh is lapped not less than **4 inches (100 mm)** on each side of corners.
  1. At aesthetic reveals, apply strip reinforcing mesh not less than **8 inches (200 mm)** wide.
  2. Embed strip reinforcing mesh in base coat before applying first layer of reinforcing mesh.
- I. Double Base-Coat Application: Apply second base coat in same manner and thickness as first application except without reinforcing mesh. Do not apply until first base coat has cured.
- J. Primer: If the base coat contains more than 30% cement content, apply a coat of primer over dry base coat before applying the finish coat.
- K. Finish Coat: Apply over dry base coat or primer, as applicable, maintaining a wet edge at all times for uniform appearance, in thickness required by EIFS manufacturer to produce a uniform finish of color and texture matching approved sample and free of cold joints, shadow lines, and texture variations.

### 3.05 COATING CONCRETE

- A. Power wash to remove atmospheric soil and other bond inhibiting materials, and to remove loose or damaged concrete. When washing, take care not to displace joint sealants and do not drive water into the wall.
- B. The concrete substrate to which the concrete coating is to be applied shows rust stains and minor spalling in limited areas. Prepare these areas as follows:

1. Remove loose and deteriorated concrete to expose the rusting reinforcing steel. Clean with power tools to remove the rust and apply rust-inhibiting coating on the exposed steel surface.
  2. Patch with approved concrete patching material, mixed and applied in accordance with manufacturer's instructions; apply bonding compound before patching if recommended by manufacturer of the patching material.
  3. Finish smooth and flush with texture matching the surrounding concrete, so that the patches will not be visible after the coating is applied.
- C. Patch or level remaining surfaces to required tolerance and smoothness, using compatible leveling material recommended by the coating manufacturer. Fill surface voids. Comply with ASTM D-4258 and ASTM D-4261 for concrete substrate preparation.
- D. Complete other surface preparation as recommended by the coating manufacturer.
- E. Apply the specified coating according to manufacturer's printed directions. Apply at least two coats, to a total dry film thickness of 5 to 7 mils (nominal 4 mils per coat). Allow first coat to dry to the touch before applying the second. Apply additional coats if required to achieve uniform coverage, and to achieve uniform color and sheen, as judged by the Architect, when viewed from a distance of 10 feet.

### 3.06 FIELD QUALITY CONTROL

- A. Testing Agency: Owner retains the right to have its testing and inspecting agency perform field tests and inspections of the exterior insulation and finish system.
- B. Remove and replace EIFS where test results indicate that EIFS do not comply with specified requirements.
- C. Additional testing and inspecting, at Contractor's expense, shall be performed to determine compliance of replaced or additional work with specified requirements.

### 3.07 CLEANING AND PROTECTION

- A. Remove temporary covering and protection of other work. Promptly remove coating materials from window and door frames and other surfaces outside areas indicated to receive EIFS coatings.
- B. Provide final protection and maintain conditions, in a manner acceptable to Installer and EIFS manufacturer, that ensure that EIFS are without damage or deterioration at time of Substantial Completion.

END OF SECTION 07240