

## SECTION 07 24 19

### EXTERIOR INSULATION AND FINISH SYSTEM

#### PART 1 GENERAL

##### 1.01 SUMMARY

###### A. Section Includes:

1. An integral fluid applied air and water-resistive membrane barrier compatible with the substrate surface and adhesive application of the EIF system.
2. Accessory materials required for treating sheathing joints, fasteners, penetrations, rough openings, and material transitions compatible with substrate surfaces and the adhesive application of the EIF system.
3. Joint sealants compatible with specified EIFS for use in all exterior envelope joint waterproofing.
4. A comprehensive single source limited EIF system warranty inclusive of EIFS, fluid applied air and water-resistive membrane barrier, accessory materials, and sealants.

###### B. Related Requirements:

1. 05 40 00 Cold-formed Metal Framing
2. 06 16 00 Sheathing
3. 072713 Self-Adhered Non Permeable Air Barrier Membrane
4. 07 62 00 Sheet Metal Flashing and Trim
5. 07 92 00 Joint Sealants
6. 08 52 00 Aluminum Clad Wood Windows

##### 1.04 SUBMITTALS

- A. Submit product data as required by Section 01 33 23, Shop Drawings, Product Data and Samples.
- B. Submit shop drawings for EIFS with Moisture Drainage showing wall layout, connections, details, expansion joints, and installation sequence.
- C. Submit samples of the Exterior Insulation and Finish System for each finish, texture, and color to be used on the project. Make the samples of sufficient size to accurately represent each color and texture being utilized on the project.

##### 1.05 CLOSEOUT SUBMITTALS

- A. Submit a copy of the manufacturer's recommended maintenance and repair manual.

- B. Submit a copy of the Exterior Insulation and Finish System with Moisture Drainage manufacturer's comprehensive single source limited warranty.

#### 1.06 QUALITY ASSURANCE

- A. Contractor Qualifications:

- 1. Knowledgeable in the proper installation of the Exterior Insulation and Finish System with Moisture Drainage.
  - 2. Successfully complete a minimum of three (3) projects of similar scope and scale to the specified project.

- B. Provide all materials from a single source.

#### 1.07 DELIVERY, STORAGE AND HANDLING

- 1. Deliver all Exterior Insulation and Finish System with Moisture Drainage components and materials to the job site in the original, unopened packages with labels intact.
- 2. Inspect all Exterior Insulation and Finish System with Moisture Drainage components and materials upon arrival for physical damage, freezing or overheating. Do not use questionable materials.
- 3. Store all Exterior Insulation and Finish System with Moisture Drainage components and materials at the jobsite in a cool, dry location, out of direct sunlight, protected from weather and other sources of damage. Maintain minimum and maximum storage temperature as stated in the product data sheets or specifications for the materials selected.
- 4. Protect all products from inclement weather and direct sunlight.

#### 1.08 SITE CONDITIONS

- A. Ambient Conditions

- 1. Do not apply wet materials during inclement weather unless appropriate protection is provided. Protect materials from inclement weather until they are completely dry.
  - 2. Verify the minimum air and wall surface temperatures at the time of application as stated in the product data sheets or specifications for the materials selected.
  - 3. Maintain these temperatures with adequate air ventilation and circulation for a minimum of 24 hours. (48 hours for specific Specialty Finishes) thereafter, or until the products are completely dry.

## 1.09 WARRANTY

### A. Manufacturers' Limited EIF System Warranty

1. The EIF system warranty shall include the following for the term of the warranty or as specifically noted hereunder.
  - a. The EIF system warranty term shall be 10 years.
  - b. The EIFS will remain in a watertight condition when the EIFS is used in conjunction with approved Company Joinery and Sealants.
  - c. The EIFS will drain incidental moisture between the air/water-resistive barrier and the insulation board.
    - 1) Remedy includes repair or replacement of any sheathing or framing member that is damaged as a result of the EIF system failing to drain incidental moisture between the secondary weather barrier and the insulation board.
  - d. Finish will be UV fade resistant for 10 years, except for specially produced colors.
    - 1) Specially produced colors will be UV fade resistant for 5 years when high-performance colorants are used to formulate.
  - e. The EIFS shall be eligible to receive a renewal of the original warranty if the Owner satisfactorily completes the specific renovation requirements published by the Manufacturer.

### B. Installer Warranty

1. EIF system Installer shall provide a separate minimum 2-year warranty for all workmanship related to the proper installation and drainage performance of the EIFS application. Manufacturer shall not be responsible for workmanship associated with the installation of Exterior Insulation and Finish System with Moisture Drainage.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURERS

#### A Manufacturers List:

1. Dryvit Systems, Inc.
2. Tremco, Inc.
3. Sto Corp.
4. Approved equal.

### 2.02 DESCRIPTION

#### A System Description:

1. Exterior Insulation and Finish System (EIFS) with Moisture Drainage, consisting of:
  - a. An Air and Water-Resistive Membrane Barrier
  - b. Accessory Materials
  - c. Adhesive - installed in vertical ribbons to facilitate egress of incidental moisture.
  - d. Expanded Polystyrene (EPS) insulation board.
  - e. Base Coat
  - f. Reinforcing Mesh
  - g. Finish Coat
  - h. Joint Sealants as specified herein below.

B. Materials:

1. Fluid-Applied Air and Water-Resistive Barrier:
  - a. Permeable:
    - 1) A standard film vapor permeable, flexible, polymer-based non- cementitious water-resistive and air barrier coating available in Texture and Smooth versions, installed in ambient air and substrate surface temperatures of 40 °F (5 °C) and rising for a minimum 24 hours and exposed for up to 6 months during the construction process, and used for treatment of sheathing board joints, inside/ outside corners and spotting of fastener heads.
2. Accessory Materials for Fluid Applied Air and Water-Resistive Barrier (AWRB):
  - a. Provide compatible accessory materials as required by project conditions for substrate, rough opening and penetration preparation, bridge expansion joints in substrate, material transitions and flashing integration to produce a complete air and water-resistant assembly.
    - 1) An open weave fiberglass mesh tape with pressure sensitive adhesive. Used in combination with AWRB for treating sheathing board joints and inside / outside corners and preparing rough openings and penetrations.
    - 2) Fluid-applied, water-based polymer transition membrane. Used in preparing rough openings and penetrations, bridging expansion joints in substrate, material transitions and flashing integration and can be installed in ambient air and substrate surface temperatures of 40 °F (5 °C) and rising for 24 hours.
    - 3) A flexible, waterproof, low temperature gun applied material. Used in substrate preparation, treating sheathing board joints, inside/outside corners and fastener heads, preparing rough openings and penetrations, bridging expansion joints in substrate material transitions and flashing integration and can be installed in ambient air and substrate surface temperatures of 32 °F (0 °C) and rising for 24 hours.

3. Drainage Components:
  - a. Drainage Strip: Corrugated plastic strip.
  - b. Adhesive: Urethane-based adhesive used to attach drainage strip to the sheathing.
4. Adhesives:
  - a. Liquid polymer-based adhesive field mixed with Portland cement.
  - b. Ready mixed dry blend cementitious, copolymer-based adhesive field mixed with water.
5. Insulation Board:
  - a. Expanded Polystyrene; minimum thickness 25 mm (1 in); meeting Dryvit Specification DS131 and ASTM E 2430.
6. Base Coat:
  - a. Liquid polymer-based base coat field mixed with Portland cement.
  - b. Ready mixed dry blend cementitious, copolymer-based base coat field mixed with water.
7. Reinforcing Mesh:
  - a. Open-weave, glass fiber fabric treated for compatibility with other EIF system materials.
  - b. Provide for ultra high impact mesh assembly for all EIFS clad wall areas within 8'-0" of grade and where additionally indicated on contract drawings.

Reinforcing Mesh <sup>1</sup> /Weight oz/yd <sup>2</sup> (g/m <sup>2</sup> )	Minimum Tensile Strengths	EIMA Impact Classification	EIMA Impact Range in-lbs (Joules)		Impact Test Results in-lbs (Joules)	
Standard - 4.3 (146)	150 lbs/in (27 g/cm)	Standard	25-49	(3-6)	36	(4)
Standard Plus - 6 (203)	200 lbs/in (36 g/cm)	Medium	50-89	(6-10)	56	(6)
Intermediate™ - 12 (407)	300 lbs/in (54 g/cm)	High	90-50	(10-17)	108	(12)
Panzer®15 <sup>1</sup> - 15 (509)	400 lbs/in (71 g/cm)	Ultra High	>150	(>17)	162	(18)
Panzer 20 <sup>1</sup> - 20.5 (695)	550 lbs/in (98 g/cm)	Ultra High	>150	(>17)	352	(40)
Detail Mesh® Short Rolls - 4.3 (146)	150 lbs/in (27 g/cm)	n/a	n/a	n/a	n/a	n/a
Comer Mesh™ - 7.2 (244)	274 lbs/in (49 g/cm)	n/a	n/a	n/a	n/a	n/a
* It shall be colored blue and bear the Dryvit logo for product identification 1. Shall be used in conjunction with Standard Mesh (recommended for areas exposed to high traffic)						

8. Finish:

- a. Water-based, acrylic coating with integral color and texture; formulated with Dirt Pickup Resistance (DPR) chemistry.
  - 1) Available textures:
    - a) Sandpebble®Fine - fine pebble texture

C. Joint Sealants:

1. Silicone Sealant:

- a. A general-purpose, low-modulus, high performance, one-part, neutral- cure, non-staining, low dirt pickup, construction-grade silicone sealant.
- b. A multi-component, neutral-curing, non-staining, low dirt pick up, low- modulus silicone sealant specially formulated for use in dynamically moving building joints. Spectrem 4-TS offers color flexibility with the opportunity to tint the material on site.
- c. Coordination for custom sealant colors is required.

2. Polyurethane Sealant:

- a. A one component hybrid polyurethane sealant. Coordinate for primer use as indicated.

D. Jobsite-Mixed Materials:

- 1. Portland cement: verify is Type I or II, meeting ASTM C 150, white or gray in color, fresh and free of lumps.
- 2. Water: verify is clean and free of foreign matter.

## PART 3 - EXECUTION

### 1.01 EXAMINATION

A. Verification of Conditions:

- 1. Verify access to electric power, clean water and a clean work area at the location.
- 2. Verify the deflection of the substrate does not exceed 1/240 times the span. Verify substrate is flat within 1/4 in (6.4 mm) in a 4 ft (1.2 m) radius.
- 3. Verify substrate is sound, dry, connections are tight; has no surface voids, projections, or other conditions that may interfere with the Exterior Insulation and Finish System with moisture drainage installation or performance.
- 4. Verify the slope of inclined surfaces are not less than 6:12 (27 °) where the

length of the slope does not exceed 12 in (305 mm) or 3:12 (14 °) where the length of the slope does not exceed 4 in (102 mm).

5. Verify metal roof flashings have been installed in accordance with Sheet Metal and Air Conditioning Contractors National Association (SMACNA) standards.
6. Verify all rough openings are flashed in accordance with the Exterior Insulation and Finish System with Moisture Drainage manufacturer's installation details, or as otherwise necessary to prevent water penetration. Verify chimneys, balconies and decks have been properly flashed as necessary to prevent water penetration.
7. Verify windows and doors are installed and flashed per manufacturer's requirements and installation details.
8. Notify general contractor of all discrepancies prior to the installation of the Exterior Insulation and Finish System with moisture drainage.
9. Verify that expansion joints are installed:
  - a. Where expansion joints occur in the substrate system.
  - b. Where building expansion joints occur.
  - c. At floor lines in wood frame construction.
  - d. At floor lines of non-wood framed buildings where significant movement is expected.
  - e. Where the Exterior Insulation and Finish System with moisture drainage abuts dissimilar materials.
  - f. Where the substrate type changes.
  - g. Where prefabricated panels abut one another.
  - h. In continuous elevations at intervals not exceeding 75 ft (23 m).
  - l. Where significant structural movement occurs, such as changes in roof line, building shape or structural system.

## 1.02 PREPARATION

- A. Protect the Exterior Insulation and Finish System with Moisture Drainage materials by permanent or temporary means from inclement weather and other sources of damage prior to, during, and following application until completely dry.
- B. Protect adjoining work and property during installation of the Exterior Insulation and Finish System with Moisture Drainage.
- C. Prepare the substrate to be free of foreign materials, such as oil, dust, dirt, form-release agents, efflorescence, paint, wax, water repellants, moisture, frost, and any other condition that may inhibit adhesion.

## 1.03 INSTALLATION

- A. Install the EIF system in accordance with ASTM C1397. Apply base coat sufficient to fully embed the reinforcing mesh. The recommended method is to apply the base coat in two (2) passes.
- B. Apply sealant to base coat surface prepared.
- C. Install high impact reinforcing mesh as specified at ground level, high traffic areas and other areas exposed to or susceptible to impact damage as designated on contract drawings.

#### 1.04 SITE QUALITY CONTROL

- A. Exterior Insulation and Finish System with Moisture Drainage manufacturer assumes no responsibility for on-site inspections or application of its products.
- B. EIFS sub-contractor to certify in writing the quality of work performed relative to the substrate system, details, installation procedures, and as to the specific products used.
- C. EPS supplier, if requested, to certify in writing that the EPS meets the Exterior Insulation and Finish System with Moisture Drainage manufacturer's specifications.
- D. The sealant contractor, if requested, to certify in writing that the sealant application is in accordance with the sealant manufacturer's and the Exterior Insulation and Finish System with Moisture Drainage manufacturer's recommendations.

#### 1.05 CLEANING

- A. Remove all excess Exterior Insulation and Finish System materials from the job site by the contractor in accordance with contract provisions and as required by applicable law.
- B. Leave all surrounding areas, where the Exterior Insulation and Finish System with Moisture Drainage has been applied, free of debris and foreign substances resulting from the EIFS sub-contractor's work.

END OF SECTION