

## Section 072419 Exterior Insulation and Finish System WM Specification

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### Part 1 GENERAL

#### 1.01 SECTION INCLUDES

- A. Exterior insulation and finish system (EIFS) class WM as defined by EIFS industry members association (EIMA).
- B. Expanded polystyrene (EPS) insulation board.

#### 1.02 SCOPE OF WORK

- A. Provide all materials, labor and equipment to install the Ultrakote PB, exterior insulation and finish system (EIFS).
- B. Related sections:
  - 1. Section 03300 Concrete
  - 2. Section 04200 Masonry
  - 3. Section 05400 Gauge steel framing
  - 4. Section 06100 Sheathing
  - 5. Section 07620 Sheet metal flashing and trim
  - 6. Section 07900 Sealants
  - 7. Section 08000 Doors and windows

#### 1.03 REFERENCE DOCUMENTS

- A. Construction standards:
  - 1. ACI - American Concrete Institute
  - 2. AISC - American Institute of Steel Construction, Inc.
  - 3. APA - American Plywood Association
  - 4. ASTM - American Society for Testing and Materials
  - 5. EIMA - EIFS Industry Members Association
- B. Code jurisdictions:
  - 1. ICBO AC 24
  - 2. IBC and IRC Building Codes
  - 3. ESR 1936

#### 1.04 TERMS / DEFINITIONS

- A. Applicator - the contractor that applies the Ultrakote coatings.
- B. Adhesive - A cementitious material used to attach the insulation board to the substrate.
- C. Aesthetic Joint - A groove in the EPS designed to create aesthetics and used to provide starting and stopping points during the application of the finish coat. A minimum 3/4" thickness of EPS shall remain below the deepest point in the aesthetic groove. Aesthetic joints are not expansion or control joints nor should they be used in lieu of expansion or control joints.
- D. Back wrapping - The application of the reinforced base coat on the exposed edge of the EPS and a minimum of 2 1/2" on each face of the EPS.
- E. Base coat - The material applied to the face of the insulation board and reinforced with one or more layers of mesh to function as the weather barrier.
- F. Base coat mixture - A field mixed blend of adhesive base coat and portland cement.
- G. Building expansion joint - A joint through the entire building structure designed to accommodate structural movement.
- H. Casing - Vinyl trim, either weep or plain used to protect the exposed edge of the EPS insulation board.

- I. Class WM system - A polymer-based EIF moisture drainage system where the base coat varies in thickness depending upon the number of layers or thickness of reinforcing material. The reinforcing material is glass fiber mesh which is embedded into the base coat per Ultrakote's recommendations and with no mesh color visible. Protective finish coats, of various thicknesses, in a variety of textures and colors, are applied over base coat.
- J. Design Professional - The person or firm that is responsible to create the plans and specifications for the entire project.
- K. EIFS - Exterior insulation and finish system.
- L. EIMA - EIFS industry members association.
- M. Finish coat - An acrylic based, factory mixed decorative and protective coating that is applied to the base coat.
- N. EPS Insulation Board - Expanded polystyrene board, manufactured in accordance with the EIFS manufacturer's specifications, attached to the substrate and covered with the reinforced base coat and finish.
- O. Reinforcing mesh - Balanced, open weave, basic glass fiber mesh(es) supplied by the manufacturer of the EIFS, treated for compatibility with other materials of the system, which functions to strengthen the system and adds impact resistance.
- P. Mechanical fastener - Typically a plastic washer and a mechanical fastener utilized to attach the insulation board to substrate.
- Q. Sheathing - A substrate in a sheet form.
- R. Substrate - The material to which the EIFS is attached.

### 1.05 QUALITY ASSURANCE

#### A. Special Inspections

1. For recognition under the IBC, special inspections of this system are required in accordance with the International Building Code 1704.2 and 1705.15 of the 2012 IBC (2009 IBC Sections 1704.1 and 1704.14). The special inspector must furnish inspection reports to the code official and to the registered design professional in charge, in accordance to section 1705.14 of the 2012 IBC (Section 1704.14 of the 2009 IBC). The Ultrakote Products Special Inspections guidelines for verifying field preparation of materials are available at: <http://www.ultrakoteproducts.com/shurkote/sketch-fields-ins.html>.

2. The general contractor will be responsible for inspecting the project to ensure that all the exclusions (flashing and sealants for example) specifically listed in the accepted project bid have been completed prior to the starting the Ultrakote EIF WM system application.

#### B. Design and Detailing

##### 1. General

- a. Ultrakote current published details, specifications, data sheets, technical bulletins and other literature/information are minimum standards and guidelines that shall be followed when designing and detailing a project with the Ultrakote EIF WM system.
- b. Details shall conform to Ultrakote details and shall be consistent with the project requirements.
- c. Ultrakote must approve, in writing, any deviations from the standard published details.
- d. The design professional or the engineer should determine where the dew point would occur in relationship to the wall assembly and the project location during summer and winter conditions.
- e. Drip details shall be specified in accordance with Ultrakote's published details.
- f. The minimum slope of inclined surfaces shall not be less than 6" (152 mm) in 12" with a maximum length of 12" unless approve in writing by Ultrakote inclined surfaces which are or could be defined as roofs by the building codes or application are not approved by Ultrakote.
- g. All of the EPS insulation board must be completely encapsulated with the Ultrakote base coat and reinforcing mesh.
- h. The use of dark colors must be considered in relation to wall surface temperature as a function of local climatic conditions.
- i. The EPS shall be separated from the interior of the building by a 15-minute thermal barrier.

- j. The use and maximum thickness of EPS shall be in accordance with the applicable building codes.
- k. The EIF system shall be recognized by IBC and IRC model code organizations.

l. It is responsibility of the design professional and the purchaser to determine if a product is suitable for their intended use. The architect or designer of the project shall be responsible for all decisions pertaining to the design, details, structural capability, attachment details, shop drawings and the like. Ultrakote has prepared specifications, details and data sheets to assist as guidelines for the use and installation of the products. Ultrakote is not responsible for the design, details, structural capability, attachment details and shop drawings whether it is based on Ultrakote's information or not.

## 2. Weather resistive barrier

- a. Code approved weather resistive barrier shall be installed over the substrate on all exterior walls before application of the Ultrakote EIFS WM system begins.
- b. Solid film weather resistive barriers:
  - 1. Weather resistive barrier shall be installed horizontally with the upper layers overlapping lower layers a minimum of 2". Vertical joints shall be overlapped a minimum of 6". The use of joint tape may be required.
  - 2. Prior to the application of the Ultrakote EIF WM system the general contractor is responsible for wrapping a weather resistive barrier into rough openings of windows, doors, around mechanical equipment and other openings through the system. Overlap sill flashing tape at jambs at least 2" minimum. Reference Ultrakote's details and product information guides for additional information.
  - 3. Lap the weather resistive barrier over attachment flanges of drainage track a minimum of 2".
- c. Liquid applied weather resistive barriers:
  - 1. Liquid applied weather resistive barriers are either rolled on, spray or trowel applied.
  - 2. Follow the printed instructions found in the product information guide.
  - 3. Liquid applied weather resistive barriers are applied in a continuous layer without voids or pinholes. Reference Ultrakote details and product information guides for additional information.
  - 4. When required embed fiberglass reinforcing mesh at substrate joints, openings and penetrations.

## 3. Substrate

- a. The maximum deflection under full flexural design loads of the substrate system shall not exceed  $L/240$ .
- b. Acceptable substrates for Ultrakote EIFS include unpainted brick, unit masonry, concrete, stucco brown coat, exterior grade gypsum sheathing (ASTM C-79 or ASTM C-1177), exposure 1 exterior grade plywood and approved cementitious sheathings.
- c. Substrates not approved by Ultrakote's published literature shall be approved by Ultrakote in writing prior to the application of the system.
- d. The project architect or engineer shall approve the substrate with regard to the required structural performance.

## 4. Expansion joints

- a. Control/Expansion joints shall be installed in the EIFS a maximum of every 75 lineal feet. Reference construction documents for specific locations.
- b. Expansion joints in the system are required at building expansion joints at prefabricated panel joints, where substrates change, at floor lines in wood framed construction and where structural movement is anticipated. Reference construction documents for specific locations.

## 5. Aesthetic joints

- a. Aesthetic joints may be installed to provide sufficient break points in the EIF system to prevent cold joints from occurring in the finish coat.

- b. Aesthetic joints shall not be used in lieu of an expansion or control joint.

#### 6. Sealants

- a. Sealants and backer rod, as required at expansion joints and dissimilar substrates, shall provide a complete watertight system.
- b. The sealants in an EIFS expansion joint or any sealant joint that anticipates significant movement, shall be bonded to the reinforced base coat, not the finish coat. The color of the mesh shall not be visible and the texture of the mesh shall not be exposed within base coat at these locations.
- c. All penetrations through the system such as hose bibs, dryer vents, lighting fixtures, air-conditioning hoses, etc. must be properly sealed at the substrate prior to the system application to insure the integrity of the system.
- d. A secondary sealant installed by others is used at all penetrations through the wall system after the system installation has been completed.
- e. Reference section 07900 for specific sealant instructions.

#### 7. Flashings/Secondary seals

- a. Expandable foam seal may be used under and around windows, doors and at all penetrations. Plan this seal to block any air or water infiltration at any opening in the wall system and to protect the sheathing from any primary seal failure or failure in a wall penetration component.
- b. Metal flashing may be installed at heads of openings if required by the product manufacturer.
- c. Continuous metal or other approved flashing shall be installed at heads of ganged windows.
- d. Flashing shall be installed at rooflines in a manner to prevent any intrusion of water behind the EIFS. This shall include the use of roof kick-out flashing at roof terminations and other details promoted by the NRCA.
- e. When the EIFS is applied to the chimney, a chimney cricket shall be installed according to the recommendations of the NRCA.
- f. Seals for electrical and plumbing installations shall conform to the recommendations of NEC and the locally recognized plumbing code.
- g. Wooden decks must be flashed before the EIF system is installed. Refer to Ultrakote's details.

#### 8. Surface mounted objects

- a. Surface mounted objects are those items that are mounted on the surface of the Ultrakote EIF system.
- b. Objects mounted on the surface include, but are not limited, to signs, handrails, downspouts, etc.
- c. The mounting bolts or screws must be inserted through a compression sleeve filled with sealant.
- d. The compression sleeve should be equal to the thickness of the Ultrakote EIF system (from the substrate to the finish) to prevent any compression or indentation of the EIF system.
- e. The diameter of the compression sleeve should be 1/8" greater than the mounting bolts or screws.
- f. The compression sleeves must be of a non-corrosive material.

#### C. Qualifications

- 1. The EIFS manufacturer shall have manufactured exterior insulation and finish systems in the USA for at least 10 years.

2. The applicator shall be knowledgeable in the proper installation of the Ultrakote Class WM EIF system.
3. The applicator shall have demonstrated the ability to install the system on projects of similar size and complexity.
4. The applicator shall provide the proper equipment, manpower and supervision on the jobsite to install the system in compliance with project plans and specifications.
5. The insulation board manufacturer shall be approved by Ultrakote to produce EPS in accordance with Ultrakote's specifications.
6. The sealant contractor shall be experienced in the installation of high performance industrial and commercial sealants.
7. When requested, erect sample wall mock-up of the class WM EIF system using materials and joint details required for final work. Provide special features as directed for sealant and contiguous work. Build mock-up at the site where directed of full thickness, indicating the proposed color, texture and workmanship to be expected in the completed work. Obtain architect's acceptance of the mock-up in regard to aesthetic quality before start of work. Retain mock-up during construction as a standard for judging completed work. Do not alter, move or destroy mock-up until work is completed and until final acceptance of the project by architect.

#### **1.06 SUBMITTALS**

- A. The applicator shall submit a list of completed projects of like size and complexity.
- B. The applicator shall submit a certificate of training indicating that they have been given instructions on the proper installation of the EIF System.
- C. The applicator shall submit EIFS manufacturer's current literature, brochures, specifications and details.
- D. The applicator shall submit sufficient samples of each finish texture and color selected. The samples shall be prepared with the same tools and techniques required for the actual project. Color and texture should be approved based on the jobsite mock-up samples.
- E. The applicator shall provide any shop drawings that may be applicable to the project for approval by the project architect.
- F. The applicator shall receive one sample of any wall penetrations (e.g. light box, exterior electrical box, plumbing fixtures, pipe penetration sizes, coping cap sizes, etc.)

#### **1.07 DELIVERY, STORAGE AND HANDLING**

- A. Deliver all materials in original unopened packages with labels intact. Verify all quantities, colors and textures against bill of lading.
- B. Store all materials protected from direct exposure to weather conditions and at temperatures not less than 40°F (4°C) or greater than 110°F (43°C).
- C. Stack insulation board flat, fully supported off the ground and protected from direct exposure to the sun.
- D. Material safety data sheets (MSDS) shall be supplied for the components of the EIFS and be available at the job site.

#### **1.08 JOB CONDITIONS**

- A. Ambient air temperature shall be 40°F (4°C) or greater and rising at the time of installation of the Ultrakote products and shall remain at 40°F (4°C) or greater for at least 24 hours after application.
- B. Supplemental heat and protection shall be provided as required when the temperature and conditions are not in accordance with installation requirements. Sufficient ventilation and time shall be provided to ensure that materials have sufficiently dried prior to removing supplemental heat.

- C. Adequate protection shall be provided to prevent weather conditions (humidity, temperature and precipitation) from having an effect on the curing or drying time of Ultrakote materials.
- D. Adjacent materials and the Ultrakote EIF system shall be protected during installation and while curing from weather and shall be protected from site damage.
- E. Coordinate installation of the Ultrakote WM EIF system with related work specified in other sections to ensure that the wall assembly is protected to prevent water from getting behind the system. The cap flashing and backer rod and sealant shall be installed as soon as possible after the finish coat has been properly cured. When this is not possible, temporary protection shall be provided immediately in this area.
- F. All sealants shall be installed in a timely manner. Protect open joints from water intrusion during construction with backer rod or temporary covering until permanently sealed.
- G. Sufficient manpower and equipment shall be employed to ensure a continuous operation, free of cold joints, scaffolding lines and texture variations, etc.

### **1.09 REPAIR AND MAINTENANCE**

- A. Refer to Ultrakote specific repair and maintenance manual.
- B. The property owner or their designated representative shall inspect the sealants and flashings annually to verify that the products are not allowing water intrusion. If any sealant and/or flashing needs repair it should be done immediately.

### **1.10 LIMITED MATERIALS WARRANTY**

- A. A limited coatings material warranty shall be issued upon the receipt of a properly completed warranty request form.

## **Part 2 PRODUCTS**

### **2.01 GENERAL**

- A. All components of the Ultrakote WM EIF system shall be obtained from Ultrakote or its authorized distributors. No substitutions of, or additions of other materials shall be submitted without prior written permission from Ultrakote. Any non-approved substitutions or additions will void the warranty.

### **2.02 MATERIALS**

#### **A. Adhesives**

1. Shurkote WB: an acrylic based product mixed one-to-one by weight with portland cement for use as the adhesive to bond insulation board to an approved substrate.
2. Shurkote DB: a polymer based cementitious product mixed with 5 to 6 quarts of water for use as an adhesive.

#### **B. Casing**

1. Weep casing - must be wide enough to accept the specified thickness of the EPS insulation board and have holes for moisture drainage.
2. Plain casing - must be wide enough to accept the specified thickness of the EPS insulation board.

#### **C. Mechanical fasteners and plastic washers**

1. The mechanical fastener washer should be a 2 1/8" diameter with a recessed void to receive the appropriate non-corrosive fastener. The appropriate fastener shall be used to meet the requirements of the substrate being used on the project, local building code and the anticipated wind loads.

**D. Insulation board**

1. Insulation board shall meet or exceed ASTM C-578 and Ultrakote's requirements for EPS.
2. Nominal 1.0 pf, aged expanded polystyrene.
3. Flame spread and smoke development shall be 25 and 450 or less respectively per ASTM E-84.
4. Maximum size 2'x4'x4". Refer to actual contract documents to determine actual insulation board thickness.

E. Reinforcing mesh - will be supplied by Ultrakote open weave glass fiber fabric, treated for alkaline resistance and compatibility with Ultrakote and Shurkote base coats and conforming to ASTM D-76, D-579, D-5035, MIL-Y-1140 and meeting a minimum medium impact resistance (50-89 in-lbs) when tested to EIMA 101.86 impact resistance standard.

1. Detail mesh: 4.5 oz/sq. yd.
2. Standard mesh: 4.5 oz/sq. yd.
3. Medium mesh: 6.0 oz/sq. yd.
4. Intermediate mesh: 11 oz/sq. yd.
5. High impact mesh: 20 oz/sq. yd.

**F. Base coats**

1. Shurkote WB: an acrylic based product mixed one-to-one by weight with portland cement designed for use with reinforcing mesh as the base coating over the insulation board.
2. Shurkote DB: a polymer based cementitious product mixed with 5 to 6 quarts of water for use as an adhesive. Adhere the EPS insulation board and with reinforcing mesh as the base coating over the insulation board.

G. Ultrakote finish: Ultrakote finishes are acrylic-based or elastomeric based wall coatings available in a variety of colors and textures. The following textures are available:

1. Swirl texture: the traditional riled texture
2. Fine: a very fine aggregate for a smooth sand texture
3. Medium texture: a slightly larger smooth sand texture
4. Coarse texture: a larger sand aggregate for a heavy defined sand texture.

H. Expanding foam sealant (for sheathed substrates): Reference interior sealant specification, section 07900.

I. Water: Shall be clear, clean and potable without any foreign matter that may affect the color and setting qualities of the cement, adhesive, base or finish coat.

J. Cement: Type I or I-II portland cement meeting ASTM C-150.

K. Metal flashing components: Complying with SMACNA recommendations. Reference section 07620.

L. Sealant systems: Reference sealant specification, section 07900.

M. Window & door systems: Detailed by the design professional and suitable for EIFS. Reference section 08000.

**Part 3 EXECUTION****3.01 INSPECTION**

A. Prior to the application of the Ultrakote EIF system, the substrate shall be examined for compliance with the contract documents and Ultrakote specifications. The substrate shall have no planar irregularities greater than 1/4" in 10'.

The general contractor and architect shall be advised in writing of any discrepancies. Work shall not proceed until unsatisfactory conditions are corrected.

### **3.02 MIXING**

A. Shurkote WB: Mix at a weight ratio of 1 to 1 with portland type I or I/II, white or grey cement. Mix using a 1/2", 400-500 RPM drill motor and mixing paddle. Let stand for 3-5 minutes and remix until the desired consistency is achieved. Small amounts of clean water can be added for workability. Do not over mix.

B. Shurkote DB: Add 5 to 6 quarts of water with the 50 lb bag in a clean bucket for mixing. Mix with a mixing paddle and a 400-500 RPM drill motor. Let stand for 3-5 minutes and remix until the desired consistency is achieved. Small amounts of clean water can be added for workability. Do not over mix.

C. Ultrakote finishes: Mix the finish coat with a mixing paddle and a 1/2", 400-500 RPM drill motor. Small amounts of water, up to 16 oz (.43 l) can be added for workability. Mix until reaching a uniform consistency (it is important that the same amount of water be added to each pail to ensure a consistent color).

D. Additives shall not be added to Ultrakote's materials unless written approval has been received from Ultrakote.

### **3.03 PREPARATION**

A. Protect contiguous work from damage during application of the Ultrakote coatings. Temporary covering may be required to prevent overspray or splattering of exterior finish coatings on other work.

B. Protect substrate from inclement weather during installation. Prevent infiltration of moisture behind the system that may affect the substrate or the adhesion of the insulation board to the substrate.

C. Adhesive, base coats and finishes shall not be installed when ambient air temperature is below 40°F (4°C). The temperature shall remain at or above 40°F (4°C) during mixing, application and until materials have cured.

D. Sufficient scaffolding, manpower and tools shall be provided to prevent cold joints.

E. The substrate shall be clean to obtain optimum bond between substrate and adhesive used to attach insulation board.

F. Flashings shall be installed, by others or the EIFS applicator in this item is included in the initial bid, as required by construction documents and Ultrakote's details in a manner to prevent the intrusion of water behind the insulation board. All flashing materials should direct the water to the exterior face of the finished system.

### **3.04 INSTALLATION, GENERAL**

A. Reference architectural details for full wall system requirements.

B. Comply with the manufacturers' current published instructions (specifications, details, data sheets and technical bulletins) for the installation of the Ultrakote-Shurkote EIF system.

C. Comply with local building codes and requirements.

### **3.05 EPS INSULATION TERMINATION**

A. Vinyl casing and trim

1. Weep casing is used at all horizontal terminations where the drainage of incidental moisture is required.
2. Plain casing is used to protect the exposed edge of the EPS insulation board around openings such as doors and windows and to provide a solid surface for the installation of the backer rod and sealant.
3. Attach the vinyl casing to the substrate with non-corrosive fasteners.

B. Back-wrapping (an alternative to vinyl casing where allowed)



1. Adhesively secure reinforcing detail or standard mesh to the substrate positioned so that a minimum of 2 1/2" of the mesh is onto the substrate. (The reinforcing mesh shall be wide enough to encapsulate the edge of the insulation board and cover both the substrate and the face of the insulation board a minimum of 2 1/2").
2. After the insulation board is applied, complete the back wrapping procedure by applying the base coat, embedding the remaining mesh and returning it onto the face of the insulation board a minimum of 2 1/2".
3. Where sealants are applied the reinforcing mesh color shall not be visible and the texture of the base coat shall be smooth so that the pattern of the mesh is covered.
4. Apply finish in accordance with manufacturer's details (finish shall not be applied to areas where the design professional has anticipated dynamic movement or at an EIFS to EIFS joint).

### 3.06 INSULATION APPLICATION

#### A. Mechanical fasteners

1. An approved mechanical fastener consists of plastic washer and a non-corrosive fastener designed for the framing system.
2. Wood screws shall be corrosion resistant and long enough to penetrate the wood stud or other structural membranes by 3/4".
3. For light gauge metal framing, screws shall be corrosion resistant and long enough to penetrate the metal framing membranes by 3/8".
4. The requirements of the geographical conditions of the area, local building code requirements and the performance of the fasteners, washers, and their test results in conjunction with the specified substrate and the thickness of the EPS insulation foam specified shall determine the fastening pattern.
5. Install the fasteners so that the face of the fastener washer is slightly recessed into the surface of the insulation board.
6. Do not install fasteners between the insulation board joints or near the corners of edges of the insulation board.
7. The insulation board shall be:
  - a. Installed in a running bond pattern with staggered vertical joints.
  - b. Interlocked at the inside and outside corners.
  - c. Offset from the sheathing joints a minimum of 6".
  - d. Offset, picture framed around the corners of openings such as doors and windows.
8. Allow for proper spacing at windows, doors, penetrations and other openings so that sealant systems can be installed in accordance with Ultrakote's specification, details and the construction documents.
9. Provide a properly constructed joint through insulation board where expansion joints occur in substrates or where they have been specified by the design professional.
10. For sheathed substrates, trace electrical boxes, light boxes and other penetrations on the foam. Place a dry board over the electrical box and press firmly to indent the surface of the EPS insulation board. Cut approximately 1/4" to 3/8" larger than box and remove insulation piece. Apply the base coat adhesive to the back of the EPS insulation board and secure in place.
11. The EPS insulation boards shall be butted tightly. Any gaps greater than 1/16" (1.6 mm) between insulation boards shall be filled with slivers of insulation board. Adhesive shall not be used to adhere foam when filling gaps.
12. Gaps between insulation boards shall not be filled with adhesive or base coat materials.
13. Allow adhered insulation to remain undisturbed for a period of 24 hours prior to rasping the foam.
14. Rasp the entire surface of the insulation board to level any irregularities. All irregularities greater than 1/16" (1.6 mm) shall be sanded flat.

15. Cut aesthetic joints as indicated on construction drawings. Always maintain a minimum 3/4" of insulation board under aesthetic joints.

16. Clean rasped insulation board in preparation for base coat application.

**B. Adhesive and mechanical method**

1. Adhesive and mechanical method of insulation application is required when insulation is attached over oriented standard board (OSB) or when deemed necessary by the design professional or project engineer.

a. Acrylic adhesive shall be installed per typical installation requirements to adhere the insulation board into place over the OSB sheathing.

b. Within 12 hours after installation, a minimum of and up to 8 approved mechanical fasteners washer with the appropriate fastener shall be installed per 2' x 4' board. Due to wind loads in specific regions additional fasteners may be required.

**C. Mechanical method**

1. When mechanical method fastening is necessary for the application of the insulation board, an approved 2 1/8" mechanical fastener washer with a void to receive the appropriate non-corrosive fastener shall be used. Ultrakote must approve any other mechanical fastening system in writing prior to use with the Ultrakote system.

2. The requirements of the geographical conditions of the area, local code requirements and the performance of fasteners, washers and their test results in conjunction with the specified substrate and the thickness of foam specified for use shall determine fastening patterns.

**3.07 BASE COAT PREPARATION**

A. Inspect adhered insulation board to ensure the installation meets the requirements set forth in Ultrakote's specification, details, data sheets, product information guides and the construction documents. Make necessary repairs to ensure the installation meets the requirements prior to commencement of the base coat application.

B. If the foam is yellowed or has developed a powdery film due to sun exposure, the foam must be rasped and cleaned prior to the base coat application.

C. Complete the back wrapping at all system terminations by embedding the reinforcing mesh as described in section 3.05 of this specification.

D. Install minimum 9 1/2" x 12" diagonal reinforcement at all windows, doors, louvers or other penetration corners. Apply field mesh as soon as possible after diagonal mesh application.

E. Reference architectural documents for locations of designed impact classifications.

**3.08 BASE COAT APPLICATION**

A. Apply the base coat to the entire surface of the insulation board to the thickness required for the specified reinforcing mesh to be applied in a given area. The thickness of the mesh will dictate the thickness of the base coat.

B. Apply the standard mesh base coat continuous over the entire surface of the EPS insulation board with all edges lapped a minimum of 2 1/2" (64 mm) on all sides.

C. Standard reinforcing mesh shall be continuous through all interior and exterior corners extending beyond the corner a minimum of 12" from both directions creating a minimum of two layers of standard reinforcing mesh on all interior and exterior corners.

D. Apply the base coat adhesive over the EPS surface in a width consistent with the width of the mesh being used and immediately embed Ultrakote reinforcing mesh into wet base coat with a trowel, working from the center toward the edges, until the mesh is fully covered and a smooth surface is achieved. The color of the mesh shall not be visible but a slight mesh pattern may be visible.

E. Intermediate mesh may be applied in a single layer but an additional layer of base coat adhesive may be required to smooth out the lap lines prior to the finish application.

F. Medium and high impact mesh should not be overlapped or wrapped around corners. Carefully end butt all joints and allow the base coat adhesive to cure prior to applying a complete layer of standard mesh over the entire surface including corners.

G. All EPS shapes shall be completely covered with standard reinforcing mesh embedded into the base coat or be coated with base coat.

H. Allow the base coat to cure a minimum of 12 to 24 hours prior to additional base coat or finish coat applications.

### **3.09 ULTRAKOTE FINISH COAT APPLICATION**

A. Surface irregularities in the base coat, such as trowel marks, insulation board lines and reinforcing mesh laps shall be corrected prior to the finish application.

B. Apply the Ultrakote finish in the color and texture as approved by the project owner or the project architect with sufficient manpower and equipment to insure a continuous operation without cold joints, scaffolding lines, etc. Texture finish shall match approved jobsite samples. Thickness and coverage will vary depending on the specified final appearance.

C. Apply the finish in accordance with the manufacturer's details. Specifically the finish should not be inside any expansion or sealant joints.

#### **D. Trowel application**

1. Apply the Ultrakote finish to the clean, dry and cured base coat with a stainless steel trowel.
2. Apply the finish to a uniform thickness. The final thickness should be the size of the largest aggregate in the finish.
3. Float the finish with a plastic float in a uniform motion to achieve the desired texture. (Refinish cannot be floated. A second application of the refinish shall be applied to create the desired texture).

#### **E. Spray application**

1. Prime surface with Ultrakote Ultraprime tinted to match the selected finish color. Allow primer to cure a minimum of 12 hours prior to finish coat application.
2. Using a conventional plaster hopper gun or a proven pump, spray finish over the primer base coat to achieve desired texture using a circular overlapping pattern keeping the spray gun at a 90° angle to the surface and maintaining the same distance to the wall at all times.
3. Be cautious of flooding an area with too much finish because it may appear shinier when it dries.

F. Provide protection from rain and temperature below 40°F (4°C) for a minimum of 24 hours after application. Longer protection may be necessary during lower temperatures and/or higher humidity conditions.

### **3.10 JOB SITE CLEANUP**

A. Clean work area in accordance with contract documents removing all excess materials, droppings and debris. Clean adjacent surfaces.

B. Other trades may now install their work - Sheet metal (section 07620), Sealant (section 07900), Mechanical (section 15000), Electrical (section 16000).