

**Crosstech Construction Products  
Ultimate 'MA' - Mechanically Attached, Synthetic Stucco  
Water-Management System  
Class PB, CSI Section 07240**

*Water-managed Class PB EIFS incorporating a secondary moisture barrier*

**SPECIFICATION**

**INTRODUCTION**

This Specification has been assembled to enable the design professional to select or delete sections to suit the project requirements.

Air Seals at any joints/gaps between adjoining components (penetrations, etc.) are of primary importance to maintain continuity of the air barrier system and must be considered by the design professional in the overall wall assembly design.

**This specification is intended for applications on the following substrates:  
DensGlass Sheathing (ASTM C1177); Exterior Gypsum Sheathing (ASTM C79);  
OSB; and Plywood.**

**PART 1 - GENERAL**

**1.01 SECTION INCLUDES**

Ultimate 'MA' – Mechanically Attached Synthetic Stucco Water-Management System: PVC starter track, Prebased 9" EPS starter board, EPS insulation board, Flexible membrane flashing tape, Sealant, Secondary Moisture Barrier, Basecoat, Reinforcing meshes, and Textured finish coat.

**1.02 RELATED SECTIONS**

A.	Section 05400	Cold-Formed Metal Framing
B.	Section 06001	Plywood substrate
C.	Section 06110	Wood framing
D.	Section 07195	Air Barriers
E.	Section 07620	Sheet Metal Flashing and Trim: Perimeter flashings
F.	Section 07900	Flexible Flashing
G.	Section 07900	Sealants
H.	Section 09100	Metal Support Systems
I.	Section 09250	Gypsum Board

**1.03 REFERENCES**

A.	ASTM C150	Standard Specification for Portland Cement
B.	ASTM E84	Standard Test Method for Surface Burning Characteristics of Building Materials.
C.	ASTM C578	Standard Specification for Rigid, Preformed Cellular Polystyrene Thermal Insulation.
D.	ASTM G23	Standard Practice for Operating Light Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Non-metallic Materials.

- E. ASTM C67 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
- F. ASTM B117 Standard Practice for Operating Salt Spray (Fog) Apparatus
- G. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the surface of Interior Coatings in an Environmental Chamber.
- H. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- I. EIMA 101.86 Standard Test Method for Resistance of EIFS to Effects of Rapid Deformation (Impact).
- J. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials.
- K. ASTM D 2247 Standard Method for Testing Water Resistance of Coatings in 100% Relative Humidity.
- L. ASTM E331 Modified Test for Determining the Drainage Performance and Drying potential of Class PB EIFS.
- M. ASTM C1177 Standard Specification for Glass Mat Gypsum Substrate for use as sheathing.
- N. ASTM C79 Standard Specification for Treated Core and Non-treated Core Gypsum sheathing board.
- O. ASTM D1784 Standard Specification for Rigid Poly Vinyl Chloride (PVC) Compounds and Chlorinated Poly Vinyl Chloride (CPVC) Compounds.
- P. ASTM C297 Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions.
- Q. ASTM D968 Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.

#### 1.04 DEFINITIONS

- A. Exterior Insulation and Finish System: Exterior assembly comprised of rigid insulation, fastening system, base coat, reinforcing mesh, and finish coat.
- B. Class PB Systems: A class of EIFS where the base coat varies in thickness depending upon the number of layers or thickness of reinforcing mesh. The reinforcing material is glass fiber mesh, which is embedded into the base coat at the time of installation. The base coat shall be applied so as to achieve reinforcing mesh embedment with no reinforcing mesh color visible, minimum 3/32". Protective textured finish coats of various thicknesses, in a variety of textures and colors, are applied over the base coat.
- C. Crosstech Ultimate 'MA' is a water-managed Class PB EIFS incorporating a secondary moisture barrier. 'MA' stands for mechanically attached.

#### 1.05 SYSTEM DESCRIPTION

Performance Requirements: System shall meet or exceed the following performance standards when tested in accordance with the following methods:

- A. Accelerated Weathering                      ASTM G23: testing period of 1000 hours; No disintegration, crazing, cracking, flaking, or adverse effects.

B.	Moisture Resistance	ASTM D2247: 14 day exposure; No adverse effects.		
C.	Salt Spray Resistance	ASTM B117: 14 day exposure; No adverse effects.		
D.	Mold Resistance	ASTM D3273: 28 day exposure; No mold growth supported after 28 days.		
E.	Surface Burning Characteristics	ASTM E84: Test specimen consists of Insulation board, base coat, reinforcing mesh and finish coat; Flame spread less than 25 and smoke developed less than 450.		
F.	Freeze-Thaw Resistance	ASTM C67: No visible damage and negligible weight gain after 50 cycles.		
G.	Test Method for Water Penetration of Exterior Curtain Walls by Uniform Static Air Pressure	ASTM E331: No penetration of water into the plane of the innermost face of the test specimen during the test period.		
H.	Test for Determining the Drainage Performance and Drying potential of Class PB EIFS	ASTM E331 Modified: Passed.		
I.	Impact Resistance	EIMA Impact Standard 101.86:		
	Standard Impact	Medium Impact	High Impact	Ultra High Impact
	2.83-5.54 J	5.65-10.1 J	10.2-17.0 J	over 17.0 J
	25-49 in-lbs	50-89 in-lbs	90-150 in-lbs	over 150 in-lbs
J.	Tensile Strength of Sandwich Constructions	ASTM C297: Average strength using a textured finish was 156 psi.		
K.	Water Vapor Transmission	ASTM E96: Average perms of 1.92.		
L.	Abrasion Resistance	ASTM D968: Passed, no deleterious effects.		

**1.06 SUBMITTALS**

- A. Product Data: Provide data on Ultimate 'MA' materials, product characteristics, performance criteria, limitations and durability.
- B. Shop Drawings: Indicate wall joint pattern and joint details, thickness, and installation details.
- C. Samples: Submit [ ] [ x ] minimum size samples of Ultimate 'MA' illustrating Finish Coat [custom] color and [select] texture.
- D. Certificate: System manufacturer's approval of applicator.
- E. Letter: System manufacturer's letter that materials meet or exceed specified requirements.
- F. System manufacturer's installation instructions: Indicate preparation required, installation techniques, jointing requirements and finishing techniques.
- G. Manufacturer's standard warranty.

**1.07 QUALITY ASSURANCE**

- A. Applicator: Approved by Crosstech Construction Products in performing work of this Section.
- B. Regulatory Requirements: Conform to applicable code requirements for finish system.
- C. Field Samples:
  - 1. Construct one field sample panel for each color and texture, [ x ] in size of system materials illustrating method of attachment, surface finish, color and texture.
  - 2. Prepare each sample panel using the same tools and techniques to be used for the actual application.
  - 3. Locate sample panel where directed.
  - 4. Accepted sample panel [may] [may not] remain as part of the work.
  - 5. Field sample approval must be documented by signing (Owner, GC, Architect, or owner's designated representative) the completed 'Field Sample Approval Form'.

**1.08 DELIVERY, STORAGE AND HANDLING**

- A. Deliver Ultimate 'MA' System materials in original unopened packages with manufacturer's labels intact.
- B. Protect Ultimate 'MA' System materials during transportation and installation to avoid physical damage.
- C. Store Ultimate 'MA' System materials in cool, dry place protected from freezing. Do not store at less than 4°C/40°F
- D. Store insulation boards flat and protected from direct sunlight and extreme heat.
- E. Do not apply Crosstech Finish Coat or Crosstech Basecoat in direct sunlight.
- F. Store Ultimate 'MA' System; reinforcing mesh, accessories, and Flexible membrane flashing tape in a cool, dry place protected from exposure to moisture and sun exposure.

**1.09 PROJECT/SITE CONDITIONS**

- A. Do not apply Ultimate 'MA' in ambient temperatures below 4°C/40°F. Provide supplementary heat during installation and drying period when temperature is less than 4°C/40°F
- B. Do not apply Ultimate 'MA' materials to frozen surfaces.
- C. Maintain ambient temperature at or above 4°C/40°F during and at least 24 hours after Ultimate 'MA' installation and until dry.
- D. Protect wet finish from blowing or settling dust and debris.

**1.10 SEQUENCING AND SCHEDULING**

- A. Coordinate and schedule installation of Ultimate 'MA' with related work of other sections.
- B. Coordinate and schedule installation of trim, flashing, and joint sealers to prevent water infiltration behind the system.
- C. Coordinate and schedule installation of secondary moisture barrier, windows, doors, A/C units, air seals, etc.

## **PART 2 - PRODUCTS**

### **2.01 MANUFACTURERS**

Ultimate 'MA' (Class PB) System manufactured by Crosstech Construction Products, 4436 W. Manufacturers Street Springfield, MO 65803, (417) 862-9511.

### **2.02 MATERIALS**

- A. Crosstech Construction Products: Basecoats
  - 1. Crosstech 500, Polymer Modified Bagged Base Mix: Dry-mix basecoat containing Portland cement; manufactured by Crosstech Construction Products.
  - 2. Crosstech 600, Polymer Modified Bucket Base Mix: Liquid basecoat, field-mixed with Portland cement; manufactured by Crosstech Construction Products.
- B. Portland cement: Conform to ASTM C150, Type I, II, or I/II, grey or white; fresh and free of lumps.
- C. Water: Clean and potable without foreign matter.
- D. EPS insulation board: expanded polystyrene; ASTM C578, Type I; 1" thickness minimum as indicated on drawings,  $\frac{3}{4}$ " thickness minimum at aesthetic grooves, meeting the following:
  - 1. Air-dried (aged) six weeks prior to installation.
  - 2. Edges: Square within 1/32" (using diagonal measurement comparison).
  - 3. Thickness: Tolerance of plus or minus 1/16".
  - 4. Size: 2' x 4'.
  - 5. Length and width: Tolerance of plus or minus 1/16".
  - 6. Flame spread less than 25; smoke developed less than 450 per ASTM E84.
  - 7. Nominal density 1.0 lb / cubic ft. Minimum density of .90 lb / cubic ft.
  - 8. Minimum thickness of 1", maximum thickness of 4".
  - 9. Material must be manufactured from 100% virgin materials.
- E. Reinforcing Meshes: Balanced, open weave glass fiber reinforcing mesh; twisted multi-end strands treated for compatibility with Ultimate 'MA' components.
  - 1. CrossFlex 4: Standard weight.
  - 2. CrossFlex 10: Intermediate weight.
  - 3. CrossFlex 20: Ultra High Impact weight.
  - 4. CrossFlex [ ] & [ ]: Combination.
- F. Crosstech 100, Textured Finish Coat: 100% acrylic polymer finish; air cured, compatible with Basecoat; Finish color factory-mixed; color [ ] as selected; Finish texture [Medium Sand] [Ozark Sand] [Natural Sand] [Clear Sand] [Medium Worm] [Big Worm] [Random].
- G. Fastener System: Type appropriate for application and substrate, as recommended by Crosstech Construction Products.
  - 1. EPS insulation board fasteners: 2" PBH Mechanical Fastening System manufactured by Demand or equivalent.

- a. Light gauge steel framing (20 gauge): Type LM fastener and plate system; 5/8" minimum penetration into framing or through sheathing according to applicable application instructions.
  - b. Heavy gauge steel framing (20 to 12 gauge maximum): Type S fastener and plate system; 5/8" minimum penetration into framing or through sheathing according to applicable application instructions.
  - c. Wood framing: Type W fastener and plate system; 5/8" minimum penetration into framing or through sheathing according to applicable application instructions.
- H. Tyvek Stucco Wrap Moisture Barrier and Tyvek Tape manufactured by DuPont.

### **2.03 ACCESSORIES**

- A. Prebased 9" EPS Starter Board as manufactured by CoreDesign, PVC Starter Track: Rigid polyvinyl chloride (PVC) track, UV resistant for exterior use, with a drip edge to allow moisture to shed down the surface, as furnished by Plastic Components, Inc. or equal. Accessories shall conform to ASTM D 1784 and shall be of the appropriate dimensions depending on the thickness of the insulation board.
- B. Flexible Membrane Flashing Tape: Demand 30-mil thick, self-sealing, self-healing rubberized asphalt membrane or equivalent.
- C. Dow Corning Series 790 or 795 sealant, BASF-Sonolastic 150 VLM and their associated primers as per their manufacturers' specifications.
- D. Leech Products F-26 construction adhesive -or- 3M 4323 construction mastic, to be used to attach PVC starter track to substrate.

## **PART 3 - EXECUTION**

### **3.01 INSPECTION OF SUBSTRATE**

- A. Inspect substrate for; soundness, contamination, and moisture content.
- B. There should not be any planar irregularities greater than ¼ inch in 10 feet. Do not proceed with installation until all discrepancies or unsatisfactory conditions have been corrected.
- C. The surface shall be free of foreign materials such as oil, dust, dirt, form-release agents, paint, wax, water repellents, moisture, frost, etc.
- D. The substrate shall be sound and installed according to manufacturers guidelines. There should be no major surface voids or projections.
- E. Reporting: Unsatisfactory conditions shall be reported to the General Contractor and/or builder and to Crosstech Construction Products management. Do not proceed until all unsatisfactory conditions have been corrected.

### **3.02 PREPARATION**

- A. Protect all surrounding areas and surfaces from damage and staining during application of the Crosstech Ultimate 'MA' system.
- B. Protect finished work at the end of each day to prevent water penetration.
- C. Prepare substrates in accordance with Crosstech Construction Products instructions and specifications.

- D. Utilities – The system must be properly terminated (back-wrapped, sealed, flashed) at all lighting fixtures, electrical outlets, hose bibs, dryer vents, etc.
- E. Decks – Wood Decks must be properly flashed prior to system application. For proper application, refer to details. The system must be terminated a minimum of 1” above all decks, patios, etc.
- F. Roof – Verify that all roof flashings have been installed in accordance with the guidelines set by the Asphalt Roofing Manufacturer’s Association. Kick out flashing must be leak-proof and angled (min. 105 degrees) to allow for proper drainage and water diversion.
- G. Air Seals – Install air seals where required between the wall system and other wall components (penetrations, etc.) in order to maintain continuity of the air barrier system.

**3.03 INSTALLATION OF PVC STARTER TRACK (Optional)**

- A. PVC starter track may optionally be used only at foundation floor lines. The wall termination should be a minimum of 8” above grade level.
- B. Using a chalk line, at the base of the wall, strike a level line on the substrate that coincides with the top of the starter track nailing flange. The starter track should be positioned with the bottom rear edge of the starter track 1” below the bottom termination of the substrate.
- C. Starter track shall be fastened to the substrate by using non-corrosive ring shank nails or screws in each of the holes provided within the starter track nailing flange. Allow a 1/16” gap between lengths of starter track to allow for expansion.
- D. The Tyvek Stucco Wrap must then be lapped over the nailing flange and into the starter track.
- E. Using Tyvek Stucco Wrap Tape, tape Tyvek Stucco Wrap to the inside of the starter track to prevent wicking of moisture. NOTE: Do not block weep holes in the starter track.
- F. If PVC starter track is not used, Prebased 9” EPS Starter Board must be used to augment drainage.

**3.04 INSTALLATION OF MOISTURE BARRIER**

- A. Attach Tyvek Stucco Wrap to the substrate in accordance with the manufacturer’s installation instructions. Use no more fasteners than required.

**3.05 FLEXIBLE MEMBRANE FLASHING TAPE**

- A. General Guidelines
  1. The following section details a typical installation of Flexible Membrane Flashing Tape. Refer to architectural details for specific installation procedures.
  2. The 30 mil asphalt membrane tape listed under accessories should be used to seal window and door openings, other building frame openings, and wherever water infiltration may be a concern.
  3. Surfaces should be clean, dry, and free of dirt and other foreign matter. The flexible membrane flashing tape (FMFT) should be applied only at temperatures above 40 degrees F.
  4. Begin the application of FMFT by removing approximately 6 inches of the release paper and align the FMFT over the area being sealed.

Firmly press or roll the tape against the surface and continue pulling off the release paper while smoothing the FMFT in place. Cutting measured lengths of the FMFT may facilitate installation.

5. Care should be taken to minimize trapping air beneath the FMFT.
6. Do not leave the FMFT exposed to direct sunlight for more than 6 weeks.

**B. Window Applications**

1. Windows and openings shall be flashed according to design and Building Code requirements. Individual windows that are ganged to make multiple units require continuous head flashing and/or the joints between the units must be fully sealed.
2. In each of the following steps, apply the FMFT to the entire inside of the frame opening. The remainder of the FMFT width should be wrapped and applied to the face of the building. A minimum of 4" of the FMFT must be present on the building face.
3. The width of the frame opening will determine the required FMFT width. For example, if the frame opening is 5" deep, 9" FMFT must be used so that at least 4" of FMFT is present on the building face.
4. Apply FMFT to the sill on the inside of the window beginning 4" up one jamb and continuing such that the FMFT is applied across the sill and 4" up the other jamb. Split FMFT 4" on both ends at jambs and wrap over Tyvek Stucco Wrap onto exterior wall extending 4" past each jamb.
5. Place 6" diagonal slits in the Tyvek Stucco Wrap on either side of the window, starting at each corner of header and jamb and extending up and away from the corner at a 45 degree angle.
6. Apply the FMFT to the jamb on the inside of the window beginning 4" onto the sill and continuing such that the FMFT is applied up the jamb and 4" onto the header. Split the bottom end of FMFT in order to wrap the FMFT 4" over the Tyvek Stucco Wrap and onto the exterior wall. Split the top end of the FMFT in order to wrap it 4" over the Tyvek Stucco Wrap and onto the exterior wall. (Note: the FMFT extending above the bottom of the header onto the substrate should go UNDER the Tyvek Stucco Wrap when the diagonal slits were cut). Repeat for the other jamb.
7. Apply FMFT to the window header extending a minimum of 4" above header and 4" beyond both jambs. This strip of FMFT should be UNDER the flap of Tyvek Stucco Wrap created by the two diagonal slits.
8. Seal each corner seam point with approved sealant.
9. Seal each of the diagonal slits with Tyvek Stucco Wrap Tape.

**C. Door Applications**

1. In each of the following steps, apply the FMFT to the entire inside of the frame opening. The remainder of the FMFT width should be wrapped and applied to the face of the building. A minimum of 4" of the FMFT must be present on the building face.
2. The width of the frame opening will determine the required FMFT width. For example, if the frame opening is 5" deep, 9" FMFT must be used so that at least 4" of FMFT is present on the building face.



3. Apply FMFT to the sill on the inside of the door beginning 4" up one jamb and continuing such that the FMFT is applied across the sill and 4" up the other jamb. Split FMFT 4" on both ends at jambs and wrap over Tyvek Stucco Wrap onto exterior wall extending 4" past each jamb. If there is no wall below door (i.e. no Tyvek Stucco Wrap is below sill), ensure that appropriate sealant is applied under threshold.
4. Place 6" diagonal slits in the Tyvek Stucco Wrap on either side of the door, starting at each corner of header and jamb and extending up and away from the corner at a 45 degree angle.
5. Apply the FMFT to the jamb on the inside of the door beginning 4" onto the sill and continuing such that the FMFT is applied up the jamb and 4" onto the header. Split the bottom end of FMFT in order to wrap the FMFT 4" over the Tyvek Stucco wrap and onto the exterior wall. Split the top end of the FMFT in order to extend it 4" over the Tyvek Stucco Wrap and onto the exterior wall. (Note: the FMFT extending above the bottom of the header onto the substrate should go UNDER the Tyvek Stucco Wrap when the diagonal slits were cut). Repeat for the other jamb.
6. Apply FMFT to the door header extending a minimum of 4" above header and 4" beyond both jambs. This strip of FMFT should be completely UNDER the Tyvek Stucco Wrap flap.
7. Seal each corner seam point with approved sealant.
8. Seal each of the diagonal slits with Tyvek Stucco Wrap Tape.

### **3.06 INSTALLATION OF DETAIL MESH**

- A. Attach detail mesh around the perimeter of all openings, penetrations, expansion joints, and other system terminations by stapling the mesh through the Tyvek Stucco Wrap and into the substrate using corrosion resistant staples. Attach the detail mesh at every 12". Position the detail mesh so that a minimum of 2½" will extend onto the face of the insulation board. Detail mesh is not required where Prebased 9" EPS Starter Board is used at perimeter of openings and plate lines.

--or--

Alternatively, utilize Prebased 9" EPS Starter Board, placing the prebased element of the starter board as described elsewhere in this document to allow for proper spacing for expansion, sealant, etc. See following instructions for attachment of starter board.

### **3.07 MECHANICAL FASTENERS**

- A. Mechanical fasteners are used to attach the insulation board to the framing structure and consist of a polypropylene plastic washer with a corrosion resistant screw.
- B. The washer is 2" in diameter with a recessed chamber and key openings.
- C. Screws should be a minimum number 6 bugle head corrosion resistant screw and should be of sufficient length to penetrate substrate or where required, into the framing, a minimum of 5/8".

### **3.08 INSTALLATION OF INSULATION BOARD**

- A. If sheathing is installed horizontally, it is necessary to install a starter row of insulation board. A Prebased 9" EPS Starter Board is preferred.

Beginning at the base of the wall, use a Prebased 9" EPS Starter Board as a starter row to eliminate horizontal insulation board joints from coinciding with the sheathing board joints. Offset the insulation board joints from the sheathing joints a minimum of 8" in both vertical and horizontal directions. Install the insulation boards with their long edges oriented horizontally. The starter board must be installed so that the bottom prebased edge slips inside the starter track (if starter track was utilized). NOTE: Provide 1/16" clearance between bottom of insulation board and bottom channel of starter track to allow for proper drainage.

- B. 1. [If substrate is DensGlass Sheathing (ASTM C1117) or exterior gypsum board (ASTM C79)]. Secure the insulation board to the studs with the appropriate screws and washers using the fastening pattern depicted in the Detail titled 'Installation of Insulation Board, Fastener Patterns-Approved Fastener Pattern over Non-Screwable Sheathing". Install the fastener so that the face of the washer is flush with or recessed no more than 1/16" below the surface of the insulation board.
- or -
2. [If substrate is Exterior Plywood or OSB] Secure the insulation board to the studs with the appropriate screws and washers using the fastening pattern depicted in the Detail titled 'Installation of Insulation Board, Fastener Patterns-Approved Fastener Pattern over Masonry, Plywood, and OSB". Install the fastener so that the face of the washer is flush with, or recessed no more than 1/16" below, the surface of the insulation board and such that it causes a slight dimple at each fastener location.
- C. Install each subsequent row of insulation board in running bond pattern with vertical joints staggered. Also stagger vertical joints at inside and outside corners. Make certain that corners are straight and plumb. If the insulation board joints are not abutted tightly, slivers of insulation board or foam filler must be installed to fill any gaps greater than 1/16".
- D. Align the insulation board at penetrations such that the edges are at minimum 8" offset with the corners of the opening. This will reduce stressed on the base coat and minimize the potential for cracking.
- E. Hold back the insulation board 5/8" from window and door frames and mechanical equipment openings to allow for proper joint sealant installation.
- F. Expansion joints require a minimum 1" gap in order to accommodate base and mesh on both sides and still allow for a minimum 5/8" space for backer rod and sealant. Refer to building plans for location of and exact width of expansion joints.
- G. Use an 8' straight edge to identify planar irregularities in the wall and to ensure an overall flat surface. Irregularities in the insulation board surface must be sanded flat or be built out with base coat and mesh. Sanding is accomplished with a light circular motion. Do not sand parallel to the insulation board joints. Use grade 16 grit sandpaper or coarser in conjunction with hand rasps. Remove all loose pieces of insulation board and dust from the sanding operation. Always wear appropriate particle mask when sanding.

### **3.09 EMBEDDING THE DETAIL MESH**

- A. At appropriate points, using a stainless steel trowel, apply base coat to the edge and face of the insulation board to a uniform thickness of

approximately 3/32". Embed the detail mesh with a trowel such that no mesh pattern is visible.

- B. Detail mesh should be pulled tight to surface with no 'hooping' of mesh.

### **3.10 CONSTRUCTION OF AESTHETIC REVEALS**

- A. Snap a straight line using a chalk line. Position a straight edge against the insulation board in the proper location to guide the appropriate cutting tool such as a router, hot knife, or hot groover. The insulation board at the bottom of the reveal shall in no case be less than 3/4".
- B. The reinforcing mesh must be continuous through the aesthetic reveal. To ensure the mesh is continuous, the reveals must be meshed with detail mesh. The detail mesh must lap a minimum of 2 1/2" on each side of the aesthetic reveal.
- C. Apply the base coat in the reveal and on the adjacent insulation board surfaces. Embed the detail mesh on one side of the reveal only. Using a sled or special tool for the reveal, embed the detail mesh into the reveal being careful not to cut the mesh. Embed the detail mesh on the other side of the reveal. Ensure the mesh is fully embedded and that all excess material is removed from the reveal. Use a brush to clean out any irregularities in the base coat. If the mesh is cut in the reveal, a new piece of mesh must be installed over the cut to ensure a 2 1/2" overlap exists.

### **3.11 INSTALLATION OF CORNER MESH**

- A. When corner mesh is specified for additional impact resistance at outside corners, the corner mesh should be embedded in the base coat and allowed to set until firm (at minimum 4 hours) prior to installing the overall reinforced base coat over the face of the wall.

### **3.12 REINFORCEMENT OF CORNER OPENINGS**

- A. Openings shall be reinforced using 9.5" wide by 12" long strips of detail mesh laid at a 45 degree angle at each corner over the existing backwrapped detail mesh. Apply base coat and embed the mesh using a stainless steel trowel.

### **3.13 SPOT FASTENERS WITH BASE COAT**

- A. Pre-spot all fasteners with base coat and allow to thoroughly dry. Not allowing fastener spots to dry may result in the "telegraphing" of the spots through the final product.

### **3.14 CONSTRUCTION OF INCLINED SURFACES**

- A. The slope of inclined surfaces shall have a minimum slope of 6" of rise in 12" of horizontal run and a maximum thickness of 12".
- B. Inclined surfaces shall not be used for areas defined as roofs by building codes.

### **3.15 INSPECTION OF INSULATION BOARD SURFACE**

- A. Check for flatness of the surface using an 8' straight edge. If areas are out of plane, sand until flat or build out with base coat and mesh.

- B. Surface degradation due to weathering or UV exposure and any visible discoloration must be corrected as necessary. Sand effected areas to remove deterioration while maintaining the flatness of the surface.
- C. After sanding, remove all loose pieces of insulation board and dust using a broom, brush, or compressed air. Always wear appropriate particle mask when sanding.

### **3.16 INSTALLATION OF REINFORCING MESH**

- A. Using a stainless steel trowel, apply the base coat over the entire surface of the insulation board, to an area slightly larger than the width and length of a piece of reinforcing mesh, in a uniform thickness of approximately 3/32".
- B. Immediately place the reinforcing mesh against the wet base coat. With the curve of the mesh against the wall, trowel from the center to the edges avoiding wrinkles, until the mesh is fully embedded and no mesh pattern is visible. The mesh should float within the base coat and should not be in contact with the wall.
- C. The reinforcing mesh shall be continuous at corners and mesh edges lapped not less than 2 1/2". Corners and edges may require light strokes with a small brush to smooth irregularities.
- D. Where higher impact mesh is installed, edges should be butted, not overlapped. Standard mesh must then be applied over the higher impact mesh.
- E. Additional layers of reinforcing mesh and base coat may be applied as required. In addition, a thin coat of base coat may be applied for added strength and smoothness as required. If the thickness of the additional base coat exceeds 1/16", reinforcing mesh must be embedded as described in section 3.16 A thru C.
- F. Protect completed work from rain, runoff, and other moisture penetration. Allow the base coat to dry a minimum of 24 hours before proceeding with application of finish coat. Longer drying times are required if the conditions are cool or damp. Finish should not be applied to a wet or damp base coat.

### **3.17 INSPECTION OF BASE COAT**

- A. Prior to applying the finish, the base coat shall have dried a minimum of 24 hours and shall be dry and hard. Drying time may be longer depending on environmental conditions.
- B. Inspect the base coat for any irregularities such as trowel marks, board lines rough, corners and edges, proper reinforcing mesh embedment and the presence of any foreign substances. Correct all irregularities prior to applying the finish coat.

### **3.18 APPLICATION OF FINISH COAT**

- A. Mix the Finish Coat thoroughly according to the specific mixing instructions provided with the Finish Coat product.
- B. To ensure color consistency, the finish must be "boxed" prior to application. Boxing is accomplished by pouring 1/2 of a pail of Finish Coat into a clean container, opening another pail of Finish Coat and pouring 1/2 of its contents into the half filled first container. The full pail must now be

mixed until a uniform, homogenous consistency is attained. Continue this process for each pail of Finish Coat.

- C. While a small amount of clean water may be added to aid workability, if water is added, measure and add the same amount to all pails of finish to assure uniform color.
- D. Finishes must be applied continuously to a natural break such as corners or expansion joints. Sufficient personnel and scaffolding must be provided to continuously finish a distinct wall area or cold joints will result. Scaffolding must be placed a minimum of 18" from the wall to prevent staging lines.
- E. On hot windy days, the wall may be fogged with clean potable water to cool the wall and facilitate finish application. Application work should precede the sun. For example, work the shady side of the building. If this is not possible, scaffolding should be shaded with tarp or nursery shade cloth. Do not introduce water to the Finish Coat once it is applied to the wall. This will cause color variations.
- F. Each mechanic must use the same type tool and hand motion to ensure a consistent texture throughout the wall. Use Finish Coat from a single production batch where possible.
- G. Finish materials shall not be applied in the rain and the base coat must be dry prior to applying the finish.
- H. Using a clean stainless steel trowel, apply the Finish Coat in a uniform thickness tight to the wall. The Finish Coat must be leveled and textured to a uniform thickness no greater than the thickness of the largest aggregate in the Finish Coat.
- I. The texture is achieved by uniform hand motion and/or tool that produce the texture to match the approved sample.

### **3.19 INSTALLATION OF BACKER ROD AND SEALANT**

- A. Use only an approved sealant. Clean joints of all materials and dust.
- B. For joints over 3/8" deep, insert nonabsorbent closed cell skin backer rod of the correct diameter such that an hour-glass shaped bead of sealant may be applied to the joint.

### **3.20 MAINTENANCE AND CLEANING**

- A. To clean, wet the soiled area with clean water and wash with a solution of 1 gallon of clean water and 8 ounces of Trisodium Phosphate (TSP).
- B. Apply the cleaning solution using a soft bristle brush or power washing equipment. Lightly scrub the area with a soft bristle brush. The finish will be damaged by hard scrubbing action or by a hard bristle brush. With power washing equipment, do not exceed 500 PSI at the spray tip and keep power washer tip 2 feet from surface being cleaned.
- C. Solvent based cleaners should never be used as they will cause severe damage to the finish.
- D. Rust stains may be removed by using a commercial rust stain remover that is approved for use on acrylic finishes. Always clean an inconspicuous area first to insure the cleaner will not stain or damage the finish.

### **3.21 DAMAGE REPAIR PROCEDURE**

- A. Cut through and remove the lamina with a sharp utility knife, exposing a uniform sized area of insulation board that is slightly larger than the area damaged. With an aluminum oxide disk grinder or 20 grit belt grinder, remove 6" of finish around the cut-out area. With the grinder, feather the edge of the finish to approximately ½".
- B. Cut out the remaining insulation board. Inspect the substrate and weather resistive barrier if necessary.
- C. Precisely fit a piece of insulation board into the damaged area, sanding the edges as required to form a tight fit. Ensure the new insulation board is flush with the surrounding insulation. Fasten the insulation board to the substrate in the same manner as described earlier in these instructions.
- D. Mask the existing surrounding area with masking tape. Cut reinforcing mesh 2 ½" larger than the inserted insulation board.
- E. Taking care to keep the base coat off the original finish edge, apply the base coat to the face of the insulation board. Embed the reinforcing mesh in the wet base coat, smoothing wrinkles and irregularities. Allow the base coat to dry for a minimum of 24 hours or until dry.
- F. Mask the existing surrounding finish coat with masking tape. Apply new finish over the area to be patched being sure to match the texture of the surrounding area.
- G. Allow the finish to dry for a short period of time, such that it has firmed, but is still slightly workable. Remove the masking tape. Feather the new finish into the existing finish using a float and a slightly damp paintbrush.
- H. Environmental conditions will blend the two finishes together over time.