

SECTION 07 27 26 - FLUID-APPLIED MEMBRANE AIR BARRIERS (CAVITY WALL)

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Installation of a fluid-applied air barrier membrane system.

1.02 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-Place Concrete.
- B. Section 04 20 00 – Unit Masonry.
- C. Section 07 10 00 – Thermal and Moisture Protection.
- D. Section 07 21 00 – Thermal Insulation.
- E. Section 07 62 00 – Sheet metal Flashing and Trim.
- F. Section 07 92 00 – Joint Sealants.
- G. Section 08 40 00 – Entrances, Storefronts, and Curtain Walls.

1.03 REFERENCES

- A. ASTM E 2178 Resistance to Water Vapor Permeance
- B. ASTM D2939 Resistance to Water
- C. ASTM C836/C836M Stay in Place During Application
- D. ASTM C836/C836M Adhesion Strength
- E. ASTM E154/E154M Hydrostatic Pressure over Cracks
- F. ASTM C836/C836M Low Temperature Crack Bridging

1.04 QUALITY ASSURANCE

- A. Contractor will provide the proper equipment, manpower, and supervision at the jobsite to install the membrane in compliance with the project plans and specifications.
- B. The contractor of the material specified herein shall be an approved contractor. Proof of this qualification shall be provided in written form from the supplier.
- C. Codes and Standards: The contractor shall make themselves thoroughly familiar with all codes, regulations, and standards governing the work specified.
- D. Workmanship: All work shall be installed as indicated and in accordance with manufacturers printed instructions.
- E. Deviations: There shall be no deviations from the specification or installation instructions unless the deviation is approved in writing by the supplier of the material herein and submitted to the project architect or engineer.
- F. Installation must be carried out by an experienced contractor with an adequate number of skilled personnel, experienced in the application of the blindside membrane applications.
- G. Maintain a record of the batch numbers of all materials supplied for this project.
- H. Perform work only when existing and forecasted weather conditions are within the limits established by the Manufacturer of the materials and products used.
- I. Proceed with installation only when substrate construction and preparation work is complete and in condition to receive waterproofing.

1.05 PRE-CONSTRUCTION MEETING

- A. Pre-Construction Conference: A pre-installation conference shall be held prior to commencement of field operations to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work.
- B. Convene at least one week prior to commencing work of this section, meeting with all required project participants, including – but not limited to - waterproofing contractor, manufacturer's technical representative, general contractor, technical consultant, architect, and site engineer to review the installation procedures.

1.06 INFORMATIONAL SUBMITTALS

- A. Submit manufacturer's product data, installation instructions, use limitations and recommendations.
- B. Shop Drawings: Submit plans, sections, details, and attachments to other work. Include the following: Details at Terminations and Penetrations.
- C. Submit manufacturer's material samples for all components.
- D. Manufacturer's Installation Instructions: Indicate special procedures for system configuration, attachment to substrate, and perimeter conditions requiring special attention.
- E. Manufacturer's Certificate: Certify that Products delivered to the Project meet or exceed specified requirements for weight and thickness. Certify that materials are acceptable for site conditions.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Store materials in a clean dry area in accordance with manufacturer's instructions.
- C. Store adhesives and primers at temperatures of 40°F (5°C) and above to facilitate handling.
- D. Store membrane cartons on pallets.
- E. Do not store at temperatures above 90°F (32°C) for extended periods.
- F. Keep away from sparks and flames.
- G. Completely cover when stored outside. Protect from rain.
- H. Protect materials during handling and application to prevent damage or contamination.
- I. Avoid use of products which contain tars, solvents, pitches, polysulfide polymers, or PVC materials that may come into contact with waterproofing membrane system.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Product not intended for uses subject to abuse or permanent exposure to the elements.
- B. Protect rolls from direct sunlight until ready for use

- C. Do not apply membrane when air or surface temperatures are below 40°F (4°C).
- D. Do not apply to frozen substrates.

1.09 MOCK-UPS

- A. Mock-ups:
 - 1. Where directed by (engineer) (architect) (consultant), construct mock-ups to verify selections made under submittals and to set quality standards for materials and execution in accordance with project requirements.

1.10 WARRANTY

- A. Air Barrier material manufacturer shall provide a 10-year material warranty issued upon completion of each phase of work.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Barrett Corporation, 310 Wayto Road Schenectady, New York 12307.
Phone: 800.647.010 www.barrettroofs.com
- B. Or equal as Approved in writing by Architect/Designer.

2.02 MATERIALS

- A. RAM PROOF: asphaltic rubber comprised of the elastic properties of modified rubber with the weatherproofing and waterproofing characteristics of emulsified asphalt. The material forms to a single set, fully adhered, monolithic, and seamless membrane that results in a high-performance membrane that resists hydrostatic pressure, bridges cracks and will move with created expansion and contraction of surfaces.
- B. Waterproofing Protection Course: Asphalt based Protection Board for Pavers Only
- C. Exterior Surface: Any approved exterior building material

2.03 PERFORMANCE REQUIREMENTS

A. RAM PROOF

1. Compliance: ICC AC-29 and ASTM E 2178
2. Thickness: 60 mils wet film/40 mils dry film
3. Air Flow passage: ASTM E 2178: 0.0000015 P
3. Tensile Strength, ASTM D412, Die C: 1,000 %
4. Elongation, ASTM D412, Die C: 950 % minimum.
5. Adhesion Strength: ASTM C836: 3.51 lbf/in.
6. Water Vapor Permeability, ASTM E96, Method B: less than 1%
7. Water Absorption, ASTM D570: 0.1 percent, 72 hours maximum.
8. Puncture Resistance, ASTM E154: 48.2 lbf (214.6 N).
9. Low Temperature Crack Bridging: ASTM E836: Passed
10. Extensibility after Heat Aging: ASTM E836: Passed

PART 3 EXECUTION

3.01 EXAMINATION

- A. The installer shall examine conditions of substrates and other conditions under which this work is to be performed and notify the contractor, in writing, of circumstances detrimental to the proper completion of the work.
- B. Do not proceed with work until unsatisfactory conditions are corrected.
- C. Commencement of work on any substrate shall be considered full acceptance of all substrate conditions.

3.02 SURFACE PREPARATION

- A. Refer to the manufacturer's literature for requirements for preparation of substrates. Surfaces shall be structurally sound and free of voids, spalled areas, loose concrete, and sharp protrusions. Remove contaminants such as grease, oil, and wax from exposed surfaces. Remove dust, dirt, loose materials, and debris. Use repair materials and methods which are acceptable to manufacturer of waterproofing materials. Ensure all surfaces are structurally sound.
- B. Substrate Preparation:
 - 1. Acceptable substrates include exterior grade gypsum sheathing, plywood, OSB, pre-cast or cast-in-place concrete, primed steel, aluminum mill finish, anodized aluminum, and galvanized metal.
 - 2. Inspect the substrates and repair in accordance with manufacturer's requirements.
 - 3. Substrate must be continuous and secure.
 - 4. Sheathing fasteners must be installed into solid backing and set flush with sheathing.
 - 5. Masonry joints must be struck flush. Allow fresh CMU mortar joints to cure for a minimum of thirty-six (36) hours.
 - 6. Tie holes/voids in poured concrete to be flush and smooth shall be filled. Allow new concrete to cure a minimum of sixteen (16) hours after forms are removed.
 - 7. Top and backside of substrate walls must be protected against bulk water during and after application of air barrier.
 - 8. Curing compounds must be resin based without oil, wax or pigments. Substrates must be free of form release agents.
 - 9. Do not perform work during rain or inclement weather.

10. Do not perform work on frost covered or wet surfaces. Material can be applied over damp surfaces.
 11. Do not perform work when ambient temperature and substrate temperatures are below 20 F.
- B. Notify the contractor in writing of any conditions that are not acceptable.
- C. Do not apply air barrier assembly components until substrate and environmental conditions are in accordance with Air barrier Manufacturer's published literature.

3.03 SUBSTRATE PREPARATION:

1. Pressure washing: Pressure wash substrate to remove all dirt, dust, and remains of previous paint and/or coatings. Pressure washer to have a minimum working pressure of 3,000 psi.
2. Remove dirt and debris from the deck and walls with a stiff brush or broom. Scrape any debris from the walls and footings with a metal scraper.
3. Fill voids around tie-holes, recessed ties, and other small voids with IWS Water Proof.
4. Adhesion test areas: If there is any question as to the adhesion of product over suspect areas, such as those that may contain oil residue or those that have been previously coated with another product, a test patch area is required for an adhesion test.
5. Material can be applied over damp or green concrete.
6. Material should not be applied over standing water or water film, or ice and snow.
7. Inspection: All preliminary work to be inspected carefully by applicator to ensure that all work meets project planned specifications.

3.04 INSTALLATION OF FLUID APPLIED WATERPROOFING

A. Vertical Fluid Applied Membrane Application:

1. Ensure accessory materials are compatible with membrane and approved by membrane manufacturer prior to application, apply manufacturers approved flashing material from horizontal surface to all vertical surfaces. Application shall be in accordance with the manufacturer's instructions.
2. Apply air barrier system in accordance with manufacturer's instructions.
3. The fluid-applied material over smooth surfaces shall be applied at a wet film thickness of 60 mils to result in a dry film thickness of 40 mils.
4. The fluid-applied material over rough surfaces shall be applied at a wet film

thickness of 80 mils to result in a dry film thickness of 60 mils.

5. Begin application of the fluid-applied application (Brush/Roller/ Spray) from the highest point of the area to the lowest. Applying material to all vertical and horizontal intersections, such as wall turn ups and all construction joints, fillets, and details.
6. Apply in a full and even application. Application pattern should consist of an interlocking weave pattern as this technique will help to optimize the coverage rate and ensure a uniform mil thickness.; Brush/Roller apply one pass.
7. Check fluid-applied for correct thickness in a grid pattern that incorporates sections not greater than 100 sq. ft.
8. Contact the Air Barrier manufacturer to coordinate transition of air barrier to adjacent areas including, but not limited to the following:
 - a. Roofing
 - b. Waterproofing
 - c. Fastener penetrations
9. Apply material at details in compliance with the manufacturer's requirements for the following conditions:
 - a. Changes in substrate
 - b. Control joints
 - c. Crack treatment
 - d. Inside corners
 - e. Outside corners
 - f. Penetrations
 - g. Rough openings
 - h. Sheathing joints
 - i. Moving joints

3.05 INSTALLATION OF EXTERIOR SURFACE

- A. Apply exterior surface material in compliance with the manufacturer's requirements. Contact manufacturer for technical guidelines and support.
- B. Substrate and jobsite conditions will determine the attachment requirements and pattern. Attachment shall be in compliance with the manufacturer's requirements.

3.06 INTERFACE WITH OTHER MATERIALS

- A. Complete all terminations, penetrations, and flashings in compliance with the manufacturer's requirements using manufacturer approved materials for full system warranty.
- B. Ensure compatibility of the waterproofing material with all interface waterproofing treatment materials such as sealants, coatings, plaster, stuccos, tiles or pavers or other surface applied materials.

3.07 FIELD QUALITY CONTROL

- A. Observation: Do not conceal installed air barrier system before it has been observed by Architect/Engineer, waterproofing manufacturers representative and other designated entities.

3.08 CLEANING AND PROTECTION

- A. Clean spillage and soiling from adjacent surfaces using appropriate cleaning agents and procedures.
- B. Protect completed air barrier from subsequent construction activities as recommended by the manufacturer.

END OF SECTION 07 27 26