

MASTERSPEC

AIR VAPOR/MOISTURE BARRIER (ECOBASE)

SECTION 07161 – FLUID-APPLIED POLYMERIZED AIR VAPOR/MOISTURE BARRIER (Above Grade)

PART 1 – GENERAL

1. RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1. SUMMARY

- A. This Section includes the following:

- 1. Surface preparation and substrate treatment.
- 2. Air vapor/moisture barrier membrane.
- 3. Sheet flashing and accessories.

- A. Related Sections: The following Sections contain requirements that relate to this Section:

- 1. Division 4 Section "Masonry" for concrete unit masonry placement, curing, and finishing.
- 2. Division 4 Section "Masonry" for masonry restoration and cleaning.

1. PERFORMANCE REQUIREMENTS

- A. General: Provide an air vapor/moisture barrier that prevents the passage of moisture in the absence of hydrostatic pressure and complies with physical requirements as demonstrated by testing performed by an independent testing agency of manufacturer's current formulations and system design.

1. SUBMITTALS

- A. Submit Product Data for each type of air vapor/moisture barrier specified, including manufacturer's printed instructions for evaluating, preparing, and treating the substrate, technical data, and tested physical and performance properties.

- B. Project Data - Submit Shop Drawings showing locations and extent of air vapor/moisture barrier, including details for substrate joints and cracks, sheet flashing, penetrations, and other termination conditions.
- C. Samples – Submit representative samples of the following for approval:
 - 1. Air vapor/moisture barrier membrane material.
 - 2. Geo-textiles and detailing sheet as required.
 - 3. Repair grouts.
- A. Installer Certificates – Submit certificates signed by manufacturer certifying that Installers comply with requirements under the "Quality Assurance" Article.

1. QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who is certified in writing and approved by air vapor/moisture barrier manufacturer EPRO Services, Inc. for the installation of material.
- B. Manufacturer Qualification: Obtain air vapor/moisture barrier materials and system components from a single manufacturer EPRO Services, Inc.
- C. Field Sample: Apply air vapor/moisture barrier system field sample to 30 sq./ft. (2.8 sq./m.) of deck or wall to demonstrate surface preparation, joint and crack treatment, thickness, texture, and standard of workmanship.
 - 1. Notify Architect one week in advance of the dates and times when field sample will be prepared.
 - 2. If Architect determines that field sample, does not meet requirements; reapply air vapor/moisture barrier material until field sample is approved.
 - 3. Retain and maintain approved field sample during construction in an undisturbed condition as a standard for judging the completed air vapor/moisture barrier material. An undamaged field sample may become part of the completed Work.
- A. Pre-installation Conference: A pre-installation conference shall be held prior to application of the air vapor/moisture barrier system to assure proper substrate and installation conditions, to include contractor, applicator, architect/engineer and special inspector (if any).

1. DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site as specified by manufacturer labeled with manufacturer's name, product brand name and type, date of manufacture, shelf life, and directions for storing and mixing with other components.
- B. Store materials as specified by the air vapor/moisture barrier manufacturer in a clean, dry, protected location and within the temperature range required by air vapor/moisture barrier manufacturer. Protect stored materials from direct sunlight.
- C. Remove and replace material that cannot be applied within its stated shelf life.

1. PROJECT CONDITIONS

- A. Protect all adjacent areas not to be applied to. Where necessary, apply masking to prevent staining of surfaces to remain exposed wherever membrane abuts to other finish surfaces.
- B. Perform work only when existing and forecasted weather conditions are within manufacturer's recommendations for the material and application method used.
- C. Minimum clearance of 24 inches is required for application of product. For areas with less than 24-inch clearance, the product may be applied by hand.
- D. Ambient temperature shall be within manufacturer's specifications. (Greater than +20°F/-7°C.)
- E. All plumbing, electrical, mechanical and structural items to be under or passing through the membrane shall be positively secured in their proper positions and appropriately protected prior to membrane application.
- F. Air vapor/moisture barrier membrane shall be installed before placement of reinforcing steel. When not possible, all exposed reinforcing steel shall be masked by General Contractor prior to membrane application.

1. WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents, and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Submit a written warranty signed by air vapor/moisture barrier manufacturer and Installer, agreeing to repair or replace air vapor/moisture barrier membrane that does not meet requirements or that does not remain moisture resistant within

the specified warranty period. Warranty does not include failure of air vapor/moisture barrier material due to failure of substrate prepared and treated according to requirements or formation of new joints and cracks in the substrate.

1. Warranty Period: 1 year after date of Substantial Completion.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. ECODAMP; EPRO Services, Inc., Wichita, KS, 800-882-1896

1. Spray-Applied air vapor/moisture barrier ECOBASE.
2. Detailing-mastic ECOLINE-T or ECOLINE-R.
3. Repair-grout QUIK-SET.

2.2 AIR VAPOR/MOISTURE BARRIER MATERIALS

- A. Fluid applied air vapor/moisture barrier system – ECOBASE: a single-course, high-build, polymer modified asphalt emulsion. Waterborne and spray applied at ambient temperatures. A nominal thickness of 40 dry mils (35 mil minimum), unless specified otherwise. Non-toxic and odorless. Manufactured by EPRO Services, L.C.
- B. Fluid applied air vapor/moisture barrier, physical properties.

ECOBASE – TYPICAL CURED PROPERTIES (MEMBRANE ONLY)

Elongation	ASTM D 412-98 A	5380%
Tensile Strength	ASTM D 412-98 A	19 psi
Hydrostatic Water Pressure	ASTM D 751-00	19 psi
Water Degradation	ASTM D 2939-94	No Effect
Adhesion	ASTM C 836	11 lb/inch
Perm Rating	ASTM E 96 95	0.0076
Low Temp. Flexibility	ASTM C 836-00	No Cracking
Shrinkage	ASTM C 836-00	0.02%
Chemical or Environmental Resistance:		
Hydrochloric & Sulfuric		13%

2.3 AUXILIARY MATERIALS

- A. Sheet Flashing: 60-mil reinforced modified asphalt sheet good with double-sided adhesive.

- B. Reinforcing Strip: Manufacturer's recommended polypropylene and polyester fabric.
- C. Repair grout: QUIK-SET a rapid curing, high-build mortar joint repair material.
- D. Joint Detailing Sealant Mastic: ECOLINE-T, a high viscosity polymer modified water based asphalt material.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions under which air vapor/moisture barrier materials will be applied, with Installer present, for compliance with requirements. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

- A. Clean and prepare substrate according to manufacturer's recommendations. Provide clean, dust-free, and dry substrate for air vapor/moisture barrier application. Power washing or sand blasting is an accepted cleaning method on existing structures.
- B. Mask off adjoining surfaces not receiving the air vapor /moisture barrier to prevent spillage or over-spray affecting other construction.
- C. Close off deck drains and other deck penetrations to prevent spillage and migration of fluids.
- D. Remove grease, oil, form release agents, paints, and other penetrating contaminants from concrete.
- E. Remove fins, ridges, and other projections and fill honeycomb, aggregate pockets, grout joints, tie holes, and other voids with ECOLINE-T, hydraulic cement, or rapid-set grout.

3.3 PREPARATIONS AND TREATMENT AT TERMINATIONS AND PENETRATIONS

- A. Prepare vertical surfaces at terminations, at penetrations through substrate, and at expansion joints and sleeves according to ASTM C 898 and manufacturer's recommendations.
 - B. Apply two coats of ECOLINE-T (30 mil each) and embed a joint reinforcing strip in preparation coat and apply a second coat over embedded joint reinforcing strip ensuring its complete saturation and covering.
1. Terminations should be treated 6 inches up vertical and 6 inches on horizontal.

2. Penetrations should be treated in a 6-inch radius around penetration and 3 inches onto penetrating object.

3.4 PREPARATIONS AND TREATMENT OF JOINTS AND CRACKS

- A. Prepare, treat, rout, and fill joints and cracks in substrate according to ASTM C 898 and manufacturer's recommendations. Remove dust and dirt from joints and cracks complying with ASTM D 4258 prior to coating surfaces.
- B. Vertical - Apply two coats of ECOLINE-T mastic, 6 inches on each side of joint and embed a joint reinforcing strip in preparation coat and apply a second coat over embedded joint reinforcing strip ensuring to complete saturation and covering.

3.5 AIR VAPOR/MOISTURE BARRIER APPLICATION

- A. Set up spray equipment according to manufacturer's instructions.
- B. Mix materials according to manufacturer's instructions.
- C. Start installing air vapor/moisture barrier material in presence of manufacturer's technical representative.
- D. Apply air vapor/moisture barrier material, according to manufacturer's recommendations, by spray.
- E. Apply one spray coat of ECOBASE to obtain a seamless membrane free of entrapped gases, with an average dry film thickness of 40 mils (1.0 mm) and a minimum dry film thickness of 35 mils (.875 mm) at any point.
- F. Apply air vapor/moisture barrier material to prepared wall terminations and vertical surfaces to heights indicated according to manufacturer's recommendations and details.
- G. Verify film thickness of air vapor/moisture barrier membrane every 100 sq./ft. (9.3 sq./m.).

3.8 FIELD QUALITY CONTROL

- A. Membrane may be checked for coverage with either a lightly oiled, needle nose depth gauge or a notched we mil gauge, taking four (4) readings over a one square inch area, every 500 square feet. Record the minimum reading. Mark the test area for repair.
- B. Test areas are to be patched over with ECODAMP to a 35- mil minimum dry thickness, extending a minimum of one-inch (1") beyond the test perimeter.

3.9 CURING, PROTECTING, AND CLEANING

- A. Cure air vapor/moisture barrier membrane according to manufacturer's recommendations, taking care to prevent contamination and damage during application stages and curing.
- B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.