SECTION 07195

AIR & VAPOR BARRIER

1 PART 1 GENERAL

1.1 SUMMARY

A. Section provides for a flexible rubberized asphalt, self-sealing air & vapor barrier and accessories.

1.2 REFERENCES

A. American Society for Testing and Materials

1. ASTM E 96 - Test Methods for Water Vapor Transmission of Materials
2. ASTM D 570 - Test Method for Water Absorption of Plastics
3. ASTM E 154 - Test Method for Water Vapor Retarders used in contact with Earth Under Concrete Slabs, on Walls or as Ground Cover
4. ASTM D 1004 - Test Method for Initial Tear Resistance of Plastic Film and Sheeting
5. ASTM D 1938 - Test Method for Tear Propagation Resistance of Plastic Film and Thin Sheeting by a Single-Tear Method
6. ASTM D 1876 - Test Method for Peel Resistance of Adhesives
7. ASTM D 1970 - Standard Specifications for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
8. ASTM D 412 - Test Methods for Vulcanized Rubber & Thermoplastic Rubbers and Thermoplastic Elastomers - Tension

1.3 RELATED DOCUMENTS

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

B. Section 04200 - Unit Masonry.

1.4 SUBMITTALS

A. Product Data and Shop Drawings: Submit Spec-Data¨, details and installation procedures.

B. Test Reports: Indicating compliance with the performance requirements of this section.

C. Samples of air & vapor barrier.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Comply with manufacturer's recommendations for storage and handling of each product.

1.6 WARRANTY

A. Standard Product Warranty:

1. Submit manufacturer's warranty that air & vapor barrier and accessories are free of defects at time of delivery, and are manufactured to meet manufacturer's published physical properties and material specifications.

2. Installer to warrant that air & vapor barrier and accessories have been installed in accordance with manufacturer's recommendations.

2 PART 2 PRODUCTS

2.1 MATERIALS

A. Description: .9 mm (36 mils) of self-adhesive rubberized asphalt integrally bonded to .1 mm (4 mils) of cross-laminated, high-density polyethylene film to provide a min. 1 mm (40 mil) thick membrane. Membrane shall be interleaved with disposable silicone-coated release paper until installed.

B. Performance Requirements:

1. Water Vapor Transmission: ASTM E 96, Method B - 2.9 ng/m2sPa (0.05 perms) maximum

2. Water Absorption: ASTM D 570 - Max. 0.1% by weight

3. Puncture Resistance: ASTM E 154 - 178 N (40 lbs.)

4. Tear Resistance:

a. Initiation - ASTM D 1004 - min. 58 N (7.0 lbs.) M.D.
b. Propagation - ASTM D 1938 - min. 40 N (4.0 lbs.) M.D.

5. Lap Adhesion at –4°C (25°F): ASTM D 1876 - 880 N/m (5.0 lbs./in.) of width

6. Low Temperature Flexibility - ASTM D 1970 - Unaffected to –43°C (-45°F)

7. Tensile Strength: ASTM D 412, Die C Modified - Min. 2.7 MPa (400 psi)

8. Elongation, Ultimate Failure of Rubberized Asphalt: ASTM D 412 - Die C - Min. 200%

C. Product: Perm-A-Barrier Wall Membrane manufactured by Grace Construction Products.

D. Air & Vapor Barrier Accessories:

1. Surface Conditioner:

a. Description: Water-based latex liquid for substrate preparation.
(1) Flash Point: No flash to boiling point

(2) Solvent Type: Water
(3) VOC Content: Not to exceed 125 g/l
(4) Application Temperature: -4°C (25°F) and above
(5) Freeze/Thaw Stability: 5 cycles min.
(6) Freezing point (as packaged): -10°C (14°F)

b. Product: Perm-A-Barrier Surface Conditioner manufactured by Grace Construction Products.

2. Termination Mastic:

a. Description: Rubberized asphalt-based mastic with 200 g/l max. VOC Content.

b. Product: Bituthene® Mastic manufactured by Grace Construction Products.

3. Primer:

a. Description: Water-based latex primer
(1) Specially designed for glass mat surfaced exterior gypsum boards
(2.) VOC Content: Not to exceed 10 g/l

b. Product: Perm-A-Barrier WB Primer by Grace Construction Products.

3 PART 3 EXECUTION

3.1 EXAMINATION

A. Examine conditions, with installer present, for compliance with requirements for installation, tolerances and other specific conditions affecting performance of air & vapor barrier.

3.2 SUBSTRATE PREPARATION

A. Substrate to be smooth and free of voids, spalled areas, loose aggregate and sharp protrusions that would hinder the adhesion or regularity of the air & vapor barrier membrane.

B. Remove all deleterious materials from surfaces to be covered.

[1Dens Glass® is a registered trademark of Georgia-Pacific Corporation]

3.3 INSTALLATION

A. General: Install air & vapor barrier to dry surfaces at air and surface temperatures of –4°C (25°F) and above in accordance with manufacturer's recommendations, at locations indicated on Construction Documents.

B. Air & Vapor Barrier Membrane:

1. Precut pieces of air & vapor barrier into easily-handled lengths.

2. Remove silicone-coated release paper and position membrane carefully before placing length horizontally against the surface.

3. Begin installation at the base of the wall placing top edge of membrane immediately below any masonry reinforcement or ties protruding from substrate.

4. When properly positioned, place against surface by pressing firmly into place. Roll membrane with extension-handled countertop roller immediately after placement.

5. Overlap horizontally-adjacent pieces 50 mm (2 in.) and roll seams.

6. Subsequent sheets of membrane applied above shall be positioned immediately below masonry reinforcement or ties. Bottom edge shall be slit to fit around reinforcing wires or ties, and membrane shall overlap the membrane sheet below by 50 mm (2 in.). Roll firmly into place.

7. Seal around masonry reinforcing or ties and all penetrations with termination mastic.

8. Continue the membrane into all openings in the wall, such as doors, windows, etc., and terminate at points that will prevent visibility from interior.

9. Coordinate the installation of air & vapor barrier with roof installer to ensure continuity of membrane with rooftop air & vapor membrane.

10. At end of each working day seal top edge of air & vapor barrier to substrate with termination mastic.

11. Do not allow the rubberized asphalt surface of the air & vapor barrier membrane to come in contact with polysulfide sealants, creosote, uncured coal tar products or EPDM.

12. Do not expose air & vapor barrier membrane to sunlight for more than thirty days prior to enclosure.

13. Inspect installation prior to enclosing and repair punctures, damaged areas and inadequately lapped seams with a patch of the membrane sized to extend 150 mm (6 in.) in all directions from the perimeter of the affected area.

C. Accessories:

1. When required by dirty or dusty site conditions or by surfaces having irregular or rough texture or if it becomes difficult to adhere the air & vapor barrier to the substrate, apply surface conditioner by spray, brush, or roller at the rate recommended by manufacturer, prior to membrane installation. Allow surface conditioner to dry completely before membrane application.

2. Apply a bead or trowel coat of mastic along membrane edges, seams, cuts, and penetrations.

3. Apply primer by brush or heavy nap, natural-material roller at rate recommended by manufacturer prior to membrane installation. Allow primer to dry completely before membrane application.

…END OF SECTION