

**SECTION 07 26 00**  
**VAPOR RETARDERS**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

PRODUCT DATA SHEET 0 - A. Furnish and install the following:

1. Vapor barriers in wall assemblies.
2. Foamed-in-place insulation / air barrier sealant: applied to seal gaps, cracks, cavities and joints in the building envelope, at door frames, perimeter of window frames, and other similar penetrations in exterior walls.

**1.2 RELATED SECTIONS**

PRODUCT DATA SHEET 1 - Section 02 41 19 – Selective Structure Demolition: Removal of existing partitions, walls and related insulation.

PRODUCT DATA SHEET 2 - Section 06 10 00 – Rough Carpentry: Wood blocking, nailers.

PRODUCT DATA SHEET 3 - Section 07 21 00 – Thermal Insulation: Thermal insulation.

PRODUCT DATA SHEET 4 - Section 09 29 00 – Gypsum BOard: Foil backed gypsum board used as a vapor barrier in exterior walls.

**1.3 REFERENCES**

PRODUCT DATA SHEET 5 - Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Section 01 42 00 - REFERENCES. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.

1. ASTM C 203 – Standard Test Method for Breaking Load and Flexural Properties of Block Type Thermal Insulation.
2. ASTM C 578 - Preformed Cellular Polystyrene Thermal Insulation.
3. ASTM D 570 - Water Absorption of Plastics.
4. ASTM D 1004 - Initial Tear Resistance of Plastic Film and Sheeting.
5. ASTM D 1622 - Apparent Density of Rigid Cellular Plastics.
6. ASTM D 1938 - Tear Propagation Resistance of Plastic Film and Thin Sheeting by a SingleTear Method.
7. ASTM D 1970 - Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
8. ASTM D 2842 - Water Absorption of Rigid Cellular Plastics.
9. ASTM D 2582 - Puncture-Propagation Tear Resistance of Plastic Film and Thin Sheeting.
10. ASTM D 2856 - Open Cell Content of rigid Cellular Plastics by Air Pycnometer.
11. ASTM E 136 - Behavior of Materials in a Vertical Tube Furnace at 750°C.
12. ASTM E 84 - Surface Burning Characteristics of Building Materials.
13. ASTM E 96 - Water Vapor Transmission of Materials.
14. ASTM E 1745 - Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs
15. ASTM E 154 - Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs
16. ASTM E 1643 - Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs
17. NFPA 701 - Fire Tests for Flame Resistant Textiles and Films
18. All applicable federal, state and municipal codes, laws and regulations for thermal insulation and vapor barriers.

#### **1.4 SUBMITTALS**

- A. Submit the following under provisions of Section 01 33 00 – Submittal Procedures:
  - 1. Literature: Manufacturer's product data sheets, specifications, performance data, physical properties for each item furnished hereunder.
  - 2. Manufacturer's installation instructions for placement, seaming and pipe boot installation.

#### **1.5 REGULATORY REQUIREMENTS**

- A. Obtain certificate of compliance from authority having jurisdiction indicating approval of specified products.

#### **1.6 DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials in original packages, containers or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials under cover and in manner to keep them dry, protected from weather, direct sunlight and damage from construction traffic and other causes.

### **PART 2 - PRODUCTS**

#### **2.1 VAPOR BARRIERS WITHIN BUILDING ASSEMBLIES**

- A. Sheet plastic vapor barrier: Clear polyethylene film, 0.006 inches (6 mil) thick provided in full-wall length and width pieces, without joints, wherever possible.

#### **2.2 FOAMED-IN-PLACE INSULATION**

- A. Foamed-in-place insulation for air barrier sealant: UL Class I, two component polyurethane self frothing foam insulation equal to Flexible Products Company, product "Froth-Pak" having the following characteristics:
  - 1. Manufacturers: Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:
    - a. BASF Corp., Polymers Div., Styropar Group, Parsippany NJ.
    - b. Flexible Products Company (Division of Dow Chemical), Marietta GA.
    - c. Universal Protective Coatings, San Rafael CA.
  - 2. Product characteristics.
    - a. Propellant: HCFC or HFC, No CFC's are permitted.
    - b. Apparent Density (ASTM D1622): 1.7 pounds per cubic foot. (with 1.75 pcf HCFC)
    - c. Water Absorption (ASTM D2842): less than 2.5 percent water absorbed.
    - d. Open cell content (D2856): less than 2 percent.
    - e. Apparent aged (18 months) R value: 4.9 per inch.
    - f. Flexural Strength, parallel (ASTM C203): 17 to 23 pounds per square inch.
    - g. Flexural Strength, perpendicular (ASTM C203): 26 to 42 pounds per square inch.
    - h. Flame Spread (ASTM E84): 25 or less (Class 1 rated).
    - i. Smoke Developed (ASTM E84): 350 (Class 1 rated), tested for 2 inch depth.

#### **2.3 ACCESSORIES**

PRODUCT DATA SHEET 6 - Staples, tape, adhesives and fasteners required for the proper and complete installation for work of this Section shall be as recommended by each respective manufacturers of each type of vapor barrier.

- 1. Double-stick tape for attachment of vapor barrier: Double coated acrylic closed-cell foam tape, as manufactured by 3M Industrial Specialties Division, 3M Center Building 220-7E,

St. Paul MN 55144, product “Scotch VHB - 4952” having a thickness of 0.045 inches and a width of 1 inch.

PRODUCT DATA SHEET 7 - Building felt: N°. 15 asphalt impregnated felt.

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

PRODUCT DATA SHEET 8 - Ensure that subsoil is approved by Architect.

PRODUCT DATA SHEET 9 - Level and tamp or roll aggregate, sand or tamped earth base.

#### **3.2 INSTALLATION - VAPOR BARRIERS WITHIN BUILDING ASSEMBLIES**

PRODUCT DATA SHEET 10 - Place vapor and air barrier on warm side of all thermal insulation not scheduled or indicated to be covered by foil faced gypsum board. Attach using commercial grade double stick tape. Lap and seal all sheet joints.

PRODUCT DATA SHEET 11 - Extend vapor and air barrier tight to full perimeter of adjacent window and door frames and other items interrupting the plane of membrane. Tape seal in place.

#### **3.3 INSTALLATION - FOAMED-IN-PLACE AIR BARRIER**

PRODUCT DATA SHEET 12 - Foamed-in-place air barrier: Apply foam in froth method to a uniform monolithic density without voids, in accordance with manufacturer's instructions.

1. Apply application of foam for air barrier seal includes, but is not limited to:
  - a. Door frames, window frames, and similar penetrations in exterior walls.
  - b. Gaps, cracks, cavities and joints in the building envelope, not sealed with other forms of air boots, including electrical boxes and conduit, ducts, fans, and piping.
  - c. Where additionally indicated on Drawings.

**END OF SECTION**