

**SECTION 072616
UNDER SLAB VAPOR RETARDERS**

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Surface preparation.
- B. Application of an under-slab membrane vapor retarder system.

1.02 REFERENCE STANDARDS

- A. ASTM D1709 - Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method; 2024.
- B. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2024.
- C. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2017 (Reapproved 2023).
- D. ASTM F1249 - Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor; 2025.

1.03 RELATED SECTIONS

- A. Section 03 30 00 – Cast-in-Place Concrete.

1.04 REFERENCES

- A. ACI 302.2R - Concrete Slabs that Receive Moisture-Sensitive Flooring Materials—Guide.
- B. ASTM D1709 - Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method.
- C. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
- D. ASTM E154 - Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.
- E. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
- F. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.
- G. ASTM F1249 - Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor.
- H. K124/02/95 - Determination of Radon Transmittance.

1.05 SUBMITTALS

- A. Comply with Section 01 33 00 - Submittal Procedures.
- B. Submit manufacturer's product data and application instructions.

1.06 QUALITY ASSURANCE

- A. Use an experienced installer and adequate number of skilled personnel who are thoroughly trained and experienced in the application of the membrane retarder system.
- B. Obtain membrane retarder materials from a single manufacturer regularly engaged in manufacturing the product.
- C. Provide products which comply with all state and local regulations controlling use of volatile organic compounds (VOCs).

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in manufacturer's original, unopened packaging, with labels clearly identifying the manufacturer and product name.

- B. Store materials in a clean, dry area in accordance with manufacturer's instructions.
- C. Protect materials during handling and application to prevent damage or contamination.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Product is not intended for conditions subject to abuse or permanent exposure to the elements.
- B. Do not apply on frozen ground.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. W. R. MEADOWS, INC., PO Box 338, Hampshire, Illinois 60140-0338. (800) 342-5976. (847) 683-4500. Fax (847) 683-4544. Web Site www.wrmeadows.com.

2.02 MATERIALS

- A. 15- Mil Plastic Vapor Retarder
 - 1. Below-grade vapor retarder manufactured of a new generation of polyolefin-based resin-chemical technology having the following properties:
 - a. Water-Vapor Permeance, ASTM E96: 0.0063 perms.
 - b. Puncture Resistance, ASTM D1709, Method B: greater than 3200 grams.
 - c. Tensile Strength, ASTM E154, Section 9: 70 lb./Force/in. (12.26 kN/m).
 - d. Water-Vapor Permeance, After Wet-Out/Dry-Out and Long-Term Soaking, ASTM E154-Section 8; ASTM E96-Method B: 0.0052 perms.
 - e. Water-Vapor Permeance, Resistance to Plastic Flow and Elevated Temperatures, ASTM E154-Section 11, ASTM E96-Method B: 0.0067 perms.
 - f. Water-Vapor Permeance, Effect Low-Temperature and Flexibility, ASTM E154, Section 12; ASTM E96-Method B: 0.0052 perms.
 - g. Water-Vapor Permeance Resistance to Deterioration from Organisms and Substances in Contacting Soil, ASTM E154-Section 13; ASTM E96-Method B: 0.0052 perms.
 - h. Radon Transmittance (m/s) K124/02/95: 8.7×10^{-9} .
 - i. Radon Coefficient (m²/s): 3.3×10^{-12} .
 - 2. Proprietary-Based Specification:
 - a. PERMINATOR 15-mil by W. R. MEADOWS.

2.03 ACCESSORIES

- A. High density polyethylene tape with pressure sensitive adhesive: PERMINATOR TAPE by W.R. Meadows.
- B. Primer-adhesive: MEL-PRIME by W. R. MEADOWS.
- C. Pipe collars fabricated from PERMINATOR 15-mil vapor retarder and PERMINATOR TAPE by W. R. MEADOWS.
- D. Fluid-applied waterproofing for closely spaced penetration clusters: MEL-ROL LM or MEL-ROL LM LIQUID MEMBRANE Two-Component by W. R. MEADOWS.
- E. Termination bar: TERMINATION BAR by W. R. MEADOWS.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrates to receive the membrane retarder system are deemed appropriate in accordance with manufacturer's current technical literature. Notify architect if substrates are not acceptable. Do not begin the Work until unacceptable conditions have been corrected.

3.02 SURFACE PREPARATION

- A. Prepare substrates in accordance with manufacturer's instructions and ASTM E1643. Reference ACI 302.1R-04, Chapter 4, Section 4.1.4 prior to installation of membrane retarder system.

- B. Remove surface rust, scale, oils and coatings from metal surfaces to receive pressure sensitive tape. Apply primer-adhesive immediately after and allow to tack up before placing pressure sensitive adhesive tape.

3.03 INSTALLATION

- A. Install the membrane retarder in accordance with manufacturer's instructions and ASTM E1643.
- B. Unroll membrane retarder with the long dimension parallel with the direction of the placement of the concrete.
- C. Lap membrane retarder over footings and seal to foundation walls. Position membrane retarder snug to all vertical pipe penetrations.
- D. Overlap all lateral and end joints 6 inches (152 mm) and seal with manufacturer's pressure sensitive tape.
- E. Seal all penetrations, including pipes, with manufacturer's pressure sensitive tape and pipe collar fabricated from the specified 15-mil membrane retarder.
 - 1. Cut a minimum 12-inch (304 mm) wide section by one and a half the pipe circumference with 15-mil membrane retarder. Cut "fingers" one half the width of the section.
 - 2. Wrap non-cut half of pipe collar onto pipe. Apply "fingers" of collar onto surrounding 15-mil membrane retarder.
 - 3. Completely tape pipe collar to pipe and surrounding 15-mil membrane retarder in accordance with this specification, manufacturer's technical data sheet and installation guidelines.
- F. Repair damaged areas with patch sections of the specified membrane retarder. Apply patch sections over compromised areas. Extend 6 inches (152 mm) beyond the damaged onto surrounding membrane. Tape all sides of patch with pressure sensitive tape.

3.04 PROTECTION

- A. Protect and prevent membrane retarder from physical damage until placement of concrete.
- B. Keep UV exposure to no more than 60 days.

END OF SECTION