

Guide Specification

VB-475 (20mil) Vapor Retarder

UNDER-SLAB VAPOR RETARDER (033000&072600)

Version: October 1, 2025

PART I – GENERAL

1.1 SUMMARY

A. Products Supplied Under This Section

1. Vapor Retarder, Seam Tape & Accessories for installation under concrete slabs

B. Related Sections

1. Section 033000 Cast-in-place Concrete
2. Section 072600 Vapor Retarder

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. ASTM E 1745-17 Standard Specification for Plastic Water Vapor Retarders used in Contact with Soil or Granular Fill under Concrete Slabs.
2. ASTM E 154 / E 154M-08 Standard Test Methods for Water Vapor Retarders used in Contact with Earth under Concrete Slabs, on Walls, or as Ground Cover.
3. ASTM E 96-16 Standard Test Methods for Water Vapor Transmission of Materials.
4. ASTM E 1643-18 Selection, Design, Installation, and Inspection of Water Vapor Retarders used in Contact with Earth or Granular Fill under Concrete Slabs.
5. ASTM D 882 Standard Test Method for Tensile Properties of Thin Plastic.
6. ASTM D 1709 Standard Test Method for Impact Resistance of Plastic.
7. ISO / TS 11665-13 Method to test Radon Diffusion Coefficient in Radon-Proof Membrane.
8. ASTM D 1434 Standard Test Method for Determining Gas Permeability.

B. American Concrete Institute (ACI)

1. ACI 302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials. Vapor Retarder component is not less than 10 mils thick.

1.3 SUBMITTALS

A. Quality Control / Assurance

1. Summary of test results as per paragraph 7 of ASTM E 1745.
2. Manufacturer's samples, literature.
3. Manufacturer's installation instructions for placement, seaming and penetration repair

PART II – PRODUCTS

2.1 MATERIALS

A. Vapor Retarder

1. Manufactured with proprietary polyolefin resins
 - a. Minimum 20 mil thick, multi-layer plastic geo-membrane
 - b. Water Vapor Retarder ASTM E 1745 meet or exceed Class A (Plastics)
 - c. Water Vapor Permeance ASTM E 96 0.01 Perms (US)
 - d. Puncture Resistance ASTM E 1709 Class A minimum 4,886 grams
 - e. Tensile Strength ASTM D 882 Class A minimum 93.1 lbf/in



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| | | |
|--------------------------------|---------------|---|
| f. Radon Diffusion Coefficient | ISO/TS1665-13 | $6.6 \times 10^{-12} \text{ m}^2/\text{S}$ |
| g. Methane Premeance | ASTM D1434 | $165.3(\text{cm}^3 / [\text{m}^2 \cdot \text{Atm}^2 \cdot \text{Day}])$ |

B. Approved Manufacturers

1. Barrier-Bac VB475 (20 mil) manufactured by Inteplast Group, 877-535-0555, www.BarrierBac.com
2. Griffolyn 20 mil manufactured by Reef Industries, 800-231-6074, www.reefindustries.com

2.2 ACCESSORIES

A. Seam Tape

1. Tape manufactured and/or supplied by the approved manufacturers listed in section 2.1 Materials (B.)
 - a. Water Vapor Permeance ASTM E 96B <0.1 Perms(maximum)

B. Pipe Boots

1. Construct Pipe Boots from Vapor Retarder material and pressure sensitive tape per manufacturer's instructions.

C. Mastic

1. Mastic must have the following qualities:
 - a. Water Vapor Transmission ASTM E 96 0.1 perms or lower

PART III – EXECUTION 3.1 PREPARATION

A. Ensure that base material is approved by Architect or Geotechnical Engineer

1. Level and compact base material

3.2 INSTALLATION

A. Install vapor retarder in accordance with manufacturer's instructions and ASTM E 1643:

1. Unroll vapor retarder with the longest dimension parallel with the direction of the concrete placement.
2. Lap vapor retarder over footings and/or seal to foundation walls.
3. Overlap joints 6 inches and seal with manufacturer's tape.
4. Seal all penetrations (including pipes) per manufacturer's instructions.
5. No penetration of the vapor retarder is allowed except for reinforcing steel and permanent utilities.
6. Repair damaged areas by cutting patches of vapor retarder, overlapping damaged area 6 inches and taping all sides with tape.