# PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 and 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

A. Products supplied under this section:
   1. Vapor barrier and installation accessories for installation under all concrete slabs except pits.

## 1.3 Related Requirements:

1. Section 033000 “Cast-in-Place Concrete” for concrete assembly over vapor barrier.

## 1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

## 1.5 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. ASTM E1745- 11Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.
   2. ASTM E1643- 11Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.

B. Technical Reference - American Concrete Institute (ACI):
   1. ACI 302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials.

## 1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Summary of test results per paragraph 9.3 of ASTM E1745.
   2. Provide documentation that all mandatory ASTM E1745 testing must be performed on a single production roll per ASTM E1745 Section 8.1.

B. Shop Drawings: Show extent of vapor barrier and installation details.

## 1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: Installing Company should have at least five (5) years of experience in work of the type required by this section, a familiarity with the latest edition of ASTM E 1643, who can comply with manufacturer's installation recommendations, and who is an approved installers as determined by system manufacturer.

B. Manufacturer Qualifications: Vapor barrier shall be provided by a single manufacturer with a minimum of 15 years of experience in the direct production and sales of vaporproofing systems. Accessory products required to meet the installation standard ASTM E1643 shall be provided by the same supplier as the vapor barrier membrane, and should be designed specifically for the intended application of the varying installation components of ASTM E1643. Manufacturer shall be capable of providing field service representation during construction, approving an acceptable installer, and recommending appropriate installation methods in conjunction with the project design team.

1.9 FIELD CONDITIONS

A. Weather Limitations: Proceed with application only when existing and forecasted weather conditions permit vapor barrier installation to be performed according to manufacturers' written instructions.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Source Limitations: Obtain materials from single source from single manufacturer. Provide auxiliary materials recommended in writing by manufacturer of primary materials.

B. VOC Content: Products shall comply with VOC content limits of authorities having jurisdiction.

2.2 UNDER-SLAB VAPOR BARRIER

A. Products: Subject to compliance with requirements, provide one of the following:
   1. Stego Wrap Vapor Barrier (15-mil) by Stego Industries LLC. (Basis of Design)
   2. Vaporguard by Reef Industries
   3. Sundance 15 mil Vapor Barrier by Sundance Inc.

B. Vapor barrier shall have all of the following qualities:
   1. Maintain permeance of less than 0.01 Perms [grains/($ft^2 \cdot hr \cdot inHg$)] as tested in accordance with mandatory conditioning tests per ASTM E1745 Section 7.1 (7.1.1-7.1.5).
   2. Other performance criteria:
      a. Strength: ASTM E1745 Class A.
      b. Thickness: 15 mils minimum

2.3 ACCESSORIES

A. Seams:
   1. Low-Permeance Tape: Stego Tape by Stego Industries or equal by vapor barrier manufacturer.

B. Penetrations of Vapor barrier:
   1. Liquid Applied Vapor Retardant Membrane: Stego Mastic by Stego Industries or equal by vapor barrier manufacturer.
   2. Low-Permeance Tape: Stego Tape by Stego Industries or equal by vapor barrier manufacturer.

C. Perimeter/edge seal:
   1. Perimeter Seal: Stego Crete Claw by Stego Industries or equal by vapor barrier manufacturer.
   2. Termination Bar: Stego Term Bar by Stego Industries or equal by vapor barrier manufacturer.
   3. Double Sided Tape: StegoTack Tape (double sided) by Stego Industries or equal by vapor barrier manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions with Applicator present, for compliance with requirements affecting performance of vapor barrier work.

B. Proceed with application only after substrate construction and penetrating work have been completed and unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Substrates shall be well compacted to produce an even, solid substrate. Remove loose aggregate or sharp protrusions. Remove standing water prior to membrane applications.

B. Ensure that subsoil is approved by Geotechnical Engineer.
   1. Level and compact base material.

3.3 INSTALLATION

A. Install vapor barrier in accordance ASTM E1643 and vapor barrier manufacturer’s written instructions.
   1. Unroll vapor barrier with the longest dimension parallel with the direction of the concrete placement and face laps away from the expected direction of the placement whenever possible.
   2. Extend vapor barrier over footings and grade beams to a distance acceptable to the structural engineer or stop at impediments such as dowels and waterstops.
   3. Seal vapor barrier at the point of termination to foundation wall, grade bream or slab perimeter/edge using manufacturer’s recommended perimeter seal and remove dirt,

debris, and mud from manufacturer's recommended perimeter seal prior to concrete placement or seal vapor barrier to foundation wall, footing/grade beam, or slab with double sided tape and termination bar.

a. Provide a completely sealed installation at all terminations and penetrations.

4. Overlap joints 6 inches and seal with manufacturer's tape.
5. Apply tape/ manufacturer's recommended perimeter seal to a clean and dry vapor barrier.
6. Seal all penetrations (including pipes) per manufacturer's instructions.
7. No penetration of the vapor barrier is allowed except for reinforcing steel and permanent utilities.
8. Repair damaged areas by cutting patches of vapor barrier, overlapping damaged area 6 inches and taping all sides with tape.

END OF SECTION