

## UNDER-SLAB VAPOR BARRIER

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Products supplied under this section:
  - 1. Vapor barrier and installation accessories for installation under concrete slabs.
- B. Related sections:
  - 1. Section 03 30 00 Cast-in-Place Concrete
  - 2. Section 07 26 00 Vapor Retarders

#### 1.2 REFERENCES

- A. ASTM International:
  - 1. ASTM E1745-17 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.
  - 2. ASTM E1643-18a Selection, 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.
  - 2. ACI 302.1R-15 Guide to Concrete Floor and Slab Construction.

#### 1.3 SUBMITTALS

- A. Quality control/assurance:
  - 1. Summary of test results per paragraph 9.3 of ASTM E1745.
  - 2. Manufacturer's samples and literature.
  - 3. Manufacturer's installation instructions for placement, seaming, penetration prevention and repair, and perimeter seal per ASTM E1643.
  - 4. All mandatory ASTM E1745 testing must be performed on a single production roll per ASTM E1745 Section 8.1.

### PART 2 – PRODUCTS

#### 2.1 MATERIALS

- A. Vapor barrier shall have all of the following qualities:
  - 1. Maintain permeance of less than 0.01 Perms [grains/(ft<sup>2</sup> · hr · 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: 20 mils minimum
  - 3. Provide third party documentation that all testing was performed on a single production roll per ASTM E1745 Section 8.1
- B. Vapor barrier products:
  - 1. Basis of Design: Stego Wrap 20-Mil Vapor Barrier by Stego Industries LLC., (877) 464-7834 [www.stegoindustries.com](http://www.stegoindustries.com).
  - 2. No substitutions.

## 2.2 ACCESSORIES

- A. Seams:
  - 1. Stego Tape by Stego Industries LLC, (877) 464-7834 [www.stegoindustries.com](http://www.stegoindustries.com).
- B. Sealing Penetrations of Vapor barrier:
  - 1. Stego Mastic by Stego Industries LLC, (877) 464-7834 [www.stegoindustries.com](http://www.stegoindustries.com).
  - 2. Stego Tape by Stego Industries LLC, (877) 464-7834 [www.stegoindustries.com](http://www.stegoindustries.com).
- C. Perimeter/edge seal:
  - 1. Stego Crete Claw by Stego Industries LLC, (877) 464-7834 [www.stegoindustries.com](http://www.stegoindustries.com).
  - 2. Stego Term Bar by Stego Industries LLC, (877) 464-7834 [www.stegoindustries.com](http://www.stegoindustries.com).
  - 3. StegoTack Tape (double-sided sealant tape) by Stego Industries LLC, (877) 464-7834 [www.stegoindustries.com](http://www.stegoindustries.com).
- D. Penetration Prevention:
  - 1. Beast Foot by Stego Industries LLC, (877) 464-7834 [www.stegoindustries.com](http://www.stegoindustries.com).
  - 2. Beast Form Stake by Stego Industries LLC, (877) 464-7834 [www.stegoindustries.com](http://www.stegoindustries.com).
- E. Vapor Barrier-Safe Screed System
  - 1. Beast Screed by Stego Industries, LLC, (877) 464-7834 [www.stegoindustries.com](http://www.stegoindustries.com).
  - 2. Beast Hook by Stego Industries, LLC, (877) 464-7834 [www.stegoindustries.com](http://www.stegoindustries.com).

## PART 3 – EXECUTION

### 3.1 PREPARATION

- A. Ensure that subsoil is approved by Architect or Geotechnical Engineer.
  - 1. Level and compact base material.

### 3.2 INSTALLATION

- A. Install vapor barrier in accordance ASTM E1643.
  - 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 to the perimeter of the slab. If practicable, terminate it at the top of the slab, otherwise (a) at a point acceptable to the structural engineer or (b) where obstructed by impediments, such as dowels, waterstops, or any other site condition requiring early termination of the vapor barrier. At the point of termination, seal vapor barrier to the foundation wall, grade beam or slab itself.

[Specifier note: The perimeter seal can be handled several ways. When sealing to the slab, Crete Claw is the best option. When sealing to a stem wall or wall, the best option is to use StegoTack Tape or both StegoTack Tape and Stego Term Bar.]

    - a. Seal vapor barrier to the entire slab perimeter using Stego Crete Claw, per manufacturer's instructions.

OR

    - b. Seal vapor barrier to the entire perimeter wall or footing/grade beam with double sided StegoTack Tape, or both Stego Term Bar and StegoTack Tape, per manufacturer's instructions. Ensure the concrete is clean and dry prior to adhering tape.
  - 3. Overlap joints 6 inches and seal with manufacturer's seam tape.

4. Apply seam tape/Crete Claw to a clean and dry vapor barrier.
5. Seal all penetrations (including pipes) per manufacturer's instructions.
6. For interior forming applications, avoid the use of non-permanent stakes driven through vapor barrier. Use Beast Form Stake and Beast Foot as a vapor barrier-safe forming system. Ensure Beast Foot's peel-and-stick adhesive base is fully adhered to the vapor barrier.
7. If non-permanent stakes must be driven through vapor retarder, repair as recommended by vapor retarder manufacturer.
8. Use reinforcing bar supports with base sections that eliminate or minimize the potential for puncture of the vapor barrier.
9. Repair damaged areas with vapor barrier material of similar (or better) permeance, puncture and tensile.
10. For vapor barrier-safe concrete screeding applications, install Beast Screed (vapor barrier-safe screed system) per manufacturer's instructions prior to placing concrete.

END OF SECTION