

UNDER-SLAB VAPOR BARRIER

(Note to Specifier: Pango Wrap Termite/Vapor Barrier is a two-in-one solution. Depending on local and state laws, Pango Wrap may be installed by the Concrete Contractor, the Pest Management Company, or other Specialty Contractors; thus, it is critical the appropriate references are made in each related Section as well as the Drawings.)

PART 1 – GENERAL

1.1 SUMMARY

- A. Products supplied under this section:
 - 1. Termite Control/Vapor barrier and accessories for installation under concrete slabs.
- B. Related sections:
 - 1. Section 03 30 00 Cast-in-Place Concrete
 - 2. Section 31 31 16 Termite Control Barriers
 - 3. 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. Summary of independent testing documenting laboratory and in-field termite resistance testing.
 - 3. Manufacturer's samples and literature.
 - 4. Manufacturer's installation instructions for placement, seaming, penetration prevention and repair, and perimeter seal per ASTM E1643 and any additional procedures to account for subterranean termite protection.
 - 5. Provide documentation that all mandatory ASTM E1745 testing has been performed on a single production roll per ASTM E1745 Section 8.1.
 - 6. Contact termite/vapor barrier manufacturer to schedule a pre-construction meeting and to coordinate a review, in-person or digital, of the vapor barrier installation.
 - 7. Termite/Vapor barrier manufacturer must warrant in writing that the termite barrier (a) will prevent subterranean termite infestation caused by termite penetration of the termite/vapor barrier for a period of five (5) years from the Date of Installation; (b) is constructed without the use of chemical termiticides; (c) complies with the designated ASTM E1745 classification for the Life of the Building, and (d) no manufacturing defects in the product for, at least, the Life of the Building.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Termite/Vapor barrier shall have all of the following qualities:
 - 1. Maintain permeance of 0.01 Perms [$\text{grains}/(\text{ft}^2 \cdot \text{hr} \cdot \text{inHg})$] or less 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. Puncture Resistance per ASTM D4833: 137 Newtons
 - b. ASTM E1745 Class C Minimum
 - c. Thickness: 15 mils minimum

- B. Termite/Vapor barrier products:
 - 1. Basis of Design: Pango Wrap Termite/Vapor Barrier (15-mil) marketed by Stego Industries LLC., (877) 464-7834 www.stegoindustries.com.
 - 2. No substitutions.

2.2 ACCESSORIES

- A. Seams:
 - 1. Pango Tape marketed by Stego Industries LLC, (877) 464-7834 www.stegoindustries.com.
- B. Penetrations of Termite/Vapor barrier:
 - 1. Pango Tape marketed by Stego Industries LLC, (877) 464-7834 www.stegoindustries.com.
 - 2. Pango Claw marketed by Stego Industries LLC, (877) 464-7834 www.stegoindustries.com.
 - 3. Pango Bond marketed by Stego Industries LLC, (877) 464-7834 www.stegoindustries.com.
 - 4. Pango Sealant marketed by Stego Industries LLC, (877) 464-7834 www.stegoindustries.com.
 - 5. Pango Sealant Form marketed by Stego Industries LLC, (877) 464-7834 www.stegoindustries.com.
- C. Perimeter/edge seal:
 - 1. Pango Claw marketed by Stego Industries LLC, (877) 464-7834 www.stegoindustries.com.
 - 2. Pango Bond marketed by Stego Industries LLC, (877) 464-7834 www.stegoindustries.com.
 - 3. Pango Term Bar marketed by Stego Industries LLC, (877) 464-7834 www.stegoindustries.com.
- D. Penetration Prevention:
 - 1. Beast Foot by Stego Industries LLC, (877) 464-7834 www.stegoindustries.com.
 - 2. Beast Form Stake by Stego Industries LLC, (877) 464-7834 www.stegoindustries.com.
- E. Vapor Barrier-Safe Screed System
 - 1. Beast Screed by Stego Industries, LLC, (877) 464-7834 www.stegoindustries.com.
 - 2. Beast Hook by Stego Industries, LLC, (877) 464-7834 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 with ASTM E1643 and manufacturer's instructions.
 - 1. Unroll Pango Wrap Termite/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 Pango Wrap Termite/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, water stops, or any other site condition requiring early termination of the vapor barrier. At the point of termination, seal Pango Wrap Termite/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, Pango Claw tape is the best option. When sealing to a stem wall or wall, the best option is to use Pango Bond and Pango Term Bar.]

 - a. Seal Pango Wrap Termite/Vapor Barrier to the entire slab perimeter using Pango Claw, per manufacturer's instructions.

OR

 - b. Seal Pango Wrap Termite/Vapor Barrier to the entire perimeter wall or footing/grade beam with Pango Bond and Pango Term Bar, per manufacturer's instructions.
 - 3. Overlap joints a minimum of 6 inches and seal with manufacturer's seam tape.
 - 4. Apply Pango Tape and Pango Claw to a clean and dry membrane.
 - 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 Stakes and insert them into Beast Foot. Ensure Beast Foot's peel-and-stick adhesive base is fully adhered to Pango Wrap.
7. Avoid the use of stakes driven through vapor barrier. Utilize Beast Screed and Beast Form Stake, or an alternate screeding/forming system that will not puncture the vapor barrier.
8. Use reinforcing bar supports with base sections that eliminate or minimize the potential for puncture of the vapor barrier.
9. Repair damaged areas prior to concrete placement by cutting patches of Pango Wrap Termite/Vapor Barrier, overlapping damaged area a minimum of 6 inches and taping all sides with Pango Tape.

END OF SECTION