



DRAGO[®] WRAP
VAPOR INTRUSION BARRIER

**INSTALLATION
INSTRUCTIONS**

Engineered protection to create a healthy built environment.

DRAGO® WRAP VAPOR INTRUSION BARRIER INSTALLATION INSTRUCTIONS



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IMPORTANT: Please read these installation instructions completely, prior to beginning any Drago Wrap installation. The following installation instructions are generally based on 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*. There are specific instructions in this document that go beyond what is stated in ASTM E1643 to take into account vapor intrusion mitigation. If project specifications call for compliance with ASTM E1643, then be sure to review the specific installation sections outlined in the standard along with the techniques referenced in these instructions.

UNDER-SLAB INSTRUCTIONS:

Fig.1: UNDER-SLAB INSTALLATION



1. Drago Wrap has been engineered to be installed over a tamped aggregate, sand, or earth base. It is not typically necessary to have a cushion layer or sand base, as Drago Wrap is tough enough to withstand rugged construction environments.

NOTE: Drago Wrap must be installed with the gray facing the subgrade.

2. Unroll Drago Wrap over the area where the slab is to be placed. Drago Wrap should completely cover the concrete placement area. All joints/seams both lateral and butt should be overlapped a minimum of 12 inches and taped using Drago® Tape. (Fig. 1)

NOTE: The area of adhesion should be free from dust, dirt, moisture, and frost to allow maximum adhesion of the pressure-sensitive tape. Ensure that all seams are taped with applied pressure to allow for maximum and continuous adhesion of the pressure-sensitive Drago Tape.

3. ASTM E1643 requires sealing the perimeter of the slab. Extend vapor retarder over footings and seal to foundation wall or grade beam at an elevation consistent with the top of the slab or terminate at impediments such as waterstops or dowels. Consult the structural and environmental engineer of record before proceeding.

Fig.2a: SEAL TO PERIMETER WALL

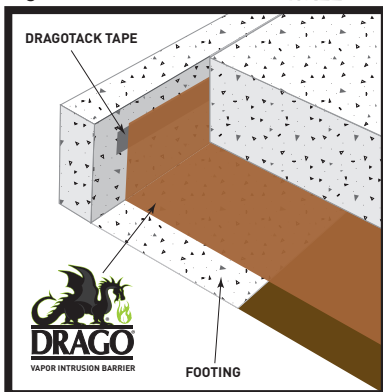
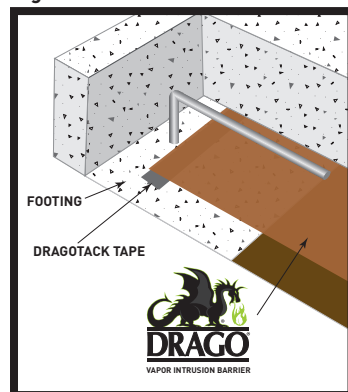


Fig. 2b: SEAL TO FOOTING



SEAL TO PERIMETER WALL OR FOOTING WITH DRAGOTACK™ TAPE: (Fig. 2a and 2b)

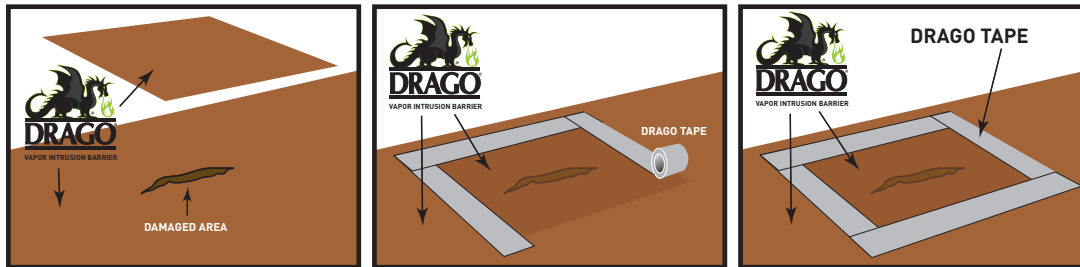
- a. Make sure area of adhesion is free of dust, dirt, debris, moisture, and frost to allow maximum adhesion.
- b. Remove release liner on one side and stick to desired surface.
- c. When ready to apply Drago Wrap, remove the exposed release liner and press firmly against DragoTack Tape to secure.

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4. In the event that Drago Wrap is damaged during or after installation, repairs must be made. Cut a piece of Drago Wrap to a size and shape that covers any damage by a minimum of 6 inches in all directions. Clean all adhesion areas of dust, dirt, moisture, and frost. Tape down all edges using Drago Tape. (Fig. 3)

Fig. 3: SEALING DAMAGED AREAS

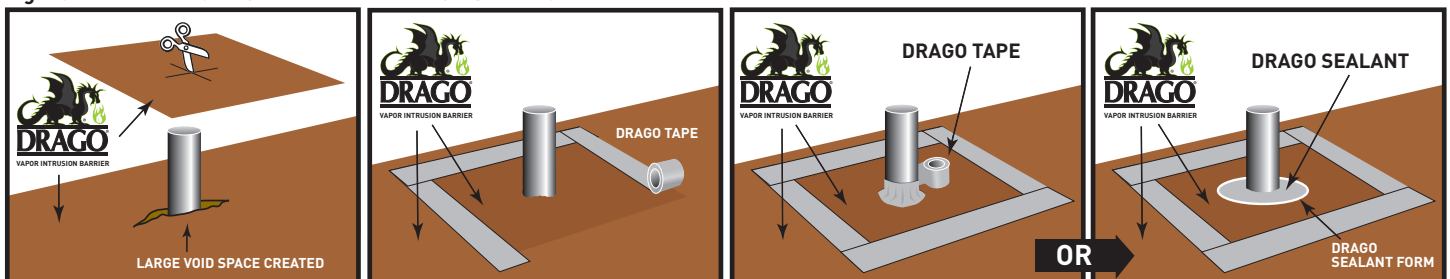


5. **IMPORTANT: ALL PENETRATIONS MUST BE SEALED.** All pipe, ducting, rebar, and block outs should be sealed using Drago Wrap, Drago Tape, and/or Drago® Sealant and Drago® Sealant Form. (Fig. 4a)

Fig. 4a: PIPE PENETRATION SEALING



Fig. 4b: DETAIL PATCH FOR PIPE PENETRATION SEALING



DETAIL PATCH FOR PIPE PENETRATION SEALING: (Fig. 4b)

- Install Drago Wrap around pipe penetrations by slitting/cutting material as needed. Try to minimize void space created.
- If Drago Wrap is close to pipe and void space is minimized, proceed to step d.
- If void space exists, then
 - Cut a detail patch to a size and shape that creates a 6-inch overlap on all edges around the void space at the base of the pipe.
 - Cut an "X" slightly smaller than the size of the pipe diameter in the center of the detail patch and slide tightly over pipe.
 - Tape the edges of the detail patch using Drago Tape.
- Seal around the base of the pipe using Drago Tape and/or Drago Sealant and Drago Sealant Form.
 - If Drago Sealant is used to seal around pipe, make sure Drago Wrap is flush with the base of the penetration prior to pouring Drago Sealant.

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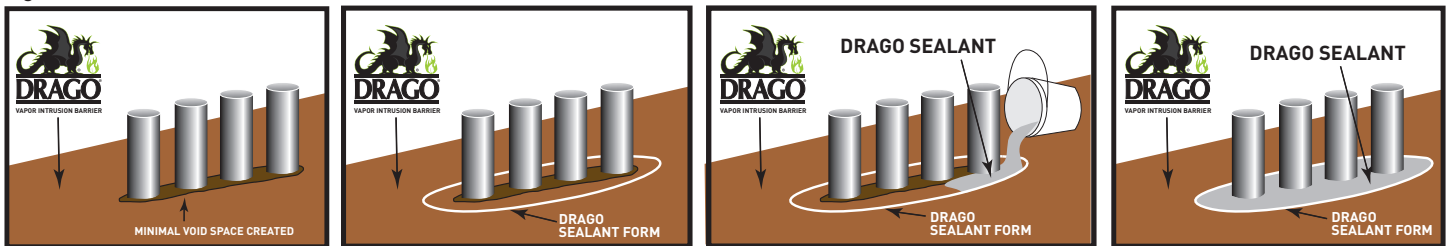
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MULTIPLE PIPE PENETRATION SEALING: (Fig. 5)

NOTE: Multiple pipe penetrations in close proximity may be most efficiently sealed using Drago Wrap, Drago Sealant, and Drago Sealant Form for ease of installation.

- Cut a hole in Drago Wrap such that the membrane fits over and around the base of the pipes as closely as possible, ensuring that it is flush with the base of the penetrations.
- Install Drago Sealant Form continuously around the entire perimeter of the group of penetrations and at least 1 inch beyond the terminating edge of Drago Wrap.
- Pour Drago Sealant inside of Drago Sealant Form to create a seal around the penetrations.
- If the void space between Drago Wrap and the penetrations is not minimized and/or the base course allows for too much drainage of sealant, a second coat of Drago Sealant may need to be poured after the first application has cured.

Fig. 5: MULTIPLE PIPE PENETRATION SEALING



BEAST® CONCRETE ACCESSORIES - VAPOR BARRIER SAFE

Stego Industries recommends the use of BEAST vapor barrier-safe concrete accessories, to help eliminate the use of non-permanent penetrations in Drago Wrap installations.



BEAST® FOOT
FORMING UTILITY



BEAST® SCREED



BEAST® HOOK

IMPORTANT: AN INSTALLATION COMPLETED PER THESE INSTRUCTIONS SHOULD CREATE A MONOLITHIC MEMBRANE BETWEEN ALL INTERIOR INTRUSION PATHWAYS AND VAPOR SOURCES BELOW THE SLAB AS WELL AS AT THE SLAB PERIMETER. THE UNDERLYING SUBBASE SHOULD NOT BE VISIBLE IN ANY AREA WHERE CONCRETE WILL BE PLACED. ADDITIONAL INSTALLATION VALIDATION CAN BE DONE THROUGH SMOKE TESTING. SEE DRAGO WRAP VAPOR INTRUSION SYSTEM SMOKE TESTING FIELD GUIDE FOR ADDITIONAL CONSIDERATIONS.

NOTE: While Drago Wrap installation instructions are based on 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*, these instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above-mentioned installation instructions or products, please call us at 877-464-7834 for technical assistance. While Stego Industries' employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.

