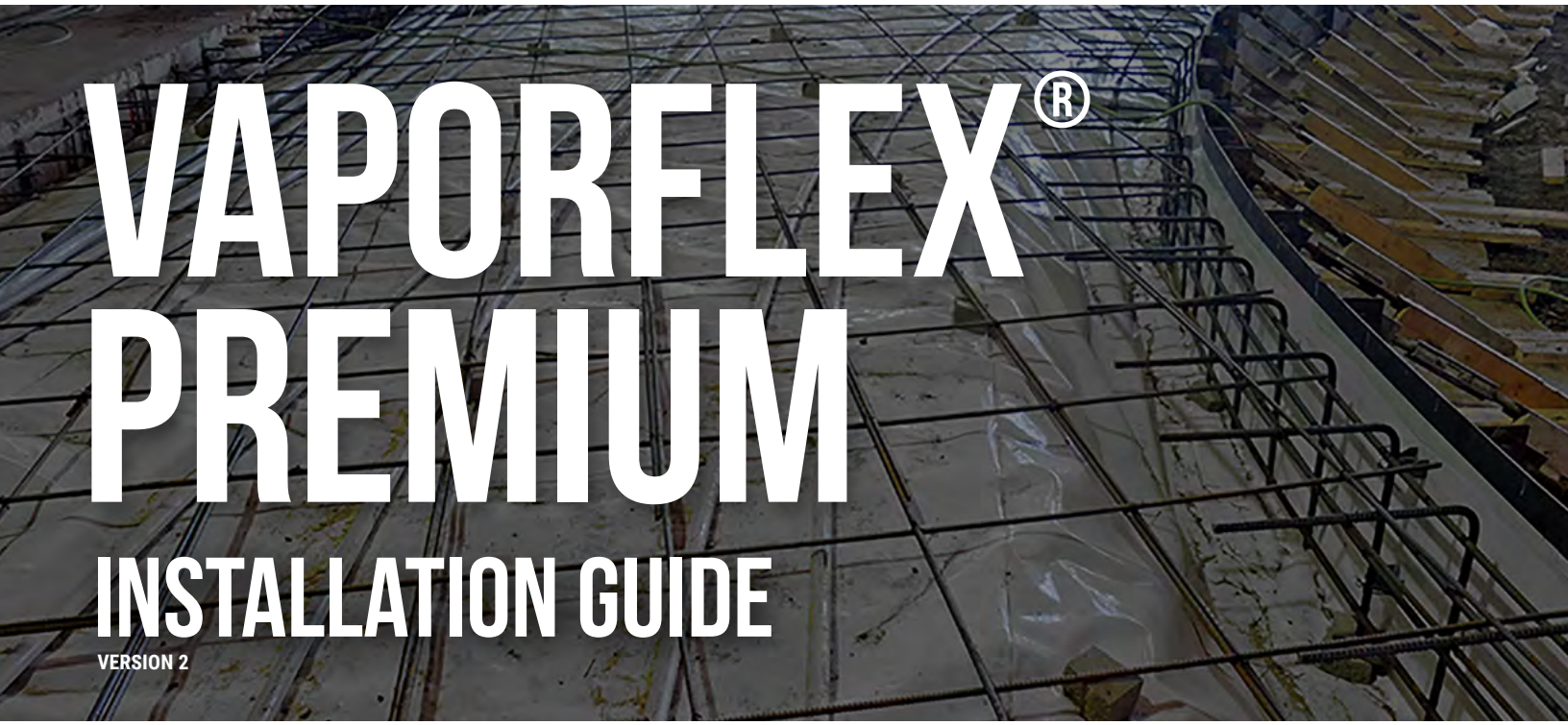
Canada 1.855.530.4226
USA 1.855.894.7436
www.layfieldgroup.com



VAPORFLEX® PREMIUM

INSTALLATION GUIDE

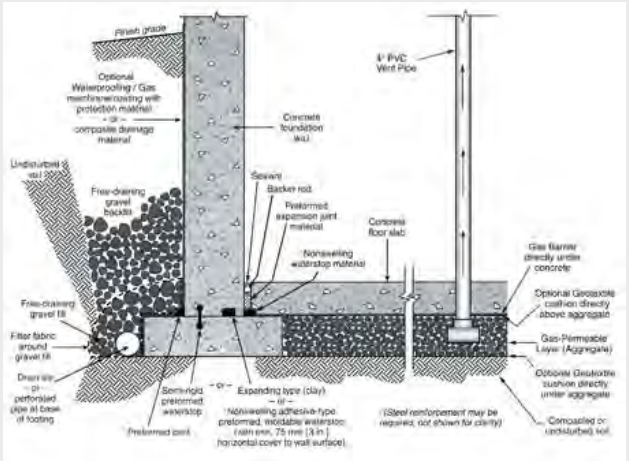
VERSION 2

INSTALLATION GUIDELINES

With VaporFlex® Premium Tape

Read these instructions thoroughly before installation to ensure proper use of VaporFlex® Premium. For additional information regarding the installation of underslab vapor/gas barriers, please refer to ASTM E 1465, ASTM E 2121, and ASTM E 1643. When installing this product, contractors shall conform to all applicable local, state, and federal regulations and laws pertaining to residential and commercial building construction. This document is intended to provide general guidelines for installation of VaporFlex® Premium. It does not account for site specific requirements.

- When VaporFlex® Premium gas barrier is used as part of an active control system for radon or other gas, a ventilation system will be required.
- If designed as a passive system, it is recommended to install a ventilation system that could be converted to an active system if needed.



Elements of a moisture/gas-resistant floor system. General illustration only. (Note: This example shows multiple options for waterstop placement)

VAPORFLEX® PREMIUM
Placement

1. Level and tamp or roll granular base as specified. A base for a gas reduction system may require a 4" to 6" gas-permeable layer of clean coarse aggregate as specified by your architectural or structural drawings after installation of the recommended gas collection system. A cushion layer consisting of a medium-weight LP8 non-woven geotextile fabric shall be placed directly under the VaporFlex® Premium to help protect the barrier from damage from the coarse aggregate gas-permeable layer.

2. Unroll VaporFlex® Premium running the longest dimension parallel with the direction of the pour and pull open all folds to full width. *(Fig. 1)*

3. Lap VaporFlex® Premium over or up the footings and seal with VaporFlex® Premium Butyl 2-Sided Tape. Concrete surfaces should be clean and dry prior to applying VaporFlex® Premium Butyl 2-Sided Tape. Apply even and firm pressure with a rubber roller. Overlap joints a minimum of 6" and seal overlap with 4" VaporFlex® Premium Tape. When used as a gas barrier, overlap joints a minimum of 12" and seal in-between overlap with VaporFlex® Premium Butyl 2-Sided Tape, 4" VaporFlex® Premium Tape centered on the overlap seam. *(Fig. 2)*

PIPE BOOT INSTALLATION
Single Penetration

Seal around all plumbing, conduit, support columns, or other penetrations that penetrate the VaporFlex® Premium membrane.

Method 1:
Pipes four inches or smaller can be sealed with VaporBoot Plus preformed pipe boots. VaporBoot Plus preformed pipe boots are formed in steps for 1", 2", 3", and 4" PVC pipe or IPS size and are sold in units of 12 per box *(Fig. 3 & 5)*. Pipe boots may also be fabricated from excess VaporFlex® Premium membrane *(Fig. 4 & 6)* and sealed with VaporFlex® Premium Tape (sold separately).

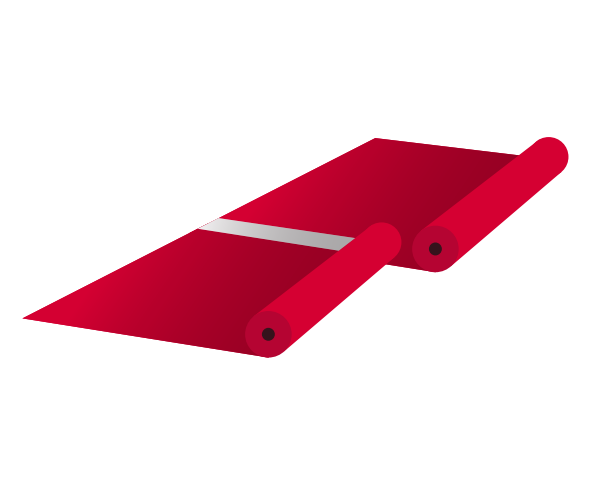


Figure 1:
VaporFlex® Premium overlapping roll-out method.

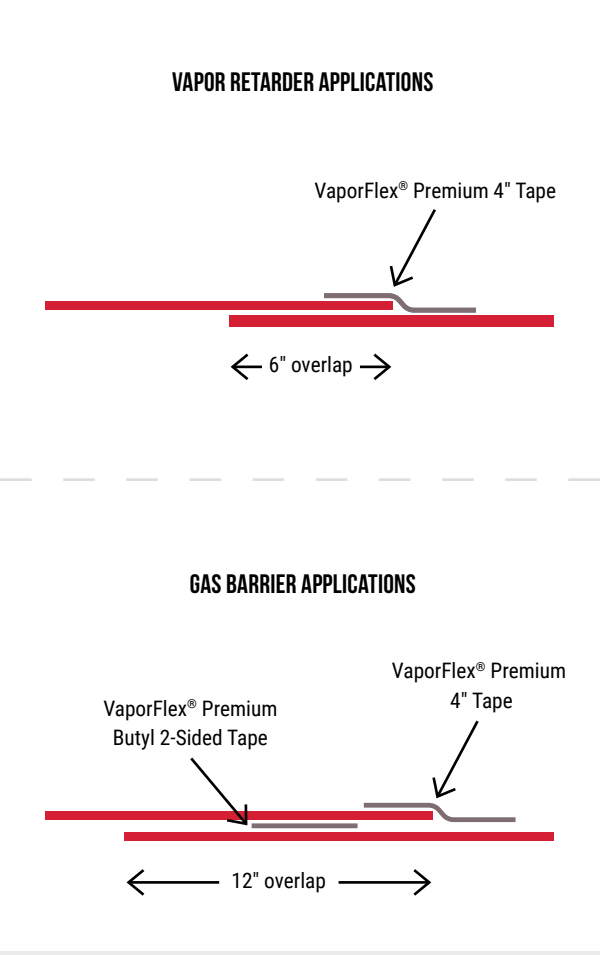


Figure 2:
VaporFlex® Premium overlap joint sealing methods.

Method 2:

To fabricate pipe boots from VaporFlex® Premium excess material *(Fig. 4 & 6 for A–F)*:

A) Cut a square large enough to overlap 12" in all directions.

B) Mark where to cut opening on the center of the square and cut four to eight slices about 3/8" less than the diameter of the pipe.

C) Force the square over the pipe, leaving the tightly stretched cut area around the bottom of the pipe with approximately a 1/2" of the boot material running vertically up the pipe. (No more than a 1/2" of stretched boot material is recommended).

D) Once the boot is positioned, seal the perimeter to the membrane by applying VaporFlex® Premium Butyl 2-Sided Tape in between the two layers. Secure the boot down firmly over the membrane, taking care not to have any large folds or creases.

E) Use VaporFlex® Premium Tape to secure the boot to the pipe by wrapping it around the pipe, allowing 1" extra for overlap sealing. Work the tape outward gradually forming a complete seal.

F) Complete the process by taping over the boot perimeter edge with VaporFlex® Premium Tape to create a monolithic membrane between the surface of the slab and gas/moisture sources below and at the slab perimeter. *(Fig. 4 & 6)*

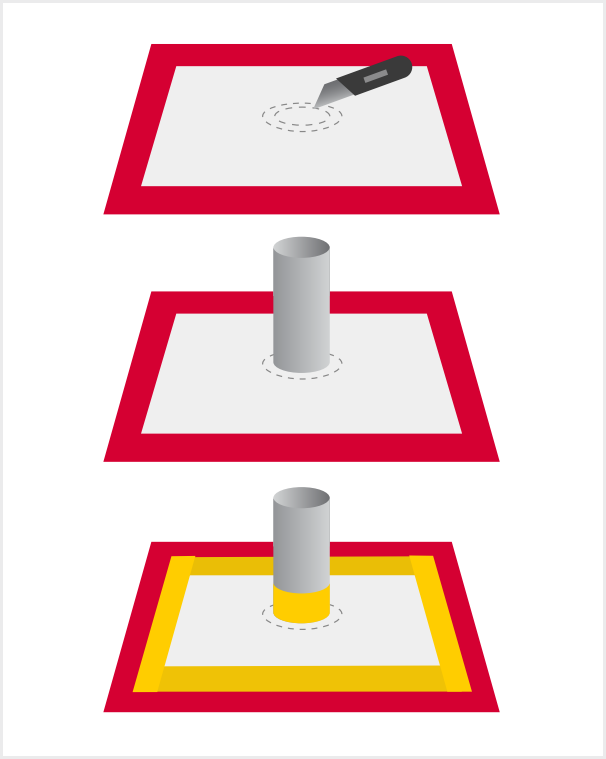


Figure 3: Method 1

Cut out one of the preformed boot steps (1" to 4"). Tape the underside boot perimeter with VaporFlex® Premium Butyl 2-Sided Tape. Force the boot over the pipe and press tape firmly in place. Use VaporFlex® Premium Tape to secure the boot to the pipe. Tape around the entire boot edge with VaporFlex® Premium Tape.

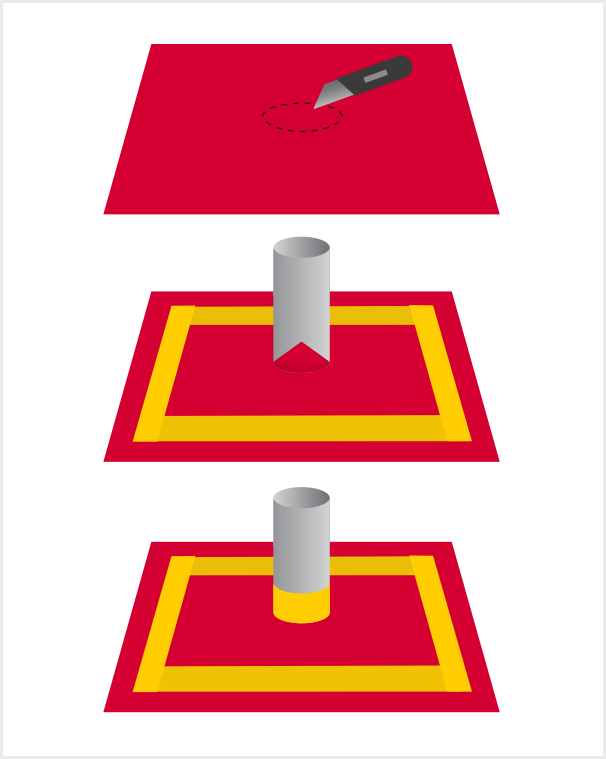


Figure 4: Method 2

Cut a square of VaporFlex® Premium barrier to extend at least 12" from the pipe in all directions. Cut four to eight slices about 3/8" less than the diameter of the pipe. Force over pipe and tape the underside boot prerimiter to existing barrier with 2-sided butyl tape. Tape over the boot perimeter edge with VaporFlex® Premium Tape.

PIPE BOOT INSTALLATION

Multiple Penetration

Option 1

Sealing side-by-side multiple penetrations:

1. Cut a patch large enough to overlap 12" in all directions *(Fig. 7)* of penetrations.
2. Mark where to cut openings and cut four to eight slices about 3/8" less than the diameter of the penetration for each.
3. Force patch material over penetration to achieve a tight fit and form a lip.
4. Once the patch is positioned, seal the perimeter to the membrane by applying VaporFlex® Premium Butyl 2-Sided Tape in-between the two layers. *(Fig. 8)*
5. After applying VaporFlex® Premium Butyl 2-Sided Tape between the patch and membrane, tape around each of the penetrations and the patch with VaporFlex® Premium 4" Tape. *(Fig. 9)* For additional protection, apply POUR-N-SEAL™ or an acceptable polyurethane elastomeric sealant such as Lepage Acousti-Seal Vapor Barrier Adhesive around the penetrations. *(Fig. 10)*

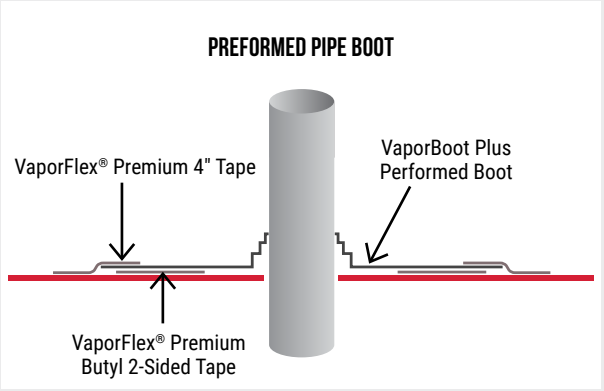


Figure 5

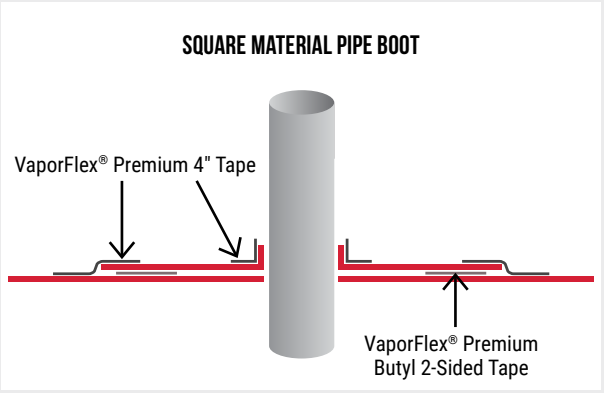


Figure 6

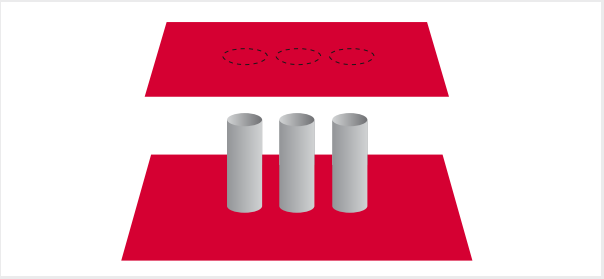


Figure 7: Cut a patch large enough to overlap 12" in all directions and slide over penetrations. (Make openings as tight as possible.)

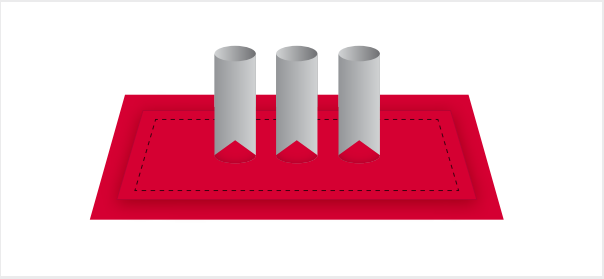


Figure 8: Once the overlay patch is positioned, seal the perimeter to the membrane by applying VaporFlex® Premium Butyl 2-Sided Tape in-between the two layers.

Option 2

POUR-N-SEAL™ method of sealing side-by-side multiple penetrations:

1. Install the vapor barrier as closely as possible to pipe penetrations to minimize the amount of POUR-N-SEAL™ necessary to seal around all penetrations.
2. Once the barrier is in place, remove soil or other particles with a dry cloth or a fine broom to allow for improved adhesion to the POUR-N-SEAL™ liquid.
3. Create a dam around the penetration area approximately 2" away from the pipe or other vertical penetrations by removing the release liner from the back of a 1" weather stripping foam and adhere it to the vapor barrier. Form a complete circle to contain the POUR-N-SEAL™ materials. *(Fig. 11)*
4. Once mixed, pour contents around the pipe penetrations. If needed, a brush or a flat wooden stick can be used to direct the sealant completely around penetrations, creating a complete seal. *(Fig. 11)*
5. **Do not** leave excess POUR-N-SEAL™ in the container for longer than the time it takes to pour the sealant.

VAPORFLEX® PREMIUM

Repair Instructions

1. Proper installation requires all holes and openings to be repaired prior to placing concrete. When patching small holes, simply cut a 12" long piece of 12" wide VaporFlex® Premium Tape. Remove the release liner and center it over the opening. Apply pressure to create a seal. *(Fig. 12)*
2. When installing VaporFlex® Premium around pipe penetrations, vertical columns, electrical ducts, and other obstructions, you will find it necessary to cut it to the nearest outside edge. This cut can be easily sealed with 12" wide VaporFlex® Premium Tape by simply centering it over the cut, 6" on either side. Once the tape is placed correctly, apply pressure to ensure a complete seal. *(Fig. 13)*

Reminder Note:

All holes or penetrations through the membrane will need to be patched with 12" VaporFlex® Premium Tape.

Figure 9:
After applying tape between the patch and membrane, tape around the perimeter of the penetration and the patch with VaporFlex® Premium 4" Tape.

Figure 10:
For additional protection apply POUR-N-SEAL™ or an acceptable polyurethane elastomeric sealant around the penetrations.

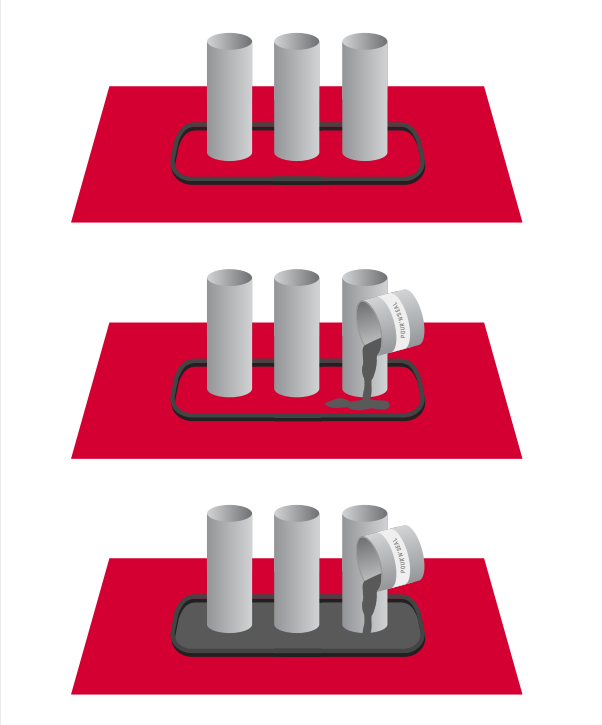


Figure 11

VAPORFLEX® PREMIUM
Protection

1. When installing reinforcing steel and utilities, in addition to the placement of concrete, take precaution to protect VaporFlex® Premium. Carelessness during installation can damage the most puncture-resistant membrane. Sheets of plywood cushioned with geotextile fabric, temporarily placed on VaporFlex® Premium, provide additional protection in high-traffic areas, including concrete buggies.
2. Use only brick-type or chair-type reinforcing bar supports to protect VaporFlex® Premium from puncture.
3. Avoid driving stakes through VaporFlex® Premium. If this cannot be avoided, each individual hole must be repaired as per "VaporFlex® Premium Repair Instructions" section.
4. To avoid penetrating VaporFlex® Premium when installing screed supports, utilize non-penetrating support, such as the Mako® Screed Support System. *(Fig. 14)* Avoid driving stakes through VaporFlex® Premium. If this cannot be avoided, each individual hole must be repaired. *(Fig. 12)*
5. If a cushion or blotter layer is required in the design between VaporFlex® Premium and the slab, additional care should be given if sharp crushed rock is used. Washed rock will provide less chance of damage during placement. Care must be taken to protect the blotter layer from precipitation before concrete is placed.

VaporFlex® Premium Tape
4" x 160' (SKU 470P4160CS)

VaporFlex® Premium Butyl
2-Sided Tape 2" x 50'
(SKU 696TAPE25)

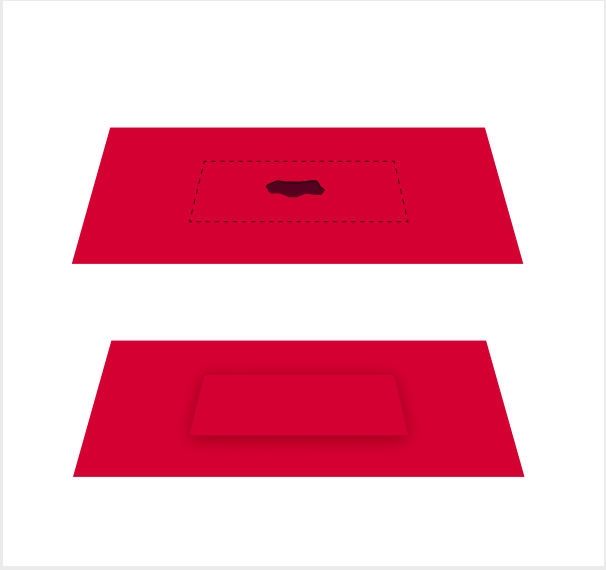


Figure 12

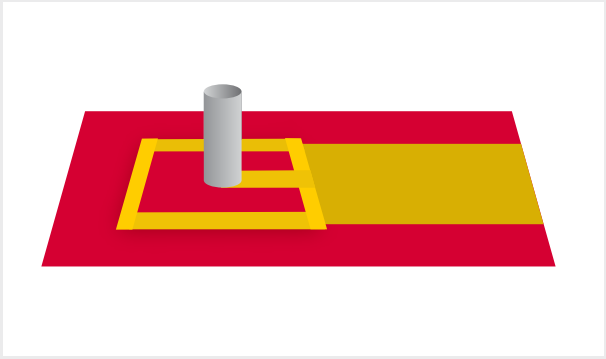


Figure 13

Figure 14