FICHE D'INSTALLATION
TM510 VB – TM515 VB – TM520 VBP

PRODUCT DESCRIPTION

TM510 VB and TM515 VB geomembranes are high-performance under-slab vapor barriers designed to retard moisture migration through concrete slabs. This product is manufactured from advanced polyethylene resins offering superior physical properties and performance that far exceed the requirements of ASTM E-1745 classes A, B and C (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs).

TM520 VBP geomembrane is made from seven layers of polyethylene and EVOH (ethylene vinyl alcohol) resins. It features high impact strength and superior resistance to gas and moisture transmission. In addition, it is highly resistant and designed to prevent natural gases such as radon or methane from migrating through the soil and concrete slab.

PLEASE NOTE THAT FOR THE REMAINDER OF THIS DOCUMENT ONLY THE NAME TM520 VBP WILL BE USED, BUT THAT THESE INSTRUCTIONS ARE VALID FOR TM510 VB, TM515 VB AND TM520 VBP.

POSITIONING THE TM520 VBP

1. Level and ensure that the granular base is free of particles that could perforate the geomembrane.
   Optional: Place a non-woven geotextile under the TM520 VBP for added protection.
2. Unroll the TM520 VBP on the longest dimension parallel to the direction of casting.
3. For vapor-barrier applications: Overlap two panels by at least 15 cm and seal the joint with 10 cm VaporSeal adhesive tape.
   For gas-barrier applications: Overlap by 30 cm and use additional double-sided adhesive tape (Butyl Seal Tape) between the two pieces, in addition to the tape used to close the joint.
4. Seal the TM520 VBP with tape at the wall and footing connection. Make sure concrete surfaces are clean and dry before applying tape.

Figure 1: Sealing overlap joints

INSTALLATION AROUND AN OBJECT PASSING THROUGH THE TM520 VBP GEOMEMBRANE

The TM520 VBP must be sealed around any pipes, ducts, columns or other objects passing through the membrane.

Method 1: Using a preformed sealing boot

Pipes from 1.5 to 10 cm in diameter can be sealed with a preformed sealing boot.

1. Cut out the perforated hole representing the desired size in the mold.
2. Apply 2-sided adhesive tape around the perimeter under the mold.
3. Insert the mold over the pipe and press firmly to adhere the 2-sided tape to the TM520 VBP.
4. Apply tape around the mold and pipe and around the mold and TM520 VBP to seal all joints.

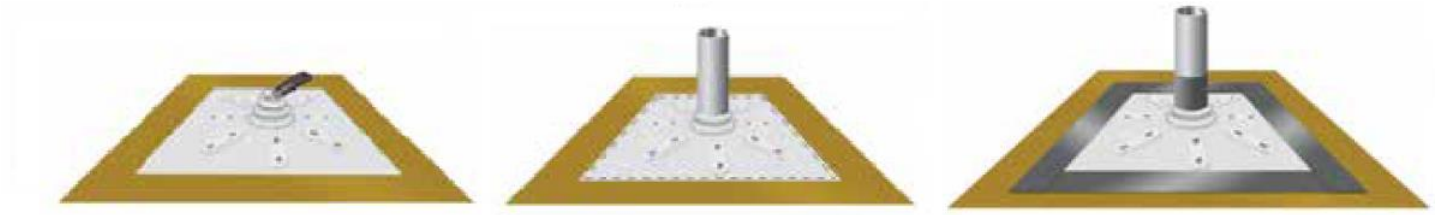

Figure 2: Sealing the joints around a pipe with a prefabricated sealing boot

Method 2: Using a piece of spare from the TM520 VBP

Any perforation on the TM520 VBP can be closed with a piece of TM520 VBP.

1. Cut a piece of TM520 VBP wide enough to provide a 30 cm overlap in all directions around the perforation.
2. Make 4 to 8 cuts from the center of the piece about 1 cm shorter than the diameter of the object passing through the geomembrane.
3. Force the piece over the obstacle, leaving about 12 mm of the piece to run vertically up the obstacle.
4. Apply double-sided tape to the perimeter under the piece, to adhere to the existing TM520 VBP.
5. Apply tape around the obstacle and the TM520 VBP piece to seal the joint.

Figure 3: Closing a perforation with a piece of TM520 VBP

INSTALLATION WITH SEVERAL OBJECTS PASSING THROUGH THE GEOMEMBRANE

Method 1: Using a piece of spare TM520 VBP

1. Cut a piece of TM520 VBP wide enough to provide a 30 cm overlap in all directions around the perforations.
2. Mark the spot on the piece where the openings will be and cut 4 to 8 cuts about 1 cm shorter than the diameter of the object passing through the TM520 VBP.
3. Force the piece over the obstacle, leaving about 12 mm of the piece running vertically up the obstacle.
4. Once the piece is in place, apply double-sided tape to the perimeter, under the piece, to adhere to the existing TM520 VBP.
5. Apply tape around the obstacles and the TM520 VBP piece to seal the joint.
6. Apply tape around the TM520 VBP piece to finish sealing the perforations.

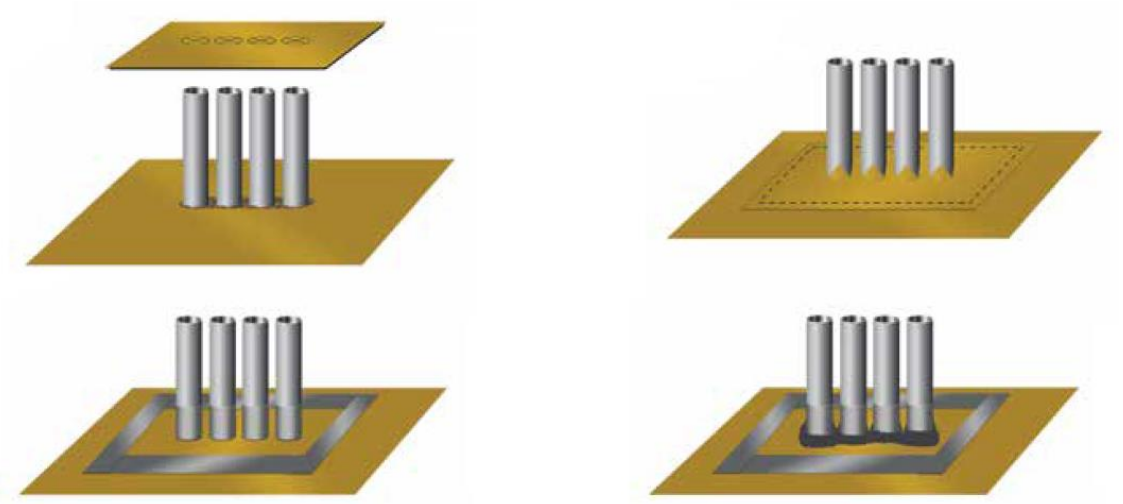

Figure 4: Closing several perforations with a piece of TM520 VBP

Method 2: Using epoxy adhesive (POUR-N-SEAL™)

1. Install the TM520 VBP as close as possible to the perforations to minimize the amount of epoxy resin required.
2. Once the TM520 VBP has been installed, clean the surface with a dry cloth or fine broom to ensure better adhesion of the epoxy resin.
3. Create a dam around the perforation area, at 5 cm from the perforations, and adhere it firmly to the TM520 VBP.

4. Once mixed, pour the epoxy resin around the perforations. If necessary, a flat wooden stick can be used to spread the product completely around the perforations.
5. Do not leave the epoxy resin in the plastic container longer than the time required to pour the product.

Figure 5: Closing several perforations with epoxy resin

REPAIRING THE TM520 VBP

All holes and perforations in the TM520 VBP must be repaired before the concrete is poured. Simply cut a 30 cm-long piece of 30 cm-wide adhesive tape. When fitting, apply strong pressure to ensure a good seal.

Figure 6: Repairing holes in the TM520 VBP

When installing the TM520 VBP around an obstacle, it is sometimes necessary to make a cut towards the nearest outer end. This cut can be easily closed using the 30 cm wide adhesive tape. Apply 15 cm of the tape on each side and apply strong pressure to ensure a good seal.

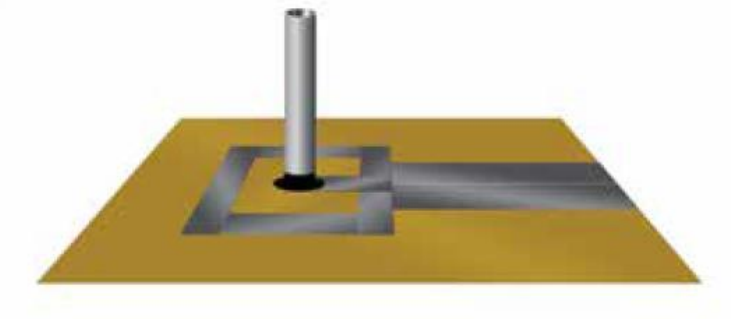

Figure 7: Cut repair in TM520 VBP

TM520 VBP PROTECTION

When installing rebar, pay particular attention to the TM520 VBP. Careless installation can damage the membrane. In addition, a sheet of plywood with geotextile can be temporarily installed over the TM520 VBP to protect high-traffic areas.

Information on the adhesive tapes used

Property	Vapor Seal Tape	Butyl Seal Tape
Color	Silver	Black
Type	Single-sided	Double-sided
Size	10 cm x 50 m / 30 cm x 15 m	5 cm x 15 m / 15 cm x 15m
Minimum application temperature	10° C (50° F)	2° C (35° F)

Information on recommended epoxy resin (POUR-N-SEAL™)

Property	Test Method	Result
Tensile elongation	ASTM D-638	1.2 %
Shore hardness	Scale D	86 D
Deformation temperature	ASTM D-648	49° C (120° F)
Water absorption	ASTM D-570	< 1%