



DMX Drain 5X™ Installation Manual

Version 1.0

Intro to DMX Drain 5X™

DMX Drain 5X™ is recommended for the following applications:

- Shallow Foundation Walls (<16 feet)
- Retaining Walls
- Poured or Precast Concrete Walls
- ICF (Insulated Concrete Form) Foundations
- Prefabricated Tilt Up Walls
- Hillside Construction

DMX Drain 5X™ compliments a liquid applied or sheet applied waterproofing product for a total systems approach to waterproofing.

DMX Drain 5X™ provides excellent protection of residential and light commercial structural components during the concrete pour and diffuses hydrostatic pressure around any structure to promote positive drainage outlets.

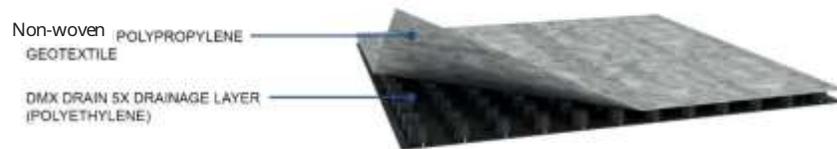


Figure 1 DMX Drain 5X™ Sample Iso

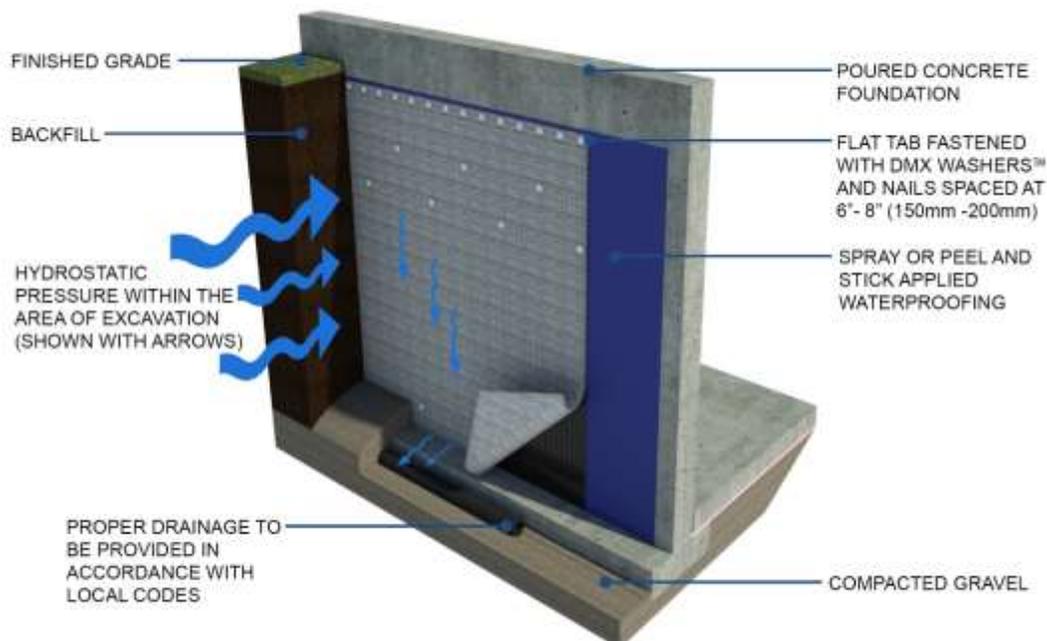


Figure 2 DMX Drain 5X™ on Poured Concrete Foundation



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1.0 Getting Started

This section applies to supplies, tools and preparation that will be required for a proper installation of DMX Drain 5X™.

1.1 Supplies Required

Rolls of DMX Drain 5X™	<ul style="list-style-type: none"> ❖ 1 roll equals 50ft. (15.25m) in length. ❖ Choose the height that matches the distance from the footing to the grade line. ❖ Available Dimensions: <ul style="list-style-type: none"> • 1.53m x 15.25m (5' x 50') • 1.98m x 15.25m (6'- 6" x 50') • 2.44m x 15.25m (8' x 50')
DMX FlexTrim™	<ul style="list-style-type: none"> ❖ The DMX FlexTrim™ prevents dirt from getting between the membrane and the wall. Can also be used for protection, over the finished flat tab.
DMX Washers™	<ul style="list-style-type: none"> ❖ For use with nails or screws (ICF) on both the flat tab and dimpled section of membrane. ❖ DMX approves the use of washers as follows: <ul style="list-style-type: none"> • Flat Tab on Membrane: Plastic Washers or FlexTrim™ • Dimpled Section of Membrane: Plastic Washers ❖ Approximately 150 washers required per roll of DMX Drain 5X™.
1 ¼" – 1 ½" Concrete Nails (for Block or Poured Concrete Foundations) OR 1 ½" Deck or Drywall Screws (for ICF or PWF foundations)	<ul style="list-style-type: none"> ❖ For fastening the flat tab at the top of the DMX Drain 5X™ to the foundation. Use one nail or screw with a washer every 6 to 8 inches* (150 to 200 mm). ❖ For Fastening DMX Washers™ ❖ For Fastening FlexTrim™ ❖ For Fastening the flat tab at the top of DMX Drain 5X™ to ICF. Use one screw with washer every 8" or 12" on center depending on ICF Manufacturer

1.2 Recommended Tools

Adapter	❖ For holding the DMX Washers™ when you are using a power nail gun.
Chalk Line	❖ For marking the grade level on the foundation wall.
Drill	❖ For ICF or PWF Foundations. Cordless being the most convenient.
Hammer or Power Nail Gun	❖ For poured or concrete block foundations. ❖ New or green concrete can be nailed by hand. Cured walls and block walls are more easily dealt with using a power nail gun.
Utility Knife	❖ For cutting the membrane.

1.3 Preparing the Site

- ❖ Make sure the foundation is clean at the grade level.
- ❖ Clear off the footing. This makes it easier to roll out the membrane smoothly. We recommend that you install the membrane **before** covering the drainage tile with stone, or at least keep the stone away from the footing until after the membrane is installed.
- ❖ For poured concrete foundations fill all tie holes left from form work with sealant.
- ❖ Ensure proper drainage at the footing in accordance with local Code Requirements.

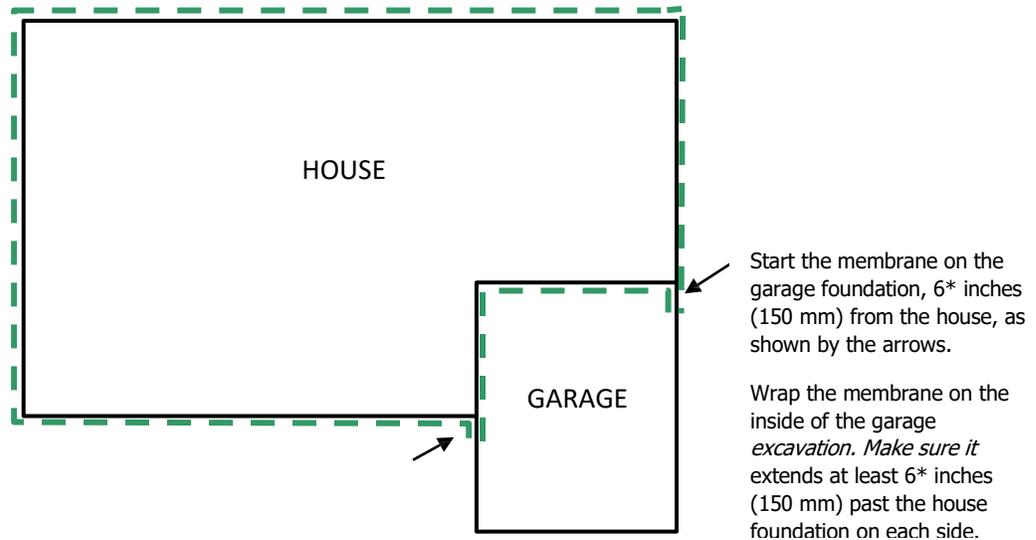
Drainage is vital to the success of your project, and the optimum performance of DMX Drain 5X™. Any moisture that collects behind the membrane is designed to flow to the drainage tile at the footing. It is extremely important for the drainage tile to be functioning properly.

- ❖ DMX Drain 5X™ can be installed in any type of weather, we suggest for productive installations that DMX Drain 5X™ not be installed in temperatures below 14°F (-10°C).
- ❖ When dewatering, follow local By-Laws/Rules about discharging rainwater on public or private property.

1.4 Where to Begin?

When wrapping the entire foundation, start away from any corners or angles in the wall. This will allow the membrane to be overlapped in a convenient place.

If the foundation has an attached garage, wrap the exterior walls of the house, as well as the inside of the garage excavation where the foundation of the house meets the garage. The membrane should extend at least 6 inches (150mm) past the foundation of the house.



2.0 Block or Poured Concrete Foundations

This section applies to DMX Drain 5X™ installation on block and poured concrete foundations.

2.1 Installing DMX Drain 5X™

1. Snap a chalk line one inch below grade level on the foundation wall.
2. Make sure the fabric side is placed away from the foundation wall facing towards the backfill. Roll out a small amount of DMX Drain 5X™ with the flat tab lining up with the chalk line and the bottom of the roll lining up at the top of the footing. Keep the membrane as tight as possible while unrolling.
3. When installing DMX Drain 5X™ on Block Wall Foundations, waterproofing is recommended over dampproofing due to the high permeability of Block Wall Foundations.
4. Secure the membrane to the foundation wall with DMX Washers™ and concrete nails. Please note, steel washers are not recommended as they may damage the membrane.

Position the DMX Washers™ in the flat tab, 6 – 8 inches (150mm – 200mm) apart, secure in place with 1 ¼" concrete nails.

Install the DMX Washers™ in the dimpled section, in accordance with the diagram, below the tab with the washers spaced 12 – 14 inches (300mm – 350mm) apart. (Refer to Figure 3)

5. Insert a final row of DMX Washers™ approximately 6" (150mm) above the footing while spacing them 10 ft. apart. This final row of washers will prevent the crushed stone from getting under the membrane.

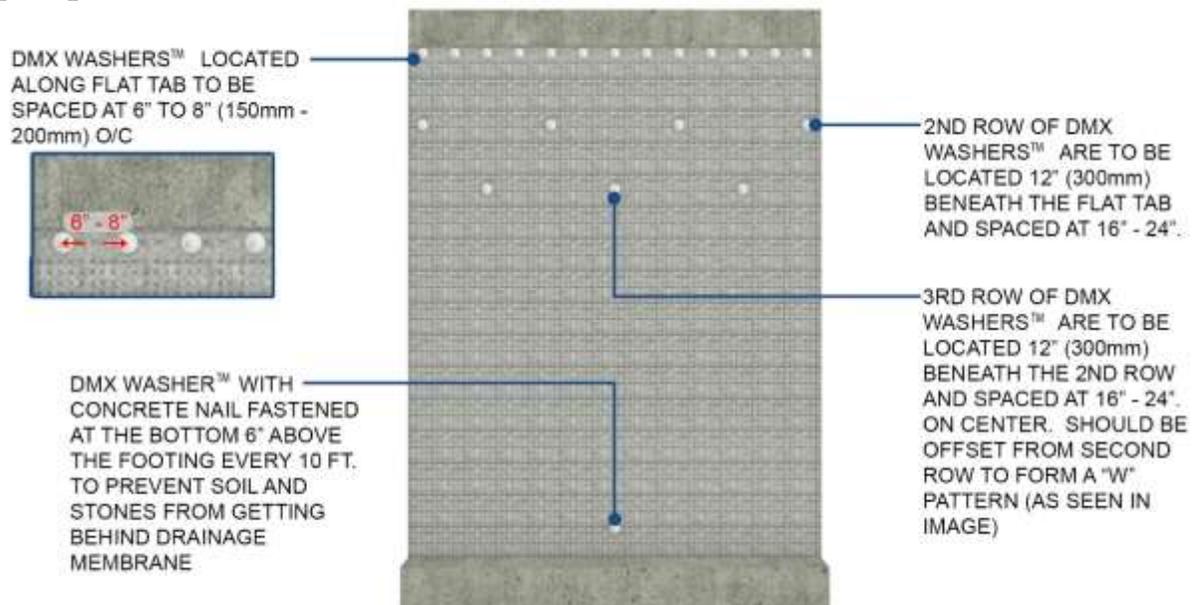


Figure 3 Washer Placement

2.2 Wrapping Around Corners

It is important to fit DMX Drain 5X™ tightly to all corners. Fasten the membrane near the top and bottom by inserting DMX Washers™ at least 6 inches (150mm) back from the outside corners and 6 inches (150mm) from inside corners. (*Note: Fastening the membrane too close to outside corners can cause the corner to crack.*) (Refer to Figure 4)

TIP: The use of a 2" x 4" wood stud will help form and hold the shape of interior corners.

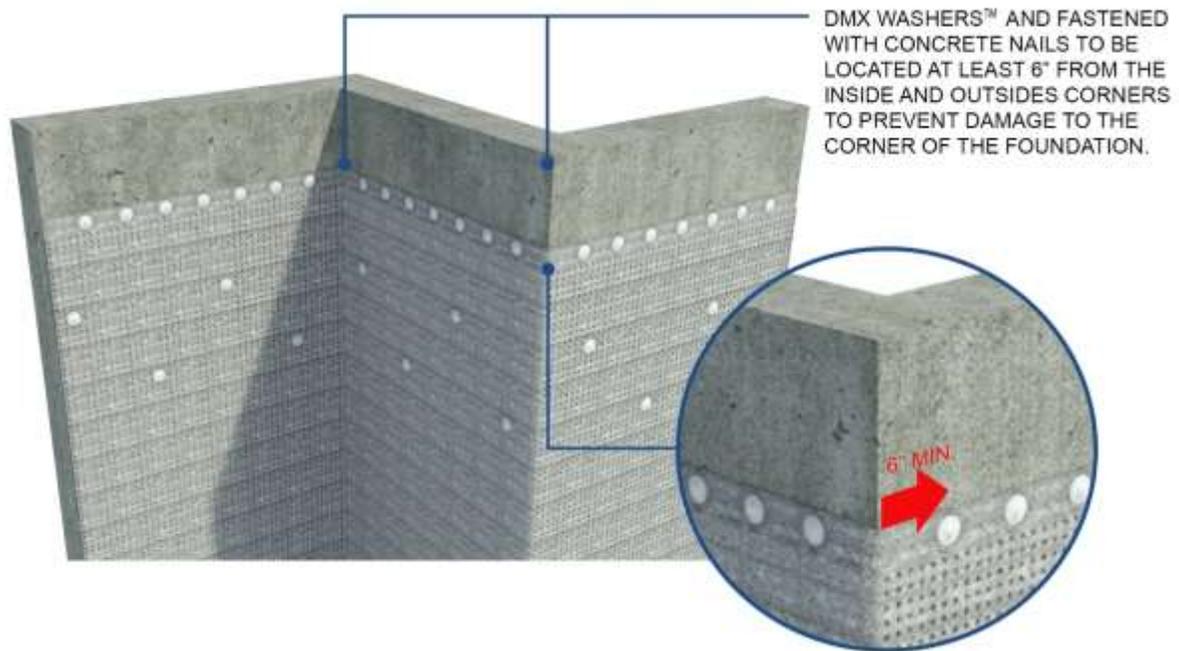


Figure 4 Wrapping Around Corners

2.3 Joining Rolls of DMX Drain 5X™

When joining two pieces of DMX Drain 5X™ overlap them by at least 6 inches (150mm), apply a full bead of sealant and mesh the dimples. It is not necessary to caulk the joint if the overlap is 12" or more. Apply FlexTrim™ with a full bead of sealant along the overlap fastened with concrete nails every 8 inches (200mm). (Refer to Figures 5 & 6)

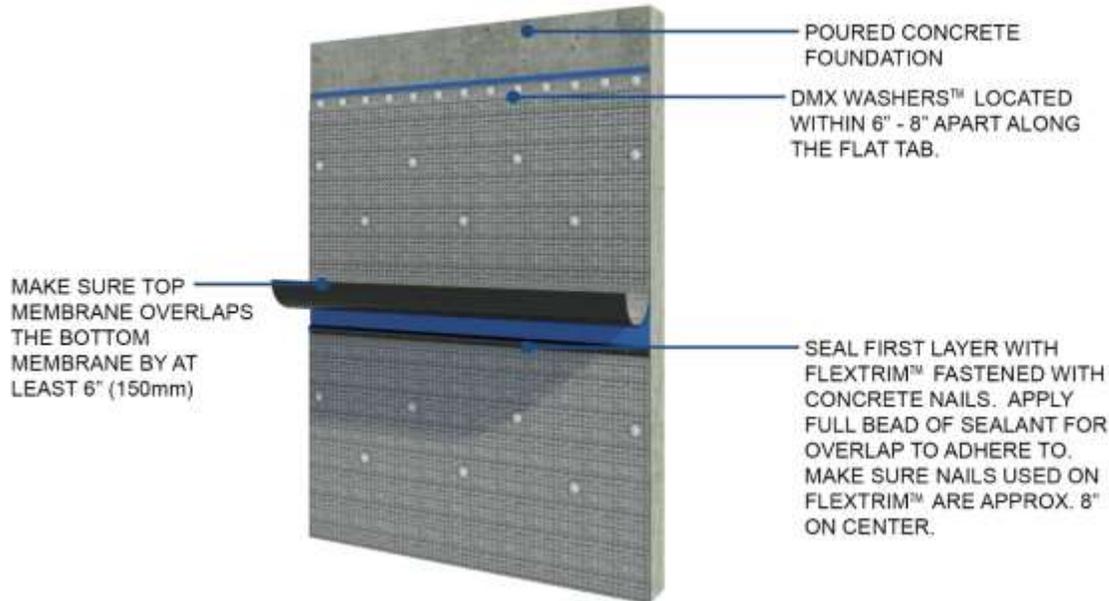


Figure 5 Horizontal Joining

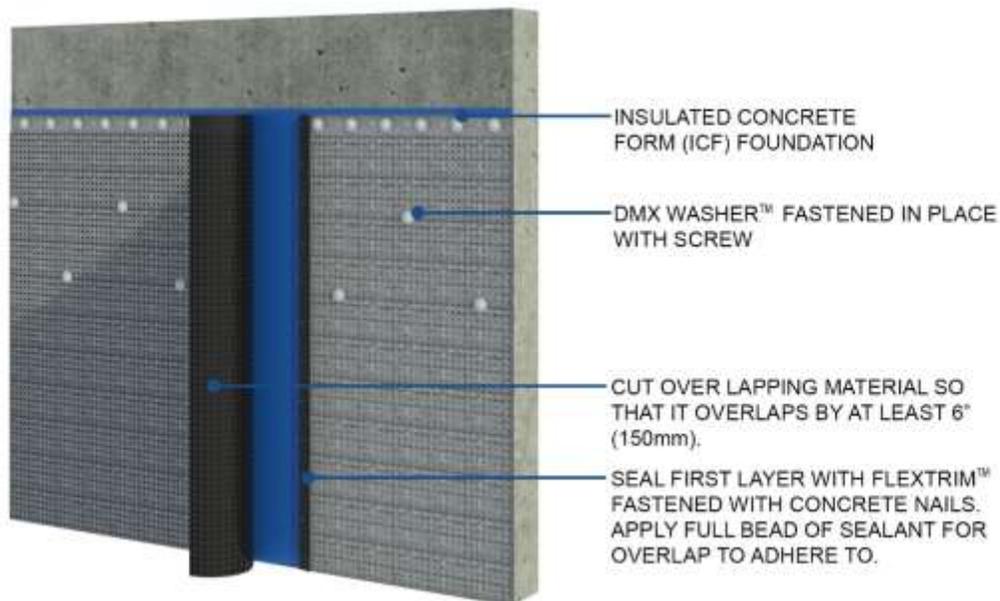


Figure 6 Vertical Joining

2.4 Around Foundation Openings

DMX Drain 5X™ is to be applied around areas that have been cut out of the foundation, for windows or other openings. The membrane is to be cut 6" (150mm) away from the perimeter of the cutout in the foundation. Where the membrane has been cut a bead of sealant is to be applied with DMX FlexTrim™ laid on top and fastened to the foundation using concrete nails. (Refer to Figure 7)

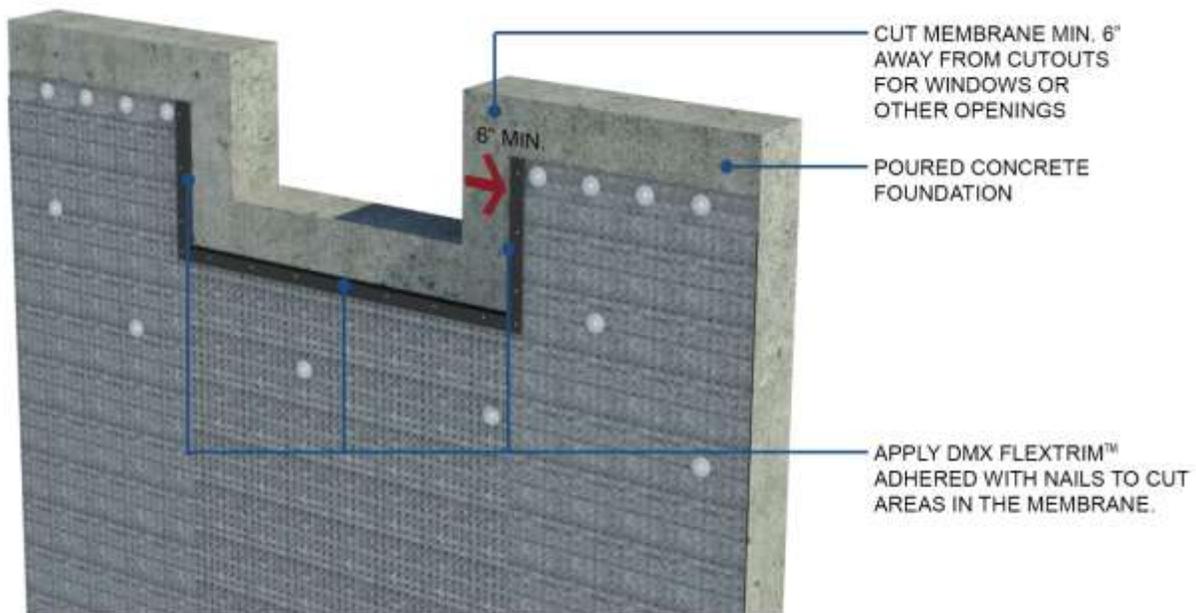


Figure 7 Around Foundation Openings

2.5 Change in Grade

When there is a change in grade height or sloped areas the membrane will be required to be cut to ensure that the DMX Drain 5X™ will still be under the final grade level once the project is complete. The membrane should be cut parallel to the slope in grade level, while being under the final grade level by 1" (25mm). In these areas the membrane's flat tab will be cut away. In these situations, the DMX FlexTrim™ is to be applied to the cut areas and fastened with concrete nails. (Refer to Figure 6)

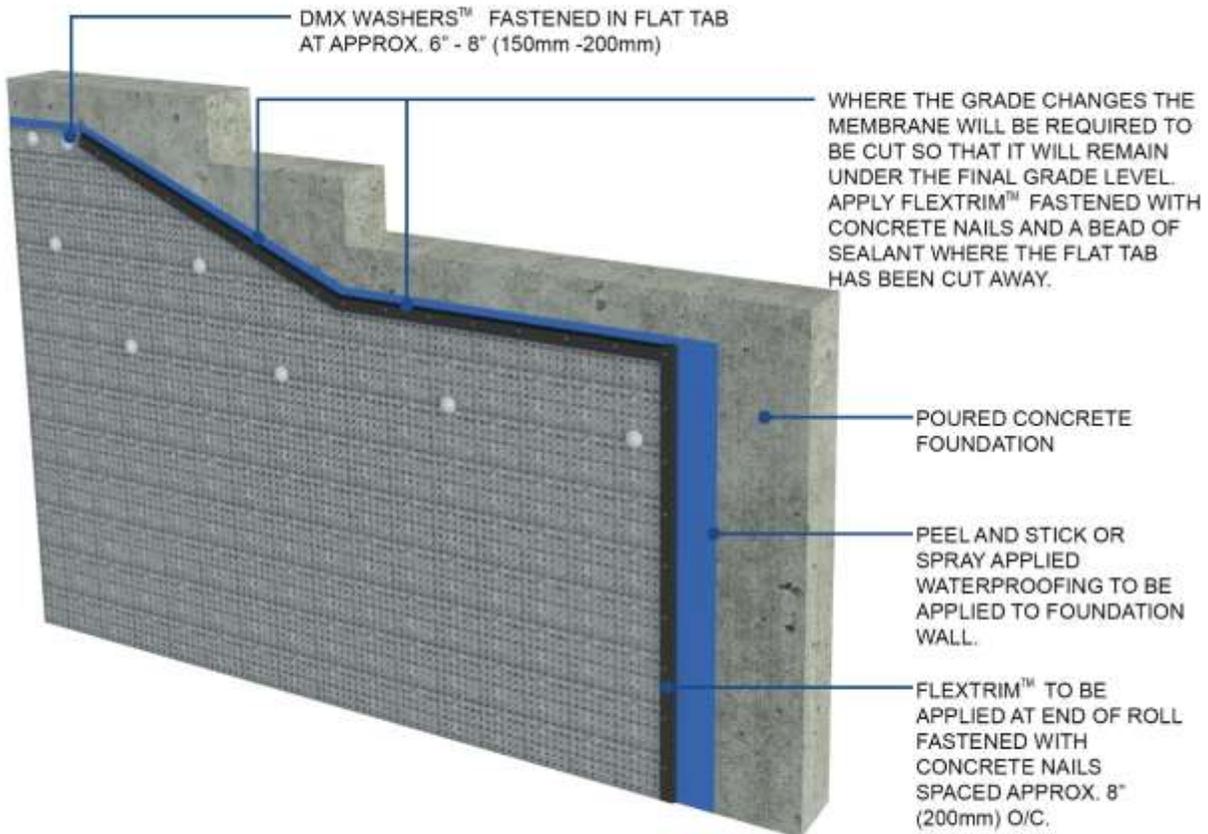


Figure 8 Change in Grade

2.6 Sealing End of Roll

When coming to the end of the roll, seal the end by using sealant and DMX FlexTrim™. Make sure DMX Washers™ have been used and installed correctly along the flat tab. Then caulk a bead of sealant along the end of the membrane where the roll ends. Once bead of sealant has been applied fasten the DMX FlexTrim™ along the edge of the membrane and over the sealant to ensure the edge is sealed. DMX FlexTrim™ is to be fastened to the foundation wall with concrete nails spaced at approximately 8" on center by using a nail gun or hammer. (Refer to Figure 9)

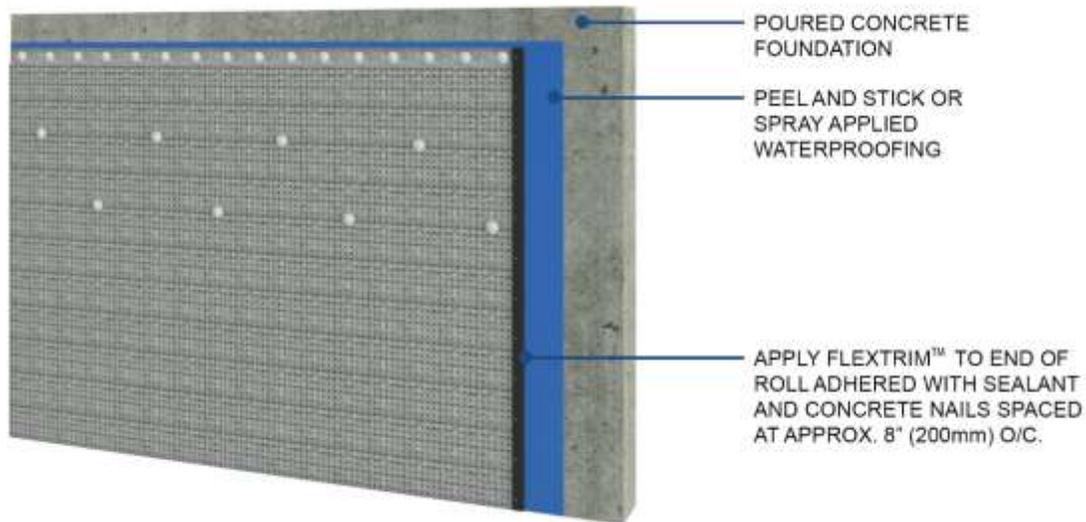


Figure 9 Sealing the End of a Roll

2.7 Around Service Entries

Follow these steps when installing DMX Drain 5X™ around service entries that penetrate the foundation wall:

Step 1: Caulk around the service that is penetrating the foundation.

Step 2: Cut the membrane vertically so that it starts at least 6" (150mm) before the center of service pipe.

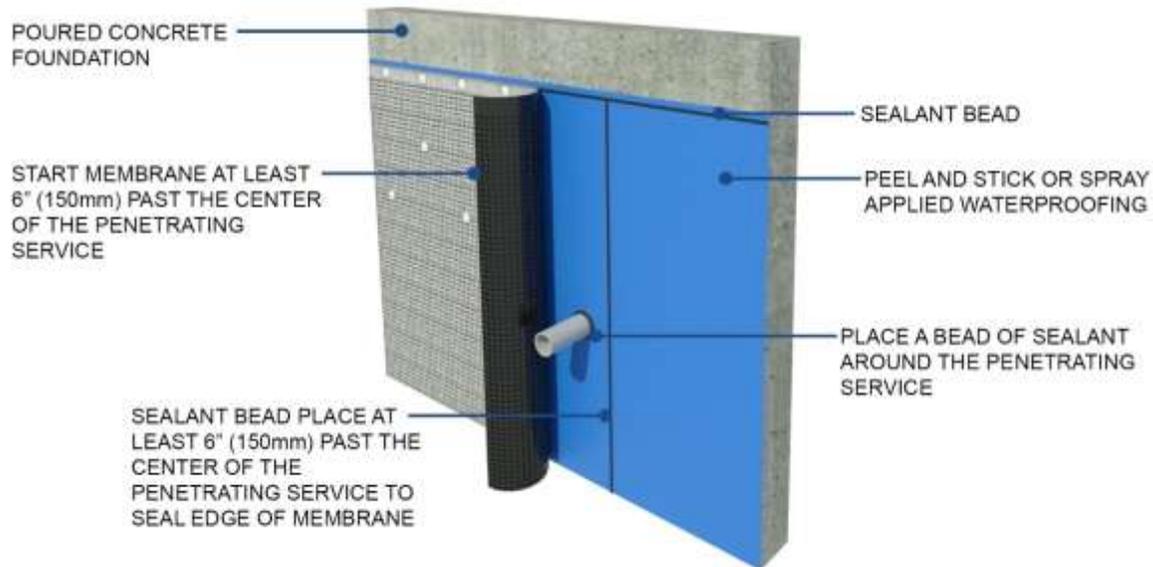


Figure 10 Around Service Entries Part 1

Field Notes & Dimensions

Step 3: Cut the membrane to fit as tightly as possible around the service.

Step 4: Once the membrane is in place caulk around the service again, but this time on top of the non-woven polypropylene geotextile. (At this point there will be sealant on both sides of the DMX Drain 5X™)

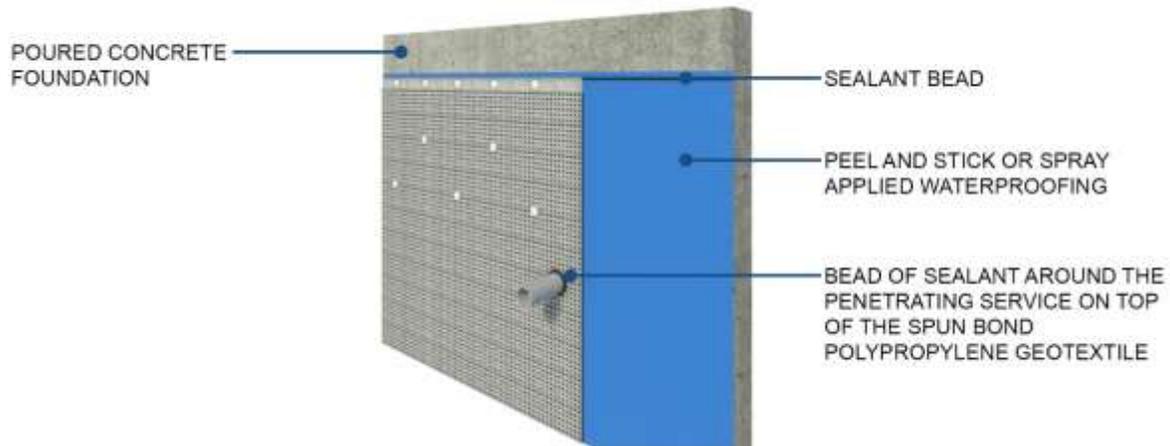


Figure 11 Around Service Entries Part 2

Step 5: Start the next piece of membrane at least 6" (150mm) past the center of the service pipe. (This will create a minimum 12" overlap within the area of the penetrating service.)

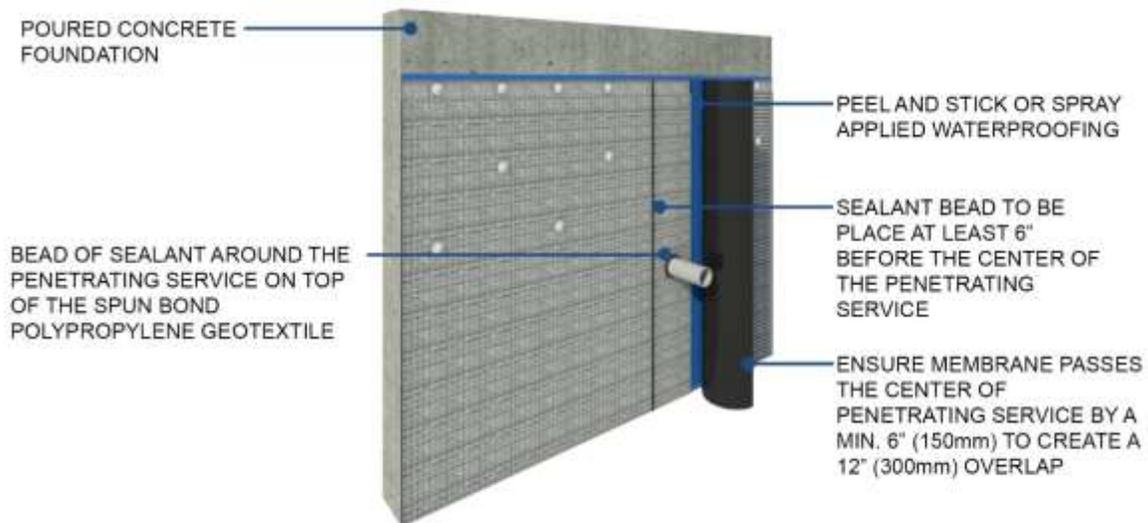


Figure 12 Around Service Entries Part 3

Step 6: Cut the top layer of the membrane to fit as tightly as possible around the service.

Step 7: Once the membrane has been fitted in place, finish off by caulking around the service and applying DMX FlexTrim™ with a full bead of sealant and concrete nails spaced at every 8" (200mm).

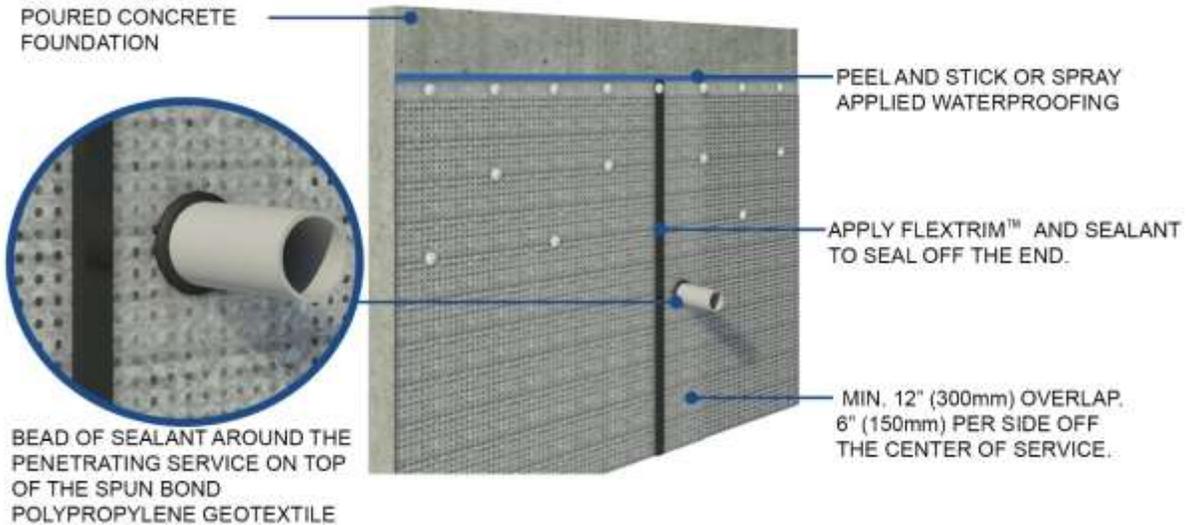


Figure 13 Around Service Entries Part 4

3.0 Insulated Concrete Form (ICF) Foundations

This section applies to DMX Drain 5X™ installation on Insulated Concrete Form (ICF) foundations. When installing DMX Drain 5X™ on ICF foundation, pay attention to ICF tie/web spacing that is designed by the ICF manufacturer. Tie spacing can vary from 8" – 12" (200mm – 300mm) on center. Refer to ICF manufacturer for any specs related to ICF blocks.

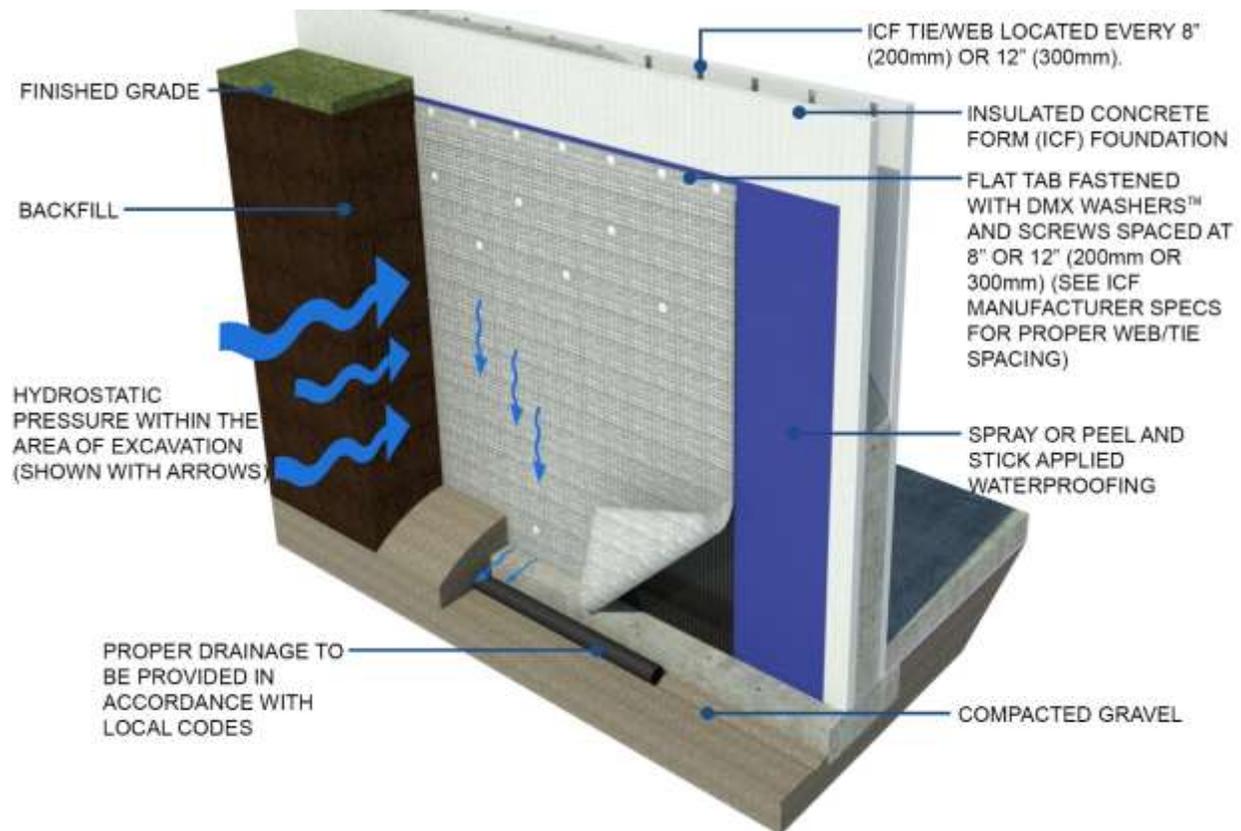


Figure 14 DMX Drain 5X™ on Insulated Concrete Form (ICF) Foundations

3.1 Installing DMX Drain 5X™

Follow these steps when installing DMX Drain 5X™ on ICF foundations.

1. Snap a chalk line one (1) inch below grade level on the foundation wall.
2. Make sure the fabric side is placed away from the foundation wall facing towards the backfill. Roll out a small amount of DMX Drain 5X™ with the flat tab lining up with the chalk line and the bottom of the roll lining up at the top of the footing. Keep the membrane as tight as possible while unrolling.
3. Secure the membrane to the foundation wall with DMX Washers™ and 1 ½" deck or drywall screws. (It is best to use coated / corrosion resistant screws to help prevent from deterioration in the future.)

Position the DMX Washers™ in the flat tab, 8 or 12 inches (200mm or 300mm) apart, secure in place with 1 ½" deck or drywall screws, by screwing into the plastic ties. See ICF Manufacturer specs for tie spacing.

Install the DMX Washers™ in the dimpled section, in accordance with the diagram, below the tab with the washers spaced 16 or 24 inches (400mm or 600mm) apart. (Refer to Figure 7)

4. Insert a final row of DMX Washers™ approximately 6" (150mm) above the footing while spacing them 10 ft. apart. This final row of washers will prevent the crushed stone from getting under the membrane.

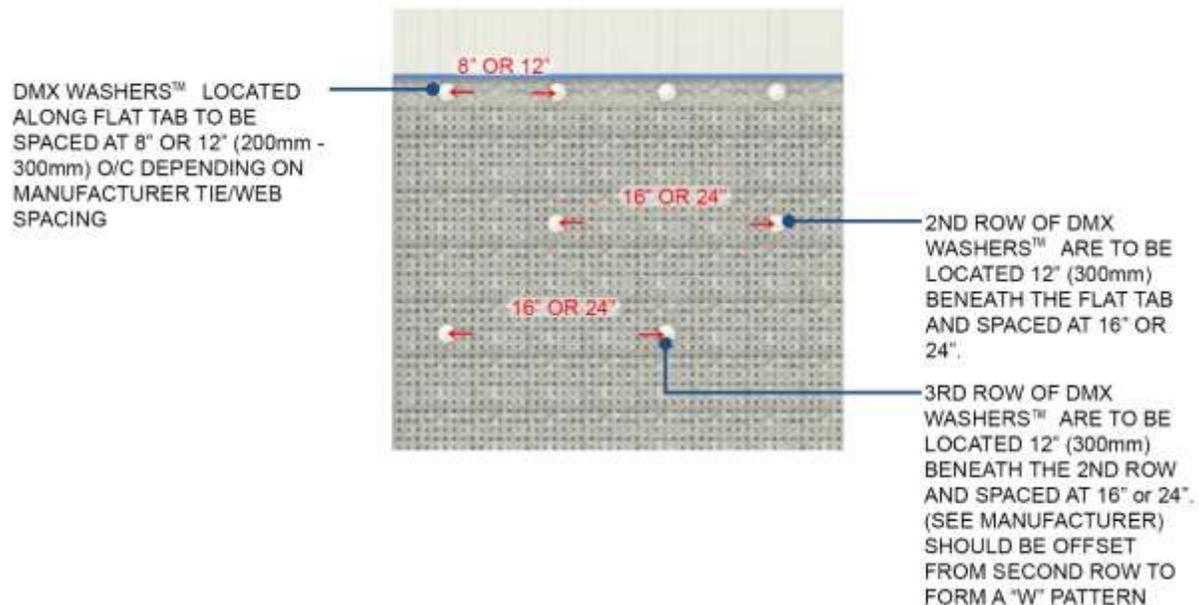


Figure 15 Washer Placement on ICF

3.2 Wrapping Around Corners

When installing DMX Drain 5X™ around corners on an ICF foundation, it is important to fit the membrane tightly to all corners and pay attention to web spacing. Wrap the membrane around the corner and fasten in place by using DMX Washers™ with 1 ½" deck or drywall screws. Make sure the DMX Washers™ and screws are being fastened into the tie/web areas specified by the ICF manufacturer. (*Note: Tie/web spacing is provided by the ICF manufacturer.*) (Refer to Figure 4)

TIP: The use of a 2" x 4" wood stud will help form and hold the shape of interior corners.



Figure 16 Wrapping Around Corners on ICF

3.3 Joining Rolls of DMX Drain 5X™

When joining two pieces of DMX Drain 5X™, overlap them by at least 6 inches (150mm), apply a full bead of sealant and mesh the dimples. It is not necessary to caulk the joint if the overlap is 12" or more. Apply FlexTrim™ with a full bead of sealant along the overlap to seal of end of the membrane, fasten with screws every 8" or 12" (200 - 300mm).

For vertical joining you will have to cut or start the membranes within a ICF tie/web location to ensure that the screws will have support. (Refer to Figures 17 & 18).

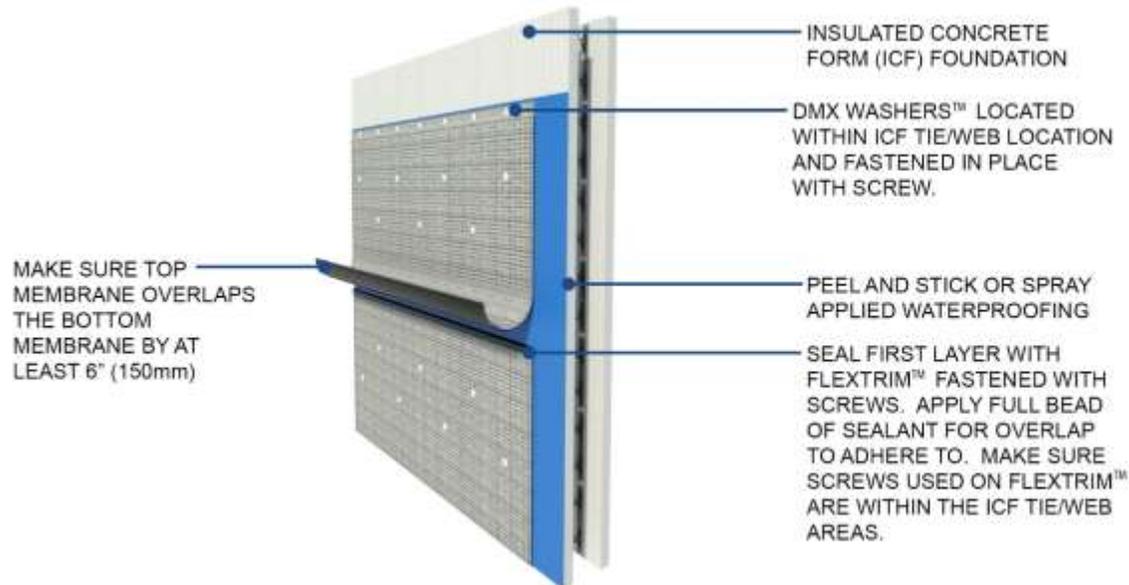


Figure 17 Horizontal Joining on ICF



Figure 18 Vertical Joining on ICF

3.4 Around Foundation Openings

DMX Drain 5X™ is to be applied around areas that have been cut out of the foundation, i.e. windows or other openings. The membrane is to be a minimum 6" (150mm) away from the perimeter of the cutout in the foundation.

Make sure the membrane is being cut in line with the ICF ties/webs. a bead of sealant is to be applied with DMX FlexTrim™ laid on top and fastened to the ICF tie/webs using deck or drywall screws. See manufacturer of ICF for block specs and tie/web spacing. (Refer to Figure 7)



Figure 19 Around Foundation Openings on ICF

3.5 Change in Grade

If the flat tab has been cut away, such as on a sloped grade or around windows, use DMX FlexTrim™ to seal this area.

The membrane should be under the final grade level by 1" (25mm). Refer to the ICF manufacturers website for details regarding tie/web to ensure proper installation. (Refer to Figure 19)

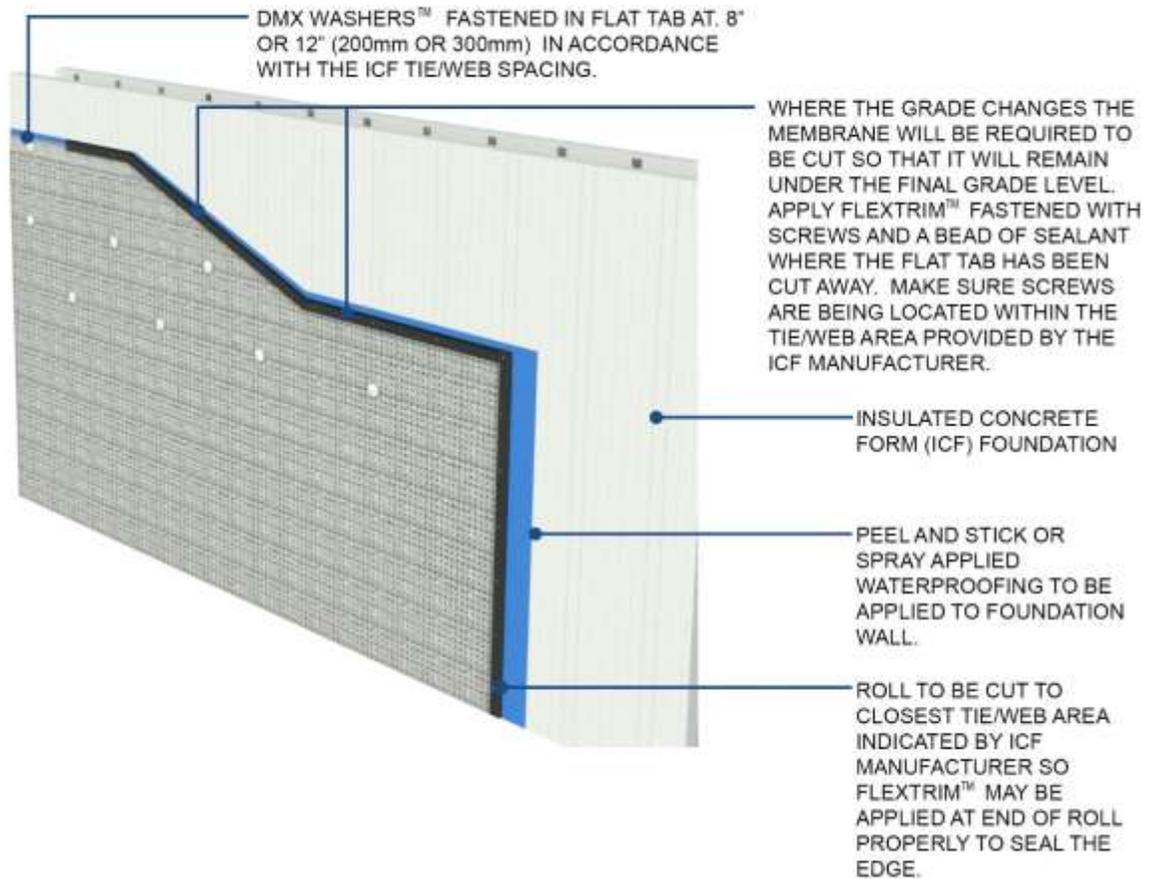


Figure 20 Change in Grade on ICF

3.6 Sealing End of Roll

If you are not wrapping the entire foundation in DMX Drain 5X™, such as when there is an attached garage, you need to seal the vertical ends of the DMX Drain 5X™. Then install DMX FlexTrim™ on the vertical edge just as you would for cut edges in the top of the membrane.

When finishing the membrane on ICF Foundation Walls, the membrane must be finished alongside the ties/webs. (Refer to Figure 21)

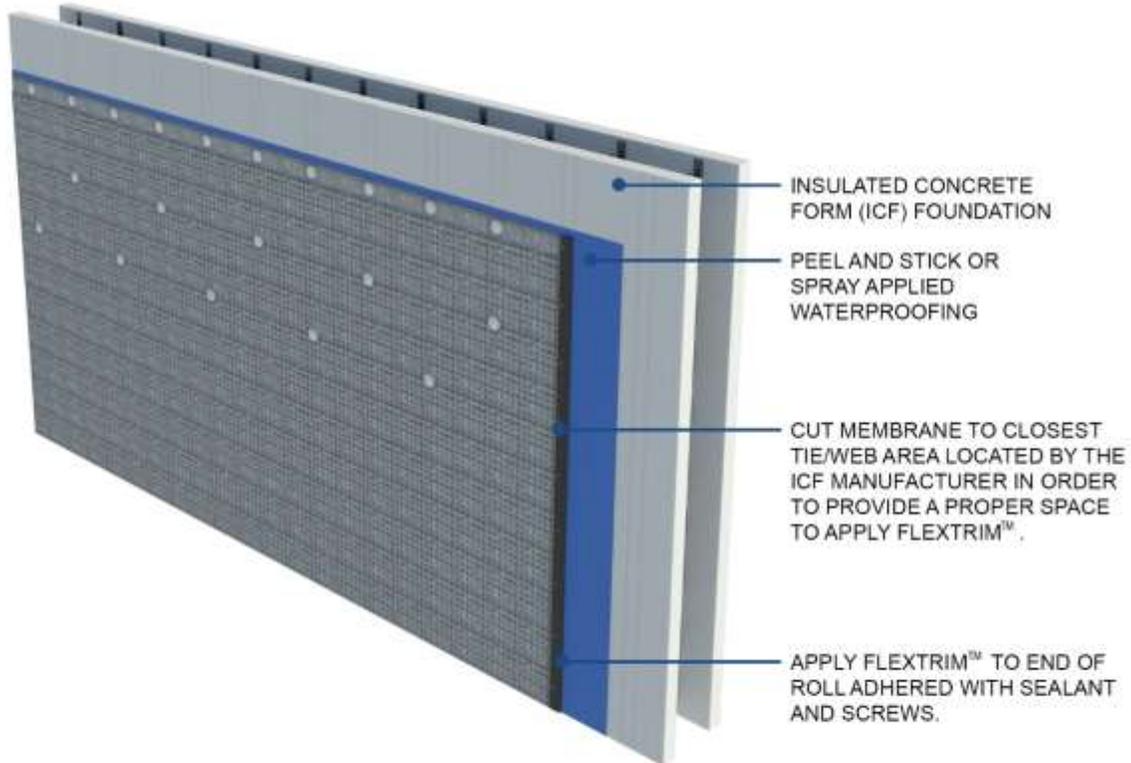


Figure 21 Sealing the End of a Roll on ICF

3.7 Around Service Entries

When you come to a service entry that penetrates the foundation you will have to follow these steps:

Step 1: Caulk around the service that is penetrating the foundation.

Step 2: Cut the membrane vertically so that it starts at least 6" (150mm) before the center of service pipe, or to the closest tie/web area indicated by the ICF manufacturer in order to fasten to the ICF foundation properly.

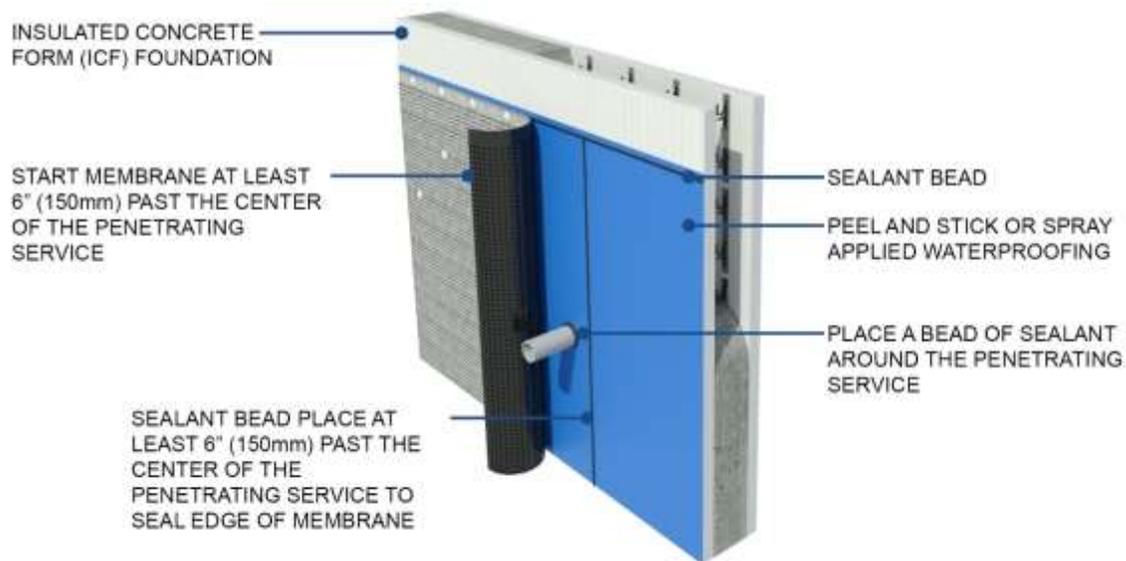


Figure 22 Around Service Entries on ICF Part 1

Field Notes & Dimensions

Step 3: Cut the membrane to fit as tightly as possible around the service.

Step 4: Once membrane is in place caulk around the service again, but this time on top of the non-woven polypropylene geotextile. (At this point there will be sealant on both sides of the DMX Drain 5X™)

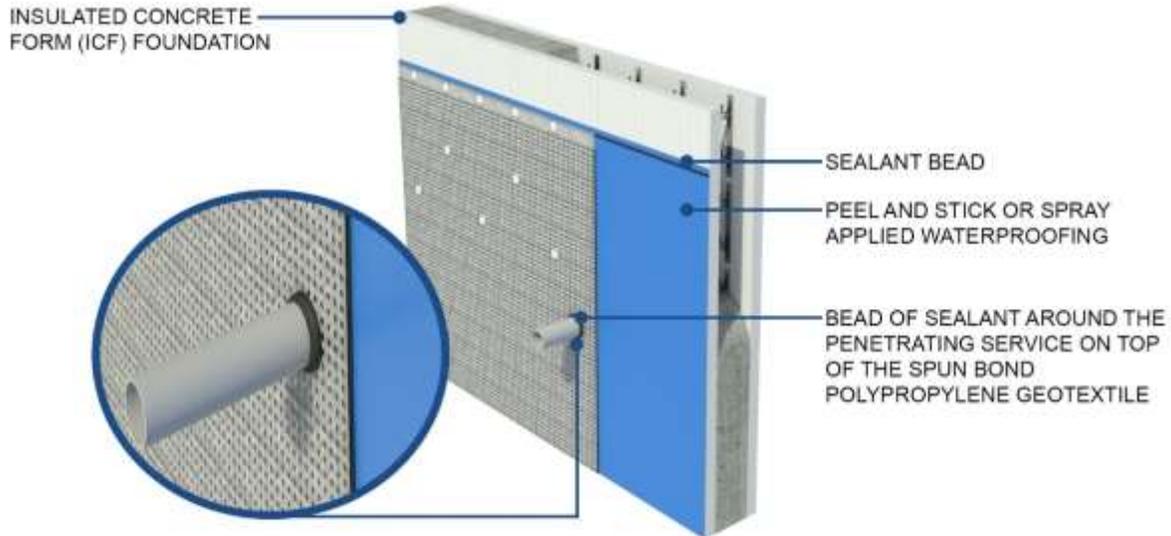


Figure 23 Around Service Entries on ICF Part 2

Step 5: Start the next piece of membrane at least 6" (150mm) past the center of the service pipe, or to the closest tie/web area specified by the ICF manufacturer. (This will create a minimum 12" overlap within the area of the penetrating service.)

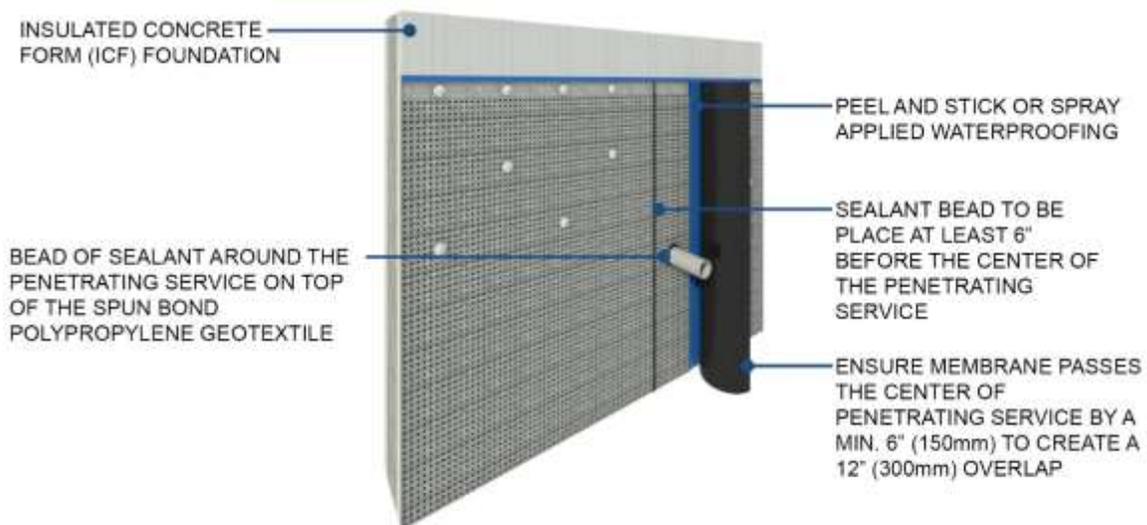


Figure 24 Around Service Entries on ICF Part 3

Step 6: Cut the top layer of the membrane to fit as tightly as possible around the service.

Step 7: Once the membrane has been fitted in place, finish off by caulking around the service and applying DMX FlexTrim™ with a full bead of sealant and screws spaced at every 8" (200mm).

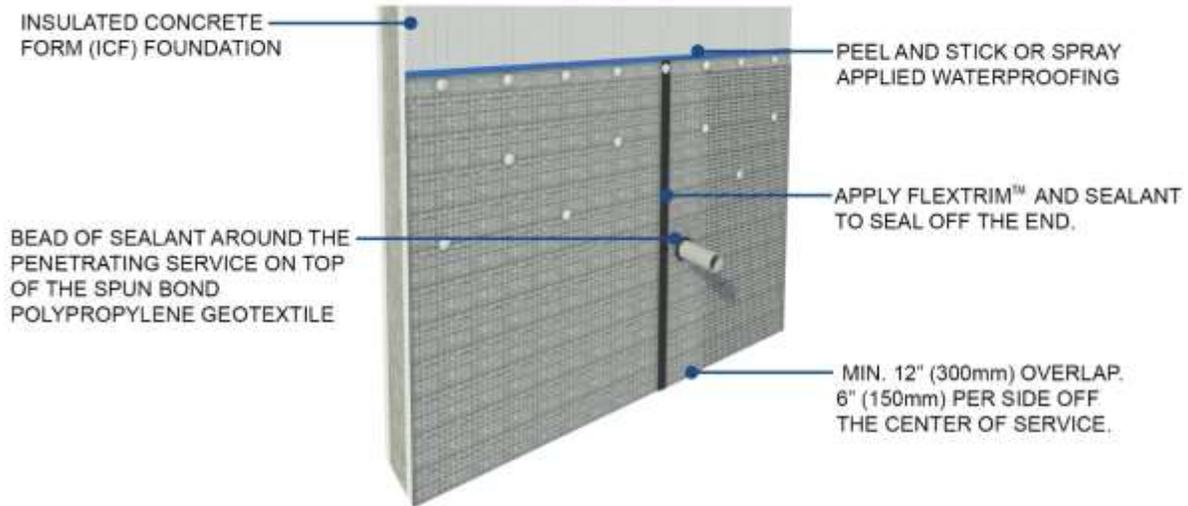


Figure 25 Around Service Entries on ICF Part 4

4.0 General

This section applies to general procedures that should be undertaken before, during and after the membrane has been installed.

4.1 Clean up & Inspection

When the job has been completed, inspect the foundation and ensure all materials were installed properly. If there are any excess materials or tools left around the foundation remove them before backfilling.

4.2 Repairs

If DMX Drain 5X™ gets damaged or torn, use an extra piece of membrane that is at least 12 inches (300mm) larger than the tear.

Mesh the dimples and apply a full bead of sealant around the perimeter of where the extra piece of membrane will be placed. Then fasten the patch in place with DMX FlexTrim™ and concrete nails or deck screws for ICF.

4.3 Backfilling

During backfilling follow the steps below, along with local code practices.

Step 1: Cover the drainage system required by Code with approved granular material using good engineering and construction practices.

Step 2: Carefully backfill the balance of excavated area, by following proper construction practices. **(DO NOT DAMAGE DMX 5X MEMBRANE)**

Step 3: Make sure the finished grade is just slightly above the top of DMX Drain 5X™, but not greater than 6”.

4.4 Health and Safety

When installing DMX Drain 5X™ we recommend that the following safety equipment be worn during the installation process:

- ❖ Hard Hat
- ❖ Safety Boots
- ❖ Gloves
- ❖ Safety Glasses

4.5 Limitations

We suggest for productive installations that DMX Drain 5X™ should not be installed in temperatures below 14°F (-10°C).

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