INSTRUCTION

RadonSeal®

DIY FOUNDATION®

CRACK REPAIR KIT • POLYURETHANE

Permanently repair cracks in poured concrete walls. The two-component liquid urethane reacts with moisture, expanding as a foam up to 20 times its volume. It effectively seals the entire depth of the cracks to block water, pests, and soil gases, providing a durable, professional repair.

Item List: 10 ft

2 x Polyurethane Foam Injection Cartridges
15 x Injection Ports (w/caps)
1 x Surface Seal Jar Set (Part A + Part B)
2 x Mixing Nozzles
1 x Hose Assembly (w/shut-off valve)
2 x Mixing Sticks
2 x Crossover Restrictors
1 x Plastic Trowel
1 x Wire Brush
1 x Squeeze Bottle
1 x Safety Goggles
1 x Drop Cloth
2 x Nitrile Gloves
Instructions

Tools Required

- Standard Caulking Gun
- Paper plate or scrap cardboard for dispensing and mixing *Surface Seal* prior to trowel application.

Temperature Guidelines

The ambient temperature should be above 40°F. When repairs are performed from the interior, cold outdoor temperatures will not affect the application under these conditions.

Step 1: Surface Preparation

Clean Crack Area: Using the *Wire Brush*, clean the concrete surface around the crack, removing any loose or flaking concrete, efflorescence, paint, or coatings for at least 2 inches on each side. Then wipe, blow, or vacuum any dust or debris from within the crack.

ℹ **The concrete surface must be completely dry** to ensure proper bonding of the *Injection Ports* and *Surface Seal*. If the surface area is wet, allow it to dry naturally or use a heat gun, hair dryer, or oil-free compressed air to speed the process. **Crack injection cannot be performed while the crack is actively leaking.**

Step 2: Attach the Injection Ports

Remove Port Caps: Remove the *Cap* from each *Injection Port* and set them aside for later use.

Prepare the Surface Seal

Using separate *Mixing Sticks*, dispense equal amounts of *Surface Seal A and B* onto a piece of cardboard, maintaining a 1:1 ratio. Then mix Parts A and B thoroughly with the *Plastic Trowel* for about 30 seconds, or until the color becomes a uniform gray.

- The *Surface Seal* hardens quickly. **Mix only about one tablespoon from each jar at a time.**
- *Mixing Sticks* should not be shared between containers to prevent cross-contamination and to keep any remaining material from hardening.
- Repeat this step whenever additional mixed adhesive is needed.

Apply Surface Seal to Port Base: Using the *Plastic Trowel*, apply a small amount of mixed *Surface Seal* to the base of the port. Do not allow the *Surface Seal* to block the port opening.

Secure Port in Place: Starting about 4 inches above the lowest point of the crack, position the *Injection Port* directly over the crack and press it firmly against the wall. Hold it in place until the *Surface Seal* becomes tacky and the port can stay in position without support.

Install Ports Along Crack: Continue placing additional *Injection Ports* every 8 inches, positioning each port directly over the crack, and repeat until the entire crack is ported.

ℹ Ensure that the port openings remain unobstructed and that the *Surface Sealer* does not block the crack beneath. *Injection Ports* may be spaced closer than 8" if necessary, but should never exceed 8" apart.

Step 3: Surface Seal the Crack

Apply Surface Seal: Using the *Plastic Trowel*, spread a layer of mixed *Surface Seal* approximately 1/8 inch thick and 2 inches wide along the length of the crack. Apply additional *Surface Seal* around the base of each adhered *Injection Port*, building up enough material to create a tight seal. Gaps or voids in the *Surface Seal* could allow foam to escape.

ℹ Expect to use the entire 16 ounces of *Surface Seal* on a 10-ft crack. Do not work the *Surface Seal* into the crack; simply spread it over the surface. Before beginning injection, allow the *Surface Seal* to cure, typically 1-2 hours, until it is firm enough that you cannot leave an impression with your fingernail.

Step 4: Flush the Crack With Water

Pre-Wet the Inside of the Crack: Fill the **Squeeze Bottle** with water and inject a few short bursts into each *Injection Port*, starting from the top port down. The water helps flush out debris and is required for proper polyurethane foam expansion. In most cases, water will emerge from the ports below, indicating a continuous crack and unobstructed ports. If it does not, this does not indicate a problem.

Step 5: Assemble the Injection Cartridge

1. Remove the plastic cap.
2. Remove the plastic inner seal by twisting and pulling it free to expose the cartridge opening. **Keep the cartridge upright to prevent leaking.**
3. Position the *Crossover Restrictor* over the opening and press into place.
4. Secure the *Mixing Nozzle* over the *Crossover Restrictor,* pressing down firmly to ensure a proper fit.
5. Slide the *Retaining Nut* over the *Mixing Nozzle* and tighten it onto the cartridge.
6. Connect the *Hose Assembly* by pushing the wide end of the hose firmly onto the *Mixing Nozzle*.
7. Insert the *Polyurethane Cartridge* into the caulking gun.

Step 6: Polyurethane Injection

Attach Hose Assembly: Insert the small end of the *Hose Assembly* securely onto the lowest *Injection Port*.

Begin Polyurethane Injection: Inject the liquid polyurethane from the cartridge using low pressure by gently squeezing the caulk-gun trigger. Continue slowly until the polyurethane begins to foam and leak from the *Injection Port* above. Expect to spend 2–4 minutes at each *Injection Port*.

Stop Flow & Cap Port: When the polyurethane foam begins to flow from the port above, use the plastic *Pinch Valve* on the *Hose Assembly* to stop the flow. Remove the *Hose Assembly* from the injection port and install the *Injection Port Cap*.

Move Upward: Working upward, repeat this process for each *Injection Port* until the crack is fully injected with polyurethane foam.

ℹ Effective crack injection requires patience and low-pressure injection. For better monitoring of progress in hairline cracks, place the *Injection Ports* closer together.

ℹ To improve the flow of polyurethane into very tight cracks, warm the unopened cartridge by placing it in a pot of hot tap water for about 10 minutes. This gentle heating thins the material, allowing it to penetrate the crack more easily.

ℹ Polyurethane consumption varies depending on the crack width and any gaps or voids in the wall or backfill. The lower portion of the crack typically uses more injection foam, where water may have been pooling. As you move toward the middle and upper sections, less polyurethane is usually required.

Finishing Up

Allow the polyurethane foam to cure for four hours. The *Injection Ports* can be removed by lightly tapping them with a hammer. If desired, the *Surface Seal* can then be painted or removed by grinding it off.

ℹ Before removing the *Injection Ports*, you may choose to wait for a heavy rain to verify the repair. If water seeps from any *Injection Port*, additional polyurethane can be injected to seal small fissures that may have been missed initially.

Visit RadonSeal.com

To order additional material or view a step-by-step visual demonstration of the process, scan the QR code.

For project-specific questions or expert guidance, visit RadonSeal.com or contact a RadonSeal customer service representative.

1.800.472.0603 or sales@radonseal.com

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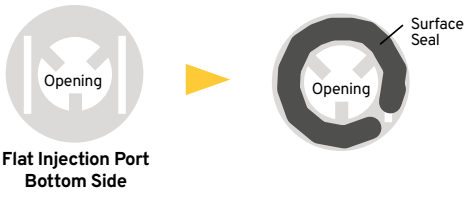
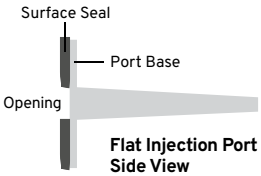
INSTRUCTION

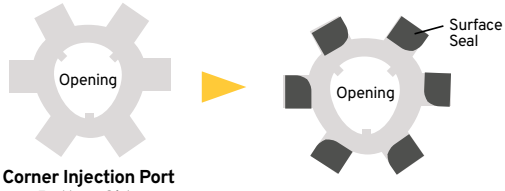
Surface Seal Application



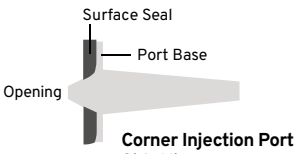
Flat Injection Port
Bottom Side



Flat Injection Port
Side View

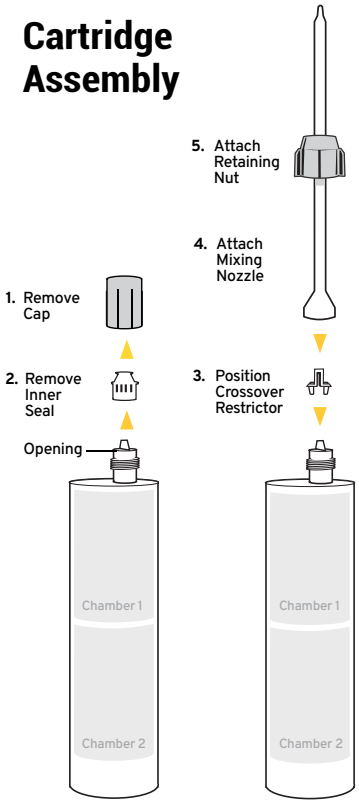


Corner Injection Port
Bottom Side

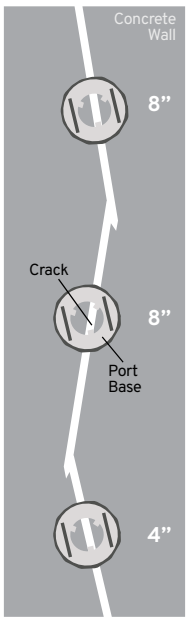


Corner Injection Port
Side View

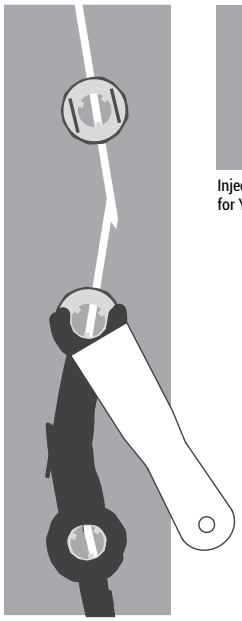
Cartridge Assembly



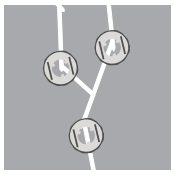
Attaching Injection Ports



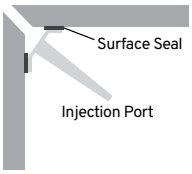
Start 4" above the crack bottom, spacing Injection Ports every 8"



Apply Surface Seal over the crack and Injection Port Base

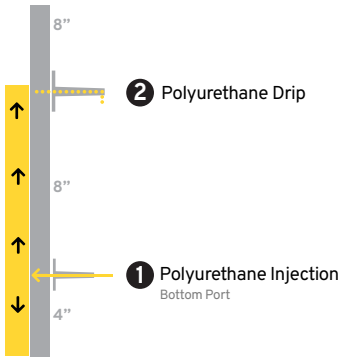


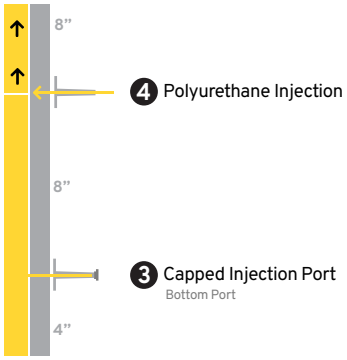
Injection Port Placement for Y-Shaped Cracks



Injection Port Placement for Corner Cracks

Polyurethane Injection





FAQs

Q: I ran out of polyurethane before reaching the top of the crack. Is this a problem, and what should I do?

A: This can happen if you are repairing a larger crack or if there's loose soil or voids behind the wall. Simply use a new polyurethane cartridge to continue from where you left off. The new polyurethane will bond perfectly with the cured polyurethane that is already in the crack, ensuring your repair remains solid.

Q: Where can I purchase an extra cartridge of polyurethane?

A: Visit RadonSeal.com to purchase an additional polyurethane cartridge(s). Each cartridge includes a new hose assembly, mixing nozzle, and crossover restrictor. Additional materials are also available.

Q: The polyurethane cartridge won't dispense any more material, even though it looks like there's still some left. Am I doing something wrong?

A: The cartridges have a compact design, which may make them appear partially empty. Each contains two chambers, separated by a hard diaphragm until use. Both parts dispense simultaneously and are filled to maximum capacity. The stated coverage of up to 5' per cartridge accounts for this design. When the caulk gun plunger reaches halfway, the cartridge is fully dispensed.

Q: A section of the crack runs up the corner of the wall. How should I handle this?

A: Flat Injection Ports can be bent or trimmed to fit corners and uneven surfaces. Apply Surface Seal, press the port firmly over the crack, and hold until it sets. To help keep a port in place, tap a wooden skewer or nail into the crack first, slide the port over it, then remove it before injection. Corner ports and extras are available at RadonSeal.com.

Q: The crack was previously repaired, do I need to remove the old material?

A: If the crack was previously patched with hydraulic cement or epoxy, it is best to remove loose or failed patching prior to repair. Alternatively, if the patch is intact, drill through it using a 1/4" x 8" masonry bit to about 8" deep, keeping the holes no larger than the port diameter. Then, install the injection ports over the holes and proceed with the injection.

Q: How long does the polyurethane foam last?

A: The injected polyurethane foam forms a permanent barrier against water. However, soil movement or crack shifting may occasionally create a small gap, allowing a minor trickle of water. In such cases, a small hole can be drilled through the affected area, and additional polyurethane can be injected to seal the leak.

Q: Can I use these kits to seal a horizontal crack?

A: Polyurethane Injection is intended for common vertical or diagonal settling cracks in poured concrete walls. These kits should not be used on horizontal cracks or cracks that may indicate structural problems. If unsure, have the crack evaluated by a licensed repair specialist before proceeding.

Review All Safety Instructions. Read and understand the instructions, product labels, and Safety Data Sheet (SDS) before use.

Warranty: The manufacturer guarantees that its products are free from defects in materials and workmanship. This warranty does not cover uses that do not comply with the specified application and installation instructions. At the manufacturer's discretion, all warranty obligations are limited to the repair or replacement of the defective product.

End of Instructions

RadonSeal®