

Polyurethane Foam Foundation Crack Repair Kit 10 ft. w/ Peel Off Surface Sealer

INSTRUCTIONS

The information for waterproofing cracks in poured concrete has been compiled from several professional sources as recommended guidelines. Due to the variability in poured wall conditions, the selection of the proper material for the intended application and installation is the sole responsibility of the applicator.

REPAIR KIT CONTENTS

Includes all of the materials and accessories for low-pressure injection and repair of approximately 6-10 linear feet of cracks.

- 2 cartridges CR303 Peel Off Surface Sealer
- 2 wooden sticks
- 15 surface ports and caps
- 2 cartridges CR301 Polyurethane Injection Foam
- 2 3/8x24 mixing nozzles (for use with CR301 Injection Foam)
- 1 injection hose assembly with white plastic shut-off valve
- Safety glasses
- 2 pair nitrile gloves
- 1 plastic trowel
- 1 wire brush
- 1 drop cloth
- 1 plastic bottle
- Instructional video (CD)

TOOLS REQUIRED

- Standard caulking gun
- Paper plate or scrap cardboard for mixing CR303 Peel Off Surface Sealer.
- Piece of Duct Tape 4" long for use as a starter tab with CR303 Peel Off Surface Sealer.

CRACK PREPARATION

Place drop cloth on the floor in front of work area. Clean the surface surrounding the crack using the wire brush. Remove loose or flaking concrete, efflorescence, paint or coating to approximately 1-2 inches on either side of the crack. Wipe the surface clean of dust after brushing. The surface must be dry for proper installation of injection ports and surface seal. For best results if the surface is wet, wait a few days until dry or if necessary, use a hot air gun, hair drier, or oil free compressed air to dry.

SURFACE PORT PLACEMENT

Ports are placed apart the thickness of the concrete wall (usually about 8") centered over the crack, starting at a point closest to the floor (vertical cracks). Mark port locations on the wall.



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INSTRUCTIONS

SURFACE PORT ATTACHMENT AND SEALING OF THE CRACK

1. Place the CR303 Peel Off Surface Sealer cartridge in your caulking gun. Remove the plastic nut and then twist and pull to remove the plastic seal. Dispense approximately 1/3 of the tube onto scrap cardboard. Mix with the trowel or mixing sticks (repeat this step each time you run out of mixed adhesive). Remove the cap from the surface port then apply a small amount of mixed material to the bottom of the port base. Place the first port starting at the bottom of the crack and repeat every 8" until the entire crack is ported.



Note: Do not mix more than 1/3 at a time. Otherwise, mix may harden before you have completed sealing.

Do not allow material to block the bottom of the port opening or the crack under it.

2. Place the 4" piece Duct Tape at the top of the crack for use as a "starter tab" to aid removal of CR303 Peel Off Surface Sealer. The next step is to work the mixed material along the entire length of the crack using the plastic trowel. The recommended application is 1/8" thick and 2" wide. Make sure to mound sufficient extra material around the base of the ports. Expect to use both tubes, the total amount provided, for an 8-foot crack. Do not work material "into" the crack, just paste over the surface. Don't forget to paste over 2 inches of the Duct Tape at the top.



3. Let the material cure before beginning injection, about 1 hour, until fingernail hard. (Not recommended to wait overnight.)

INJECTION PROCEDURE

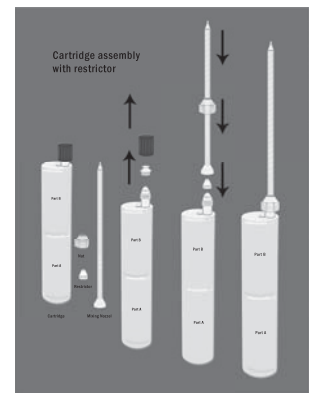
1. Flush the crack with 1-2 cups of water poured into the top port using plastic bottle or by filling the hose assembly several times. Water should come out of every port below the top port indicating that the crack is contiguous and that ports are not blocked by epoxy. Water is also necessary to flush the crack and aid in resin activation.

2. Place the CR301 Polyurethane Injection Foam cartridge in your caulking gun. Remove the plastic cap and then twist and pull to remove the plastic seal. Place the 3/8 X 24 mixing nozzle over the end of the cartridge attaching with the plastic nut.

3. Attach the flexible hose assembly (wide end) over the mixer tip by pushing firmly.

4. For vertical cracks attach the small end of the hose assembly into the lowest port by pressing firmly. For horizontal cracks begin at either end if one is not lower than the other.

5. **Begin injecting slowly with low pressure (allowing the polyurethane time to flow into and fill all small fissures) until it begins to flow from the port above it.** Use the white plastic pinch valve on the hose assembly to turn off resin flow, plugging the first port with the cap provided, and move up to the next port. Repeat this procedure until the entire crack has been injected with polyurethane foam.



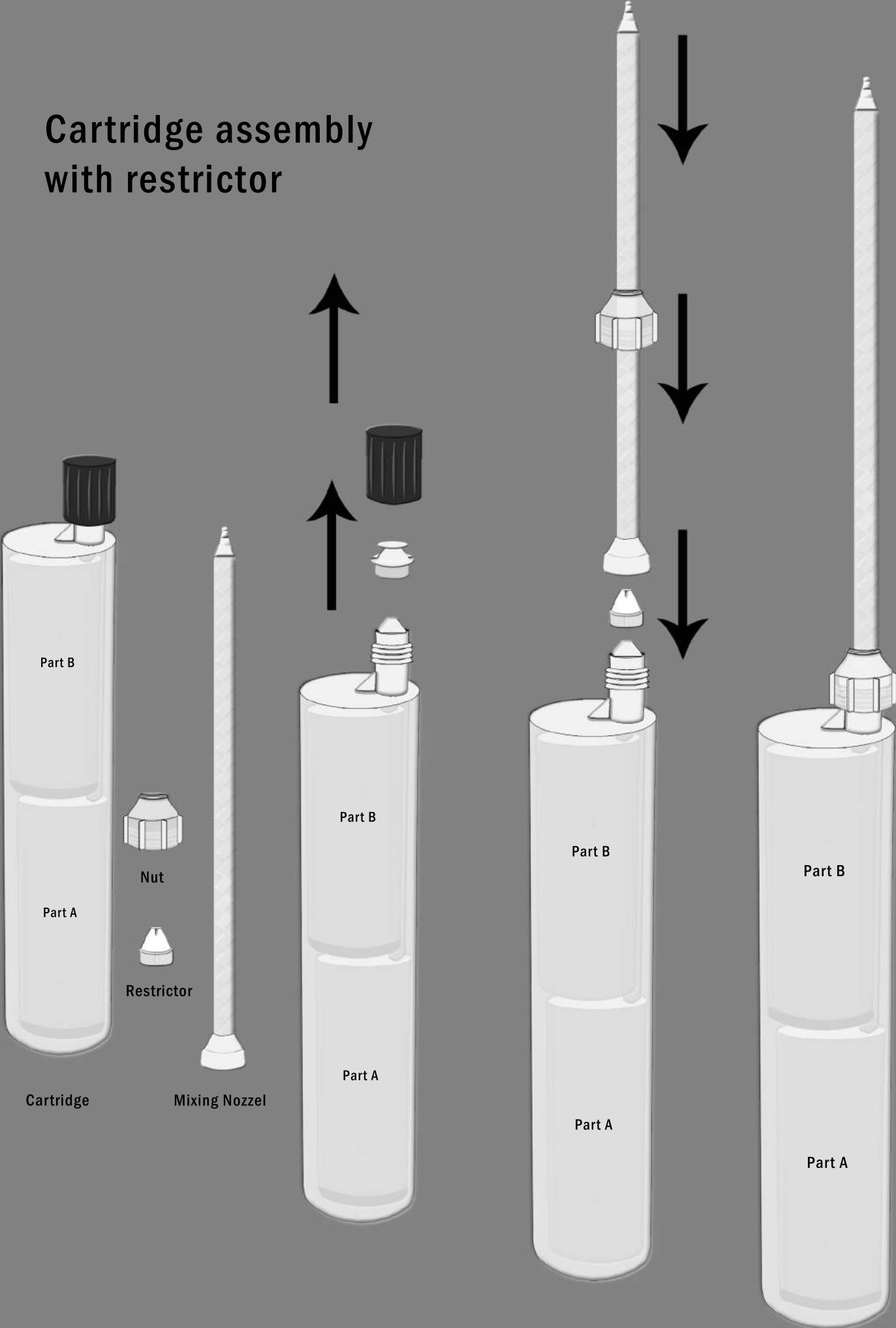
The CR303 Peel Off Surface Sealer and ports can be removed after foaming is complete in about 3 or 4 hours. Simply pull down on the starter tab. Place all disposable items on drop cloth which is a garbage bag and dispose of properly.



Note! The secret to effective crack injection is patient low-pressure injection of polyurethane foam. Small or hairline cracks will require 3 - 4 minutes at each port for proper filling to take place.

Hint: To improve the ability to penetrate very small & hairline cracks, heat the polyurethane foam by placing the injection cartridge in a pail of hot tap water for 15-20 minutes. This temperature exposure should thin the material so that it can flow into the crack with less resistance.

Cartridge assembly with restrictor



CR301 Polyurethane Injection Foam Hydrophobic Polyurethane Foam

1 GENERAL DESCRIPTION

CR301 INJECTION FOAM is a hydrophobic polyurethane liquid which is designed to stop water infiltration or exfiltration. When CR301 INJECTION FOAM meets water, it reacts with it and then repels any excess water forming a closed cell foam barrier which will not allow water to pass through it. It adheres tenaciously to practically all substrates, wet or dry.

CR301 INJECTION FOAM is typically used to stop water leaks coming through cracked or honeycombed concrete, voids between wall and floor, wall and ceilings, expansion joints, cold joints and pipe intrusions. It is used to repair concrete walls, ceilings and floors that are leaking. It is used in tunnel, manhole, sewer line, concrete dam and parking deck repairs.

CR301 INJECTION FOAM is designed to be used when greater than 20% movement (expansion and contraction) of the substrate is anticipated or where epoxy is not considered as necessary.

| TEST TYPE | RESULTS | TEST METHOD |
|---------------------------------------|-----------------------|-------------|
| DENSITY (CORE) | FREE RISE 2.02 LBS/FT | ASTM D-1622 |
| LOW TEMPERATURE | | ASTM D-2126 |
| AGING (-20f) (SHRINKAGE) | <4% | 1 DAY |
| (SHRINKAGE) | <4% | 7 DAYS |
| WATER ABSORPTION (VOLUME CONFINED) | <1% | ASTM D-2127 |
| SHEAR STRENGTH | 34 PSI | ASTM C-273 |
| TENSILE STRENGTH | 150 PSI | ASTM D-1623 |
| ELONGATION | 275% | ASTM D-1623 |
| VISCOSITY | 100-200 CPS | |
| % SOLID | 100 | |
| COLOR | AMBER | |
| TDI CONTENT | 0% | |

2 PACKAGE

CR301 INJECTION FOAM is furnished in various packages. Most typically are 21+ ounces dual cartridges or in 5-gallon pails. The use of cartridges is suitable for low-pressure injection with manual tools, or up to 250 psi dispensing, utilizing pneumatic dispensing tools.

3 APPLICATION

Quantity to Use:

It is difficult to determine the amount of material to adequately seal a given crack. Experience in home foundation cracks (8' long with a wall thickness of 8-10") suggest the usage of 10-21 ounces of CR301 INJECTION FOAM per 8' crack (versus an average of 30-50 ounces of epoxy). Thus, while CR301 INJECTION FOAM can theoretically foam to 20 times its volume, more typical is 2-3 times its unfoamed volume for small cracks (1/32" - 1/4") as often found in foundation cracks.

CR301 Polyurethane Injection Foam

Hydrophobic Polyurethane Foam

3 APPLICATION (continued)

Procedure:

Step 1 - Cleaning/Sealing Crack Surface - When crack is contaminated on outside, it will be necessary to clean the crack surface, so the crack can be exactly located. If it is a wide crack or high water flows are encountered, it will be necessary to seal the surface of the crack with a surface sealing material (e.g., hydraulic cement; epoxy gel). The surface sealing can be done before or after drilling the injection holes (depending on the particular situation).

Step 2 - Drilling the injection holes (for high pressure injection) - There are different diameter, depths, and angles of injection holes. The standard is 1/2" or 5/8" diameter hole, the angle of drilling is 45 to the surface; and the depth of the hole will be 1/2 thickness of the concrete. Spacing of the injection ports depends on the width of the crack, but normally varies from 6" to 36". Injection holes should always be staggered from one side of the crack to the other (if possible).

Step 3 - Install Injection Ports or Packers (for high pressure injection) - Place the packer in the drilled 1/2" or 5/8" hole so that the top of the sleeve is just below the concrete surface. Tighten by a ratchet, socket or open-end wrench by turning clockwise as tightly as possible. Packers or injection ports are supplied with a one-way ball valve or check valve.

Step 3A - Install Surface Ports (for low pressure injection) - Space the surface ports the width of the concrete and place the surface ports directly over the crack. Bond with hydraulic cement or epoxy gel.

Step 4 - Flush Crack - It is sometimes necessary to flush the crack with water to remove debris and drill dust out of the cracks. Flushing will tell you how the crack will behave during grout injection and the water will prime the crack for the chemical reaction to occur. This is most necessary if crack is dry at time of repair.

Step 5 - Surface Seal Crack - Sometimes it may be necessary to surface seal the crack to prevent the unreacted grout from flowing back out. Use fast-setting hydraulic cement or epoxy gel to form a surface seal on crack.

Step 6 - Injection of CR301 INJECTION FOAM - Begin the injection at the lowest packer (surface port) on a vertical crack, or at the first packer (surface port) flushed for a horizontal crack. During injection, you will notice that water is displaced from the crack by CR301 INJECTION FOAM. Keep injecting until material appears at the adjacent packer (surface port). Disconnect and start injection at adjacent packer (surface port). After injecting a few packers, come back to the first packer and inject all the ports for the second time. Some of the ports may take some grout, which will fill up and further densify the crack. Injection pressure will vary from 20psi to 250psi depending on the width of the crack, thickness of concrete and condition of concrete.

4 WARRANTY

Recommendations concerning the performance or use of this product are based upon independent test reports believed to be reliable. If the product is proven to be defective, at the option of the Manufacturer, it will be either replaced or the purchase price refunded. The Manufacturer will not be liable in excess of the purchase price. The user will be responsible for deciding if the product is suitable for his application and will assume all risk associated with the use of the product. This warranty is in lieu of any other warranty expressed or implied, including but not limited to an implied warranty of merchantability or an implied warranty of fitness for a particular use.

CR303 Peel Off Surface Sealer

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1 GENERAL DESCRIPTION

CR303 Peel Off Surface Sealer is a 2-component, solvent free, polyurea paste adhesive. It is used as a fast-curing removable surface sealer in concrete crack repair for both epoxy and urethane foam.

2 USES

CR303 Peel Off Surface Sealer is used to temporarily seal cracks and to secure injection ports over concrete cracks prior to crack injection repair. Applications include repair of basement walls; slabs; swimming pools; parking garages; pre-cast concrete elements; containment and sea walls; and columns.

3 ADVANTAGES

Following initial cure of epoxy resin or polyurethane foam, CR303 Peel Off Surface Sealer may be removed by pulling on starter tabs (such as duct tape) placed on the surface immediately beyond the beginning of the crack at the time of application or by prying under the leading edge of the seal with a trowel or similar tool. Alternate Concrete Sealers USA seals (i.e., CR302) are available for applications requiring a non-peeling seal.

4 COVERAGE

One gallon yields 231 cu inch of paste adhesive.

5 PACKAGING

1:1 300/300cc (22 oz.) dual cartridges.

6 SURFACE PREPARATION

Surface must be clean and sound. Remove dust, grease, curing compounds, waxes, foreign particles, and disintegrated materials.

7 PREPARATION WORK

Bond strength is determined by the method and depth of substrate preparation. Wire brushing the surface is usually sufficient for low-pressure applications (typically less than 40psi, but under 100psi). Higher-pressure injections require surface roughening by grinding or light sandblasting. Ease of removal decreases as depth of substrate preparation increases.

CR303 Peel Off Surface Sealer

8 APPLICATION

Apply a band approximately 1/8" thick over the cracks to be injected and 1/4" around injection ports. Immediately embed a starter tab (cloth, duct tape) just beyond the crack. . Alternatively, omit starter tab in favor of prying loose the leading edge of Seal-n-Peel and peeling from the substrate.

9 TECHNICAL DATA

SHELF LIFE: 1 year in original, unopened containers

STORAGE CONDITIONS: Store dry at 45-95°F condition material to 65-85°F before using.

COLOR: Concrete grey or White

MIXING RATIO: Component 'A' to component 'B' = 1:1 volume

CONSISTENCY: Smooth-paste adhesive

HARDNESS (Shore): 80-D

POT LIFE: 6-10 minutes, depending on thickness

TACK-FREE TIME: 40°F 1 – 1 ½ HR 73°F 25-30 MIN 90°F 20-25 MIN

COMPRESSIVE PROPERTIES (ASTM D-695):

| COMPRESSIVE STRENGTH | PSI | 40°F | 73°F |
|--|------------------------------|---------------|---------------|
| | 1 hour | 30 | 5,600 |
| | 2 hours | 1,800 | 6,700 |
| | 4 hours | 3,500 | 7,800 |
| | 6 hours | 6,300 | 8,200 |
| | 16 hours | 6,900 | 8,500 |
| | 1 day | 7,400 | 8,600 |
| | 3 days | 7,900 | 9,000 |
| | 7 days | 8,300 | 9,200 |
| PHYSICAL PROPERTIES | STRENGTH | PSI | ELONGATION |
| Tensile Properties (ASTM D-638): | 1 day | 3,300 | at break 0.2% |
| Flexural Properties (ASTM D-790) (Modulus of Rupture) | 1 day flexural | 5,000 | |
| Shear Properties (ASTM D-732) | 1 day shear | 2,500 | |
| Bond Strength (ASTM C-882) | 2 day (dry cure) | 3,000 | |
| Deflection Temperature (ASTM D-648) | 1 day deflection temperature | | 115°F |
| Water Absorption (ASTM D-570) | 7 day total | (2 Hour boil) | 0. 8% |

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