



Concrete Crack Polyurethane Resin Injection Repair Guide

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

The Mar-flex kit includes all of the materials and accessories for low-pressure injection and repair of approximately 6-10 linear feet of cracks.

- 2 cartridges of Mar-flex Crack Seal / Port Adhesive
- 2 wooden sticks
- 15 surface ports and caps
- 2 cartridges Mar-flex Injection Polyurethane Resin
- 2 3/8x24 mixing nozzles (for use with Injection Resin)
- 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
- Complete instructions & instructional CD
- Product Data Sheets & MSDS

TOOLS REQUIRED

- Standard caulking gun
- Paper plate or scrap cardboard for mixing Surface Seal and Port Adhesive.
- Clean used plastic bottle (soap, ketchup) filled 1-2 cups of water

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.

SURFACE PORT ATTACHMENT AND SEALING OF THE CRACK

1. Place the Mar-flex Port Adhesive cartridge in your caulking gun. Remove the plastic cap and pull to remove the plastic seal. Squeeze enough paste that you plan to use onto paper plate or other suitable container. Mix thoroughly then apply a small amount of mixed adhesive to the bottom of the port base.

2. Place the first port starting at the bottom of the crack and repeat every 8" until the entire crack is ported. *NOTE! Do not allow epoxy to block the bottom of the port opening or the crack under it.*
3. The next step is to work the mixed crack seal /port epoxy paste along the entire length of the crack using the plastic trowel. The recommended epoxy paste application is 1/8" thick and 2" wide. Make sure to mound sufficient extra epoxy around the base of the ports. Expect to use 16 ounces, the total amount provided, for an 8-foot crack. Do not work the epoxy "into" the crack, just paste over the surface.
4. Let the surface seal and port adhesive cure before beginning injection, about 2-4 hours 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 Mar-flex Injection Resin cartridge in your caulking gun. Remove the plastic cap 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 through the port with low pressure (allowing the resin time to flow into and fill all small fissures) until the resin 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 resin. *Note! The secret to effective crack injection is patient low-pressure introduction of the resin. Small or hairline cracks will require 3 - 4 minutes at each port for proper filling to take place.*

The ports can be removed by striking with a hammer after foaming is complete in about 3 or 4 hours. The surface seal epoxy is paintable if desired. Place all disposable items on drop cloth which is a garbage bag and dispose of properly.

Hint: *To improve the ability to penetrate very small & hairline cracks, heat the injection urethane system 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 proceed as before.*