



## **Fuko Hose Injection Procedures**

The location of the junction boxes must be planned by the supervising Site Engineer. Measure the exact location of all boxes and mark them on the drawings (As-Built).

If a water test is performed and voids in the joint area are indicated, the voids should be filled with microfine cement or Portland cement if Fuko Type 2 hose has been installed, prior to injecting Duroseal Inject water swelling resin.

### **Necessary Tools and Equipment:**

- 1 Injection Pump – Colloidal Mixer for Microfine Cement
- 1 Vacuum Pump with waste container
- 2 -Fuko Type 1 or 2 Packertong Vice Grips

Plastic Buckets/Containers – 1 small – 2 gallon size bucket  
Measuring Cup or Plastic Pitcher with quantities marked indicating ml to liter  
Sponge, cloths and/or rags, stirring spoon or wood spatula  
Extra PVC hose vent end hose and connecting nozzle  
Rapid cement and trowel  
Extra Extension cord for pump  
Water or reliable water source and clean containers  
Yellow Plastic Closure Plugs  
DR-90 for cleaning the injection pump  
Regular Dish Washing Soap/Detergent

### **Injection Procedures:**

If junction boxes have been installed, locate junction boxes which house appropriate vent ends for each designated hose segment.

Open junction box and locate green vent end which corresponds with clear vent end for hose length to be injected. The opposite vent end is usually located at a different location, however, sometimes depending on the installation it can be in the same junction box. If the applicator is unsure of what vent end corresponds with what hose, then check by pumping air through each hose segment.

Once the vent ends have been established for the injection, remove the yellow plastic closure plugs from both the injection and opposite colored vent end.

## **Injection Procedures: (Cont'd)**

Insert the Fuko Packertong into injection vent end (usually the green vent end) and connect pump to the packertong.

Prepare the injection material either microfine cement or Duroseal Inject per the manufacturers instructions and pour into injection hopper connected to the pump.

Once the connection is made, start the pump and begin injecting the Fuko hose until material flows out the other end. Injection pressure is approx. 75 – 150 psi depending on the type of pump utilized.

When the injection material is observed flowing out the opposite end of the hose, stop the pump. Close off the vent end with either another packertong or vice grip, making sure that no material is able to escape from the hose.

Once the vent end is securely closed off, start the pump and gradually increase the pressure. Maintain pressure for approx. 3-5 minutes up to a maximum of 600 psi.

\*Note: The held pressure does not have to register 600 psi to be effective. This is a maximum guideline based on the results of the original injection. Example, if the material injected immediately appeared at the opposite end of the hose, then the concrete in the joint is well-consolidated and pressurization of the hose should be minimal. If the injection indicated that the material flowed into voids within the joint area and did not appear at the opposite end of the hose for a few minutes, then pressurization would be for a longer time in order to secure that the void areas had been securely filled by the injection material.

This pressurization is done to ensure that an even distribution of material is guaranteed over the entire length of the joint.

If the injection material penetrates through the wall surface or open joint seams, patch these areas with water plug.

Once a maximum pressure has been sustained for 3-5 minutes, disconnect the pump and hook up at the opposite vent end. Reinject the hose from the opposite end to ensure that the entire joint has been filled. This procedure must be completed within the specified cure time of the material, which allows for vacuuming and rinsing operations.

Disconnect the Fuko Packertong and disconnect injection pump.

Hook up vacuum pump and prepare vent end with added hose length to reach into separate bucket of normal clean water.

## **FUKO Hose Vacuum Procedures:**

Connect a vacuum (diaphragm pump) to the green vent end and using a clear connecting nozzle and extra clear PVC vent end hose add length to the opposite vent end which will reach into a small bucket of clean water.

Start the vacuum pump. Check the pressure by placing a finger over the vent end hose in the bucket of water to see if you feel a 'sucking' pressure. Once a vacuum pressure has been established, place the vent end in the bucket filled with clean water.

During the vacuum process, the injection material grout residue, which was left inside the core of the Fuko hose will be sucked out of the interior diameter and rinsed by the water from the bucket. The one-way neoprene strips will be sucked over the injection port holes in the hose and none of the previously injected grout or cement will be sucked through.

The entire length of the Fuko hose will be rinsed clean.

When the water flow observed at the opposite end is clear (free from grout or cement residue) on the vacuum side, stop the pump.

Disconnect the vacuum pump one end and pull off the connecting nozzle and extra vent end from the other end of the hose. Insert the yellow plastic closure plugs into each corresponding colored vent end. Replace vent ends into each appropriate junction box and properly secure lid or face plate flush with the wall or surface.

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It is a good idea to monitor and record the amounts of grout injected into each hose length.

The length of each Fuko hose should be identified prior to each injection process. Fuko hoses over 40'ft in length (including vent ends) may require specialized injection materials and procedures in order to remain reinjectable for the future.

Please check with the manufacturer or manufacturer's representative prior to any injection process if special requirements must be followed. This will ensure that the owner receives the Fuko Hose System as specified by the Engineer for their project.



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