



The Chemical Company

Pre-Injection Procedure for Masterflex 900

Injection of Masterflex 900

General Introduction for the injection of joints A joint to be injected is considered to be one which contains **Masterflex 900**.

Step 1 Junction boxes

- Select area to be injected
- Refer to installation drawing where all junction boxes are mapped and tagged.
- Locate and open junction boxes
- If horizontal joints are being injected ensure that they are free from standing water

Step 2 Preparation of all required equipment/material for injection

- Unravel vent hoses in the open junction box
- Remove closure plugs from the vent hoses and store in a safe place for re-use after injection has been completed
- prepare all required equipment and check for working function
- set up injection pump with packer tongs on the vent hose
- prepare and connect a vacuum unit on opposite side
- vacuum unit should be running with the inlet valve closed

Step 3 Pre-injection of water into joint

- fill the injection pump vessel with clean water
- start pumping water into the vent hose
- when water appears in the vent hose at the other end, block it off and build up pressure to force water into the joint. This will indicate that the passage of the hose is clear.
- remove water from the injection equipment and make ready to accept the Masterflex 801

Step 4 Injection of Masterflex 900 re-injectable hose

- pre-mix **Masterflex 801** according to mixing instruction and desired pot-life. The dosage chart in the **Masterflex 801** container is for guidance only and the gel time of the resin depends on the temperature of the material, the concrete, environment and the pressure of injection.
- as a rule of thumb, start with only half the indicated accelerator quantity indicated in the chart. This will ensure that the hose can be cleaned out within the gel time if some of the criteria mentioned above are not within the indicated limits. The quantity of accelerator can be progressively increased with each injection. **Take care that the resin should provide enough time to vacuum the hoses before it starts to gel.**
- mix only quantities which can be handled, injected and vacuumed within the pot-life
- place pre-mixed resin into the injection pump vessel
- start pumping at low pressure until resin appears at the opposite end
- connect the vacuum pump to the vent hose at this outlet end.
- the pump should be running and the inlet valve kept closed
- pump resin at moderate pressure (remain below 20 bar)
- The amount of resin required to stop water flow is dependant on a number of factors such as the width of the joint, the water flow through the joint and the time of injection.

- if resin consumption exceeds 0.50 kg per linear metre of hose, stop the injection process
- release welding pliers and open gate valve of vacuum unit
- insert vent hose at the injection end in a bucket of water
- suck water through by opening the inlet valve of the vacuum pump
- take hose out of the bucket and close with finger tip for a few seconds (neoprene valves get sucked back)
- repeat vacuum flushing with water and make sure clean water appears in vent hose. Repeat 3 times

Step 5 Injection of adjacent hose

- empty Vacuum unit from time to time to ensure waste water and resin is not drawn into the vacuum pump
- clean any spillage of resin with sponge and water, alternatively use a wet vacuum cleaner
- shift injection pump to the next junction box (vacuum pump remains at the same location)
- repeat steps 3 and 4 in this hose

Step 6 cleaning of equipment and tools

- Clean equipment and tools within pot life of the resin on a regular basis
- use soapy water for better cleaning effect
- remove hardened product by immersing the tools into water. This will allow the resin to swell in an unrestrained manner and flake away.

List and description of materials

Product	Description
Masterflex 900	Re-injectable hose – installed in joints during casting
Masterflex 801	Swellable Vinyl ester resin for injection of Masterflex 900

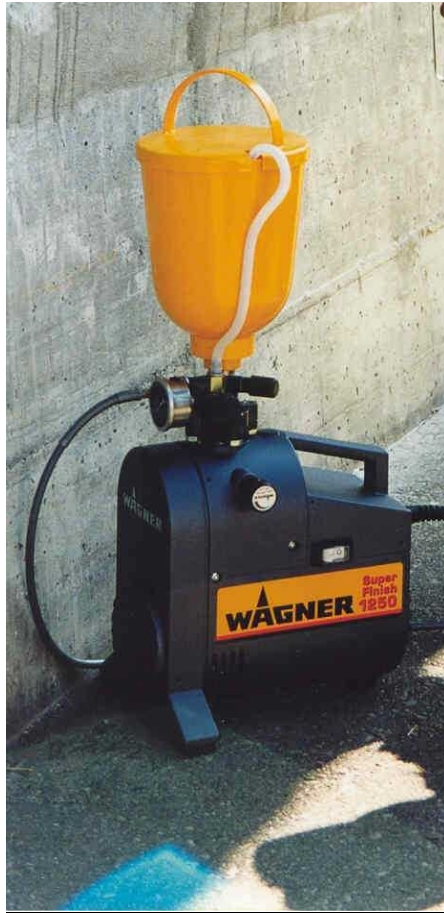
Necessary tools and accessories for injection of Masterflex 900

- 1 Container 25 Lt. (approx. 5 gallons) filled with water
- 1 sponge, cloth and brush
- 1 Grip pliers
- 1 Packer tongs Type 1
- 1 PVC hose with connecting nozzle to rinse the Masterflex 900
- 1 injection pump 1 component ~100 bar max. pressure / > 2-3 l/min delivery
- 1 vacuum pump with waste container
- 1 Wet vacuum cleaner
- X MASTERFLEX 801 Injection resin
- X Measuring containers and plastic syringes
- X Quickset packers
- X set of spares for injection pump
- X spare pump if available
- 20 m electric cable on reel
- 1 electric hammer drill/10mm drill bits
- 1 Selection of hand tools

Personnel protection equipment

- Eye goggles,
- Rubber gloves,
- Hard hat
- Impermeable overall
- Eye-bath.
- Safety boots

PICTURES OF EQUIPMENT



Wagner injection pump



Injection Packer Tong Type 1



Injection whip



Injection valve



Lubas Vacuum Pump



Sliding Clutch



Quickset Injection Packer