

MASTERFLEX[®] 900

Reinjectable hose system for construction joints in concrete

DESCRIPTION

MASTERFLEX 900 is an advanced injection hose system for installation in construction joints, ready for subsequent injection of cementitious or polymeric compounds to ensure watertightness.

The hose construction is tough, flexible, resilient and chemically inert. It is not affected by low temperature and immersion in water.

The unique hose (see Fig 1) has a solid blue inner core with a longitudinal injection hole. Three moulded grooves run along its length with a number of 3 mm diameter openings on each of them at 10 mm staggered intervals. Closed cell neoprene strips cover the three grooves and act as one way valves. The entire system is held together by a wide meshed nylon fabric sleeve.

RECOMMENDED FOR

MASTERFLEX 900 is recommended for use in construction joints in all structures, which need to be injection grouted to waterproof them, such as:

- water retaining structures
- tunnels and basements
- buildings, bridge decks and other similar structures.

MASTERFLEX 900 is not recommended for use in expansion joints and in areas prone to significant settlements.

FEATURES AND BENEFITS

- **Installation allows testing for water leaks** – injection needs to take place only if the joint leaks. Avoids unnecessary injection
- **Hose is re-injectible** – permits re-injection if leakage persists or reappears at a later date.
- **Neoprene strips act as “one way valves”(fig 2)** – prevents injection material from returning even under back pressure.
- **Solid inner core** – does not collapse under concrete pressure. Allows smooth flow of injected material.
- **Chemically inert** – does not deteriorate even if exposed to such injection materials as polyurethanes, vinyls esters, epoxies and cements
- **Flexible** – easy installation at corners without cutting and jointing.

PROPERTIES

Fig. 1 : Construction of **MASTERFLEX 900**

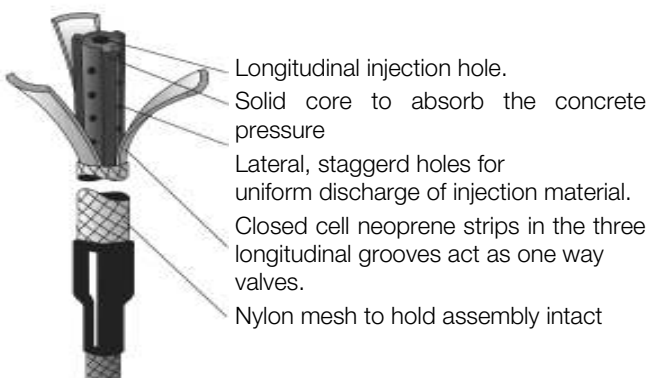


Fig 2 : Action of neoprene strips as non return valves



- ➊ Due to the external concrete pressure, the neoprene strips seal the discharge holes and prevent the laitance from entering the hose.
- ➋ The neoprene strips compress due to the internal injection pressure, and allow the discharge of the injected material to fill the joint.
- ➌ With the removal of injection pressure, the neoprene strips reseal the discharge holes to prevent material from flowing back.

APPLICATION

Surface Preparation - The surface where the injection hose will be installed must be clean and smooth. The surface generated by an internal vibrator while compacting the concrete will usually be suitable without any need for additional trowelling. Before injection, patch up all surface honeycombs located close to the joint, by using a suitable repair mortar from the BASF Construction Chemicals range. Remove all loose materials from the surface, such as stones, dust, etc., before installing the hose.

Hose assembly - Fabricate **MASTERFLEX 900** hose in lengths of max. 10 m. To both ends of the hose, securely fix approximately 400 mm (or as required by the structure) lengths of vent hose and cover the joints with 60mm of heat shrinkable plastic sleeve. The vent hose is used as an injection port and hence does not have discharge holes. The different colours (green and clear) of the vent hoses are to identify the function of each (input or exhaust) during injection.

Placing - Place **MASTERFLEX 900** (Fig 3) along the centreline of the concrete section. In very thick sections, position the hose approx. 200-300 mm from the water entry side. After installation, all **MASTERFLEX 900** hoses should be protected from oil, dirt, concrete splatter and mechanical damage and should be left clean to receive concrete cover. Ensure that the hose and at least 50 mm of the nylon vent hose are encased in at least 50 mm of concrete, with the vent ends (injection ends) clearly visible outside after pouring the concrete. The minimum distance between two parallel hose sections shall have a clearance of approximately 50mm.

Fixing - Drill 6 mm diameter holes, approx. 50 mm deep and 250 mm apart, along the line of the hose. Clamp the hose firmly using **MASTERFLEX 900** Clips (Fig 4), to hold the hose in contact with the surface without allowing it to float up when fresh concrete is poured. Do not fasten the hose to reinforcement bars.

MASTERFLEX® 900

Injection - The waiting time for injection after the pouring of concrete is dependent on the curing time of concrete. The minimum period should be 28 days.

Use one of the following products for injection depending on the nature of job:

1. Rheocem (micro cements).
2. MASTERFLEX 801 (swellable vinyl ester based).
3. MASTERFLEX 500 (acrylate resin)

Note : See separate data sheets.

Start injection always at one end. Fill the hose with injection material using an injection pump until it flows out at the other end and plug that end with a special packer. Ensure the pump achieves an injection pressure of at least 2 bars and continue pumping while material is being consumed. When the pressure stabilises and no more material is being injected, increase the pressure to approximately 20 bars for 5 minutes only. When no drop in pressure is noticed, stop the injection.

Apply the same procedure from the other end of the **MASTERFLEX 900** hose to make sure that over the whole length of joint, a similar pressure distribution is achieved.

Immediately after injection, clean the hose of unset injection material if MASTERFLEX 801 or a Rheocem microcement is used, by applying a vacuum pump and flushing with water. The hose is now ready for re-injection should it ever become necessary.

SHELF LIFE

MASTERFLEX 900 can be stored in original packaging, indefinitely, if stored in a covered place to protect it from settlement of oil, dust, concrete rubble etc on the hose.

PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF Construction Chemicals **Material Safety Data Sheet (MSDS)** from our office or our website.

Fig 3 : Installation

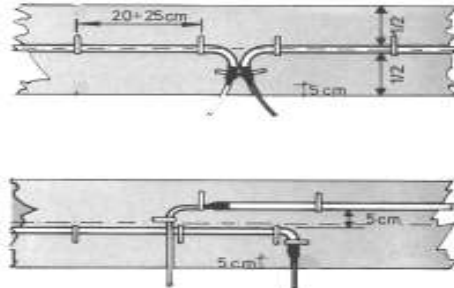
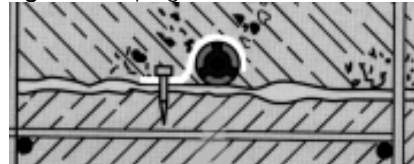


Fig 4 : Clamping of hose



PACKAGING

- **MASTERFLEX 900 No. 1** – 19mm external diameter and available in 200m lineal metre kits.
- **MASTERFLEX 900 No. 2** – 24mm external diameter and available in 125m lineal metre kits.

Recommended Injection Materials	MASTERFLEX 900 No.1	MASTERFLEX 900 No. 2
Rheocem micro cement	✓✓✓	✓✓✓
MASTERFLEX 801	✓✓✓	✓✓✓
MASTERFLEX 500	✓✓✓	✓✓✓
PUR resin	✓	✗
EP resin	✓	✗
Cement paste (Portland cement + grout admixture)	✗	✓✓✓

- ✓✓✓ Reinjectable
- ✓ One time injectable only

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by **BASF** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF**, are responsible for carrying out procedures appropriate to a specific application.

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