

# Masterflex<sup>®</sup>900

## Injection hose waterstop system for construction and cold joints in concrete

### Description

Masterflex<sup>®</sup>900 is a blue flexible PVC hose available in two sizes. The hose comprises a solid core and lateral openings covered by neoprene strips, all banded by an open webbed nylon mesh.

### Primary uses

Masterflex<sup>®</sup>900 injection hose is designed to replace or can be used in conjunction with Waterbar for use in concrete structures which contain joints other than expansion joints and are subject to hydrostatic pressure on one or both faces of the structure. Its use prevents passage of water through concrete joints in the following typical applications.

- Water reservoirs / tanks
- Canals
- Dams
- Sewage treatment plants
- Liquid storage vessels
- Any sub base concrete construction
- Water excluding or retaining structures

### Advantages

- Eliminates costly design, welding and installation of waterbar.
- Water cannot penetrate treated joint and rebar, unlike traditional installation where water is in contact with the reinforcement up to the waterbar.
- The installed system assures a watertight structure.
- Fast easy installation procedures even to complicated design detail.
- Proven and predictable performance.
- Joints can be tested for watertightness before backfilling or membrane tanking operations.

- System enables retro-injection, to stop leaks caused subsequently by settlement or structural movement at the construction joint.
- Completely maintenance free.
- Possible to retro-fit against existing structures.

### Typical properties

Masterflex<sup>®</sup>900 injection hose is a specially formulated PVC compound. The material is tough, flexible, resilient, chemically inert and is not affected by weathering, low temperatures, or constant immersion in water. It will withstand rough treatment during installation and is easy to install and splice. Masterflex<sup>®</sup>900 injection hose is unaffected by alkalis, sewerage, most water solutions of organic chemicals, aliphatic hydrocarbons (fuel), mineral oils, acids and alcohols. Two basic types of Masterflex<sup>®</sup>900 injection hose are available:

**Masterflex 9001** : Outside diameter: 19mm, longitudinal internal injection hole diameter: 6mm, discharge openings diameter: 3mm. Installation within all types of concrete joints.

**Masterflex<sup>®</sup> 9002** : Outside diameter: 24mm, longitudinal internal injection hole diameter: 10mm, discharge openings diameter: 5mm.

For installation within concrete joints, tunnels or voids where large quantities of injection materials are to be injected.

### Installation

#### Preparatory work

All Masterflex<sup>®</sup>900 injection hoses should be protected from oil, dirt, concrete spatter and damage. They should be kept clean to receive concrete.

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The surface where the Masterflex<sup>®</sup>900 injection hose will be installed against has to be smooth. Surfaces generated by an internal vibrator while compacting concrete will usually be suitable.

## Method

The Masterflex<sup>®</sup>900 injection system consists of the injection hose and vent ends. These are specially fabricated PVC hoses, designed to withstand high injection pressure. They are available in green and transparent colours. The vent ends allow injection at a later stage and must be approx. 40cm long, or as required by the structure and installation.

After pouring the concrete, only the vent ends are visible. The different colours are made to make differentiating the hoses after concreting. The injection hose and vent ends must be encased in at least 5cm of concrete.

The Masterflex<sup>®</sup>900 injection hose is installed in lengths up to a maximum length of 12m. For normal wall thickness the Masterflex<sup>®</sup>900 hose has to be installed in the centre of the installation. The hose is clamped into position with Masterflex<sup>®</sup>900 clips spaced about 250mm apart. The hose must not be fastened to the reinforcement bars in the wall. It is essential that there is a direct contact between the hose and the concrete. If aggregate or debris lie on the concrete, these must be removed, to prevent floating of the hose in the freshly poured concrete.

## Guidelines

Installation, injection, reinjection, and selection of materials should be entrusted to an experienced and certified Masterflex<sup>®</sup>900 applicator. The period between pouring and injecting is determined by the curing time of the concrete. The usual minimum period is 28 days.

If this is not possible please contact BASF Construction Chemicals SA Technical Services.

Masterflex <sup>®</sup> 900 1 injection materials:
a) Masterflex <sup>®</sup> 601
b) Coneresive <sup>®</sup> 1300
c) ConeresivE <sup>®</sup> 1315
d) Coneresive <sup>®</sup> 1320
e) Rheocem <sup>®</sup> microcements
Injection of the Masterflex <sup>®</sup> 900 hose with Masterflex <sup>®</sup> 601 or Rheocem <sup>®</sup> permits reinjection:
Masterflex <sup>®</sup> 900 2 injection materials:
a) OPC with Rheobuild <sup>®</sup>
b) Flowcable
c) Masterflex <sup>®</sup> 601
d) Coneresive <sup>®</sup> 1300
e) Coneresive <sup>®</sup> 1315
f) Coneresive <sup>®</sup> 1320
g) Rheocem <sup>®</sup> microcements

Injection always starts at one end adopting the following procedure:

- Fill the hose with the properly mixed injection material by means of an injection pump until it flows out at the other end.
- Plug that end with packer provided.
- Pressurise the Masterflex<sup>®</sup>900 until constant pressure is maintained.

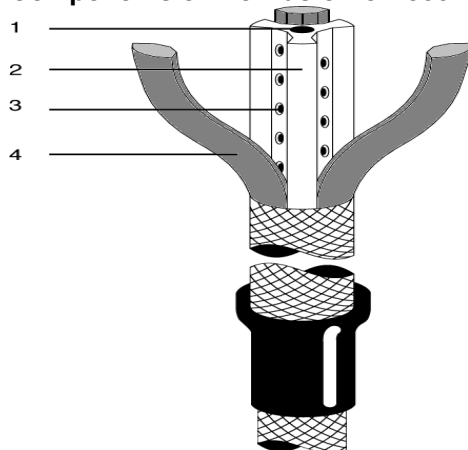
As from the moment that no material flows into the joint and there is no (or only slight) pressure drop at the gauge; maintain the pressure for approx. 5 minutes. This is essential to allow the injection material to penetrate into the joint. Sealing is achieved by moderate pressure and a longer injection time, as opposed to high pressure over a brief injection period.

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- Adopt the same procedure from the other end of the Masterflex<sup>®</sup>900 hose; this is to ensure even pressure distribution over the whole length.
- During the gel time, pressurise the hose again briefly.
- If material penetrates the joint and appears at the wall surface. The joint surface should be patched with rapid setting cement; Concrese<sup>®</sup>1418 / 1480 or similar.

**Note:** Depending on the quality of concrete in a construction joint, it may take a number of injection cycles to completely seal the joint.

## Components of the Masterflex<sup>®</sup>900 Hose



Injection diameter, 6 or 10mm, depending on the injection material.

1. Solid hose core for absorbing the concrete pressure.
2. The lateral openings with a diameter of 3 or 5mm, each staggered by 1cm, ensure a uniform discharge of the injection material.
3. The three neoprene strips in the longitudinal grooves act as non return valves.

## Storage

Store under cover, out of direct sunlight and protect from extremes of temperatures.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult BASF Construction Chemicals SA's Technical Services Department.

## Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use.

## Note

### *For professional use only:*

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local BASF Construction Chemicals SA representative. BASF Construction Chemicals SA. reserves the right to have the true cause of any difficulty determined by accepted test methods

## Quality and care

All products originating from BASF Construction Chemicals' SA facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001:2000.

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As all BASF's technical datasheets are updated on a regular basis it is the user's responsibility to obtain the most recent issue.

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