

# MasterSeal<sup>®</sup> 909

## Re-injectable hose waterstop system for construction and cold joints in concrete

### DESCRIPTION

**MasterSeal 909** is a blue flexible PVC hose which comprises a solid core and lateral openings covered by neoprene strips, all banded by an open webbed nylon mesh.

### PRIMARY USES

**MasterSeal 909** is designed to replace waterbar for use in concrete structures which contain joints other than expansion joints and 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 when new construction is built against existing structures

### PACKAGING

Two boxes comprising the following:

#### Box 1

100 meters blue re-injectable hose

#### Box 2

- a) 20 meters green vent hose
- b) 20 meters transparent vent hose
- c) 2 meters shrink on sleeve
- d) 2 meters connecting nozzle
- e) 30 closure plugs
- f) 500 anchor clips

### TYPICAL PROPERTIES

**MasterSeal 909** re-injectable hose is a specially formulated PVC compound. The material is tough, flexible, resilient, chemically inert, is not affected by weathering, low temperatures, or constant immersion in water. It will withstand rough treatment during installation and is easy to install.

**MasterSeal 909** re-injectable hose is unaffected by alkalis, sewerage, most water solutions of organic chemicals, aliphatic hydrocarbons (fuel), mineral oils, acids and alcohols.

Outside diameter 19mm, longitudinal internal injection hole diameter 6mm, discharge openings diameter 3mm.

Installation within all types of concrete joints.

### INSTALLATION

#### PREPARATORY WORK:

All **MasterSeal 909** re-injectable hoses should be protected from oil, dirt, concrete spatter and damage and should be left clean to receive concrete.

The surface where the **MasterSeal 909** re-injectable hose will be installed has to be smooth. The surface generated by an internal vibrator while compacting the concrete will usually be suitable.

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## METHOD:

The **MasterSeal 909** re-injectable hose consists of the injection hose itself and the vent ends. These are specially fabricated PVC hoses to withstand injection pressure, in green and transparent colours. The vent ends allow the fixing of injection equipment at a later stage and generally project 20 cms out of the concrete surface.

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

The **MasterSeal 909** re-injectable hose is installed in lengths up to a maximum length of 12m. For upto 600 mm wall thickness the **MasterSeal 909** hose should be installed at the centre of the wall thickness.

The hose is clamped into position with **MasterSeal 909** clips spaced about 200-250mm 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 MasterSeal 909 applicator.**

The injecting of the hose may be carried out at any time either before switching off the dewatering as a precautionary measure or afterwards if leaks are noticed. The hose may be injected with water under pressure to test the integrity of the joint.

**Injection of the MasterSeal 909 hose with MasterSeal 901 permits reinjection. Use of any other resins will render the hose unusable.**

Injection always starts at one end adopting the following procedure:

- Fill the hose with injection material by means of an injection pump until it flows out at the other end.
- Plug that end with the end cap.
- Pressurise the **MasterSeal 909** hose.

Continue to inject until the moment that no material flows into the joint (there is no or only slight pressure drop at the gauge); resin is seen flowing out of the joint or a predetermined quantity has been injected. Sealing is achieved by moderate pressure and a longer injection time, as opposed to high pressure over a brief injection period.

- If required the same procedure may be adopted from the other end of the **MasterSeal 909** hose, this is to ensure even pressure distribution over the whole length.
- Within the gel time, pressurise the hose again briefly.

## NOTE

Normally one injection is enough to completely seal the joint, however this depends on the quality of the concrete and/or the water pressure.

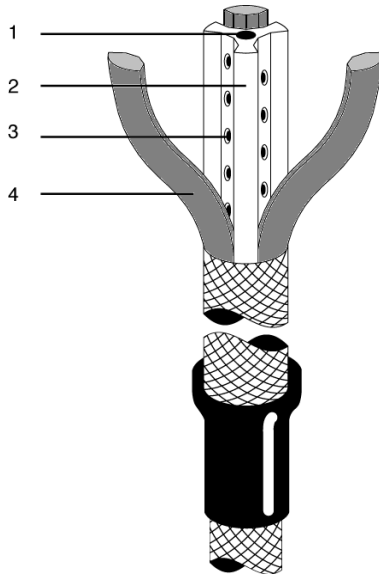
## STORAGE AND SHELF LIFE

Store in original packaging under cover out of direct sunlight and in dry condition.

**MasterSeal 909** has a shelf life of 24 months.

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## COMPONENTS OF THE MasterSeal 909 HOSE



1. Injection diameter 6mm.
2. Solid hose core for resisting concrete pressure.
3. The lateral openings with a diameter of 3mm, each staggered by 1cm, ensure a uniform discharge of the injection material.
4. The three neoprene strips in the longitudinal grooves act as non return valves.

## QUALITY AND CARE

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\* Properties listed are based on laboratory controlled tests.

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