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MasterSeal® 901 (Formerly known as Masterflex® 801)

Methacrylate Resin for Crack Injection

DESCRIPTION OF PRODUCT

MasterSeal® 901 is a multi-part, solvent free, water swelling vinyl ester based injection system that cures to form a flexible yet solid material with an excellent bond even to wet substrates. Depending on the degree of availability of moisture, the cured system swells reversibly up to 120% of its volume to act as an effective and permanent seal against ingress of water.

FIELDS OF APPLICATION

- **MasterSeal® 901** is used for sealing cracks, joints and crevices in concrete, rock and masonry to prevent water ingress.
- Cracks, fissures and seams in the rocky strata of mines and tunnels.
- Stabilised cracks and non moving joints in structural concrete.
- Concrete construction joints using **MasterSeal® 909**.

FEATURES AND BENEFITS

- Swells in contact with water by up to 120% - prevents water ingress even when the crack width varies.
- Water molecules held by molecular attraction-captured water does not get transported through capillaries.
- Unaffected by cycles of swelling and shrinking-continues to perform over long time, despite exposure to wetting and drying cycles.
- Good bond to damp surfaces-advantage in damp structures.
- Does not form foam or gas with water-the bond with substrates remains intact. Can withstand continuous and high water pressures.
- Adjustable reaction time between 20 and 60 minutes.

NOTICE

The quantity of **MasterSeal® 901** required is dependent on the total volume of the void to be grouted, absorption of the substrate, loss and wastage. A trial may be conducted on a typical area to get an approximate estimation.

TECHNICAL DATA

Material	Resin Based
Colour	Yellow
Density at 20°C	Approx. 1.07 g/ml
Viscosity at 20°C (mixture of components)	30-40 mPa.s
pH-value at 20°C	>8.5
Solids Content	68%
Chloride Content	<0.01%



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APPLICATION PROCEDURE

Preparation of Injection Hoses

When being used in conjunction with **MasterSeal® 909**, refer to **MasterSeal® 909** technical datasheet for correct surface preparation and application.

Cracks or Cold Joints Injection

Clean the concrete surface along the crack or joint to 2 cm on either side, free from dust, fungus, moss and other such contaminants. Remove all standing water. Remove any concrete layer contaminated with oil or grease at the crack or joint opening to expose a clean substrate. Vacuum clean the surface free from dust. Mask the crack at locations where injection ports are to be glued and seal the rest of crack or joint opening using **MasterBrace® ADH 1406** or other equivalent epoxy sealing paste. The interval between ports depends upon the severity and extent of crack, the type of structure etc. In the case of a cold joint and that of a crack with openings on both faces of the structural element, seal the openings on all the sides.

Glue the injection ports at the predetermined locations directly on to concrete surface across the crack or joint using **MasterBrace® ADH 1406**. If the concrete surface at the crack or joint opening is not flat or clean enough for a strong adhesion of ports, use injection nipples in drilled holes instead of glue-on ports for injection of the resin system. Drill approximately 50 mm deep holes on the crack or joint at required intervals depending on the complexity of the

job. In situations where the crack opens out on the opposite faces of a structural element more than 500 mm thick, injection holes may have to be drilled on both these faces. The diameter of the holes should be around 5 mm. Fix injection nipples in each of the drilled holes using **MasterBrace® ADH 1406**.

Mixing (for partial quantities <10kg)

- 1 litre of resin (Part A) is filled in a mixing container.
- Add the necessary quantity of accelerator, selected from the mixing ratio chart
- Dissolve one bag of hardener powder in 500 ml of water.
- Add 50 ml of this hardener powder in 500 ml of water.
- Thoroughly mix all parts.

Mixing (for quantities of minimum 10kg)

- Dissolve one bag of hardener powder in 500 ml of water. The hardener powder cannot be directly dissolved in the resin.
- Mix the 500 ml of hardener solution (500ml) and the 10kg unit of resin.
- Add a partial quantity into a mixing container.
- Add the necessary quantity of accelerator, selected from the metering chart below.
- Thoroughly mix all parts.

Injection

Do not inject when the **MasterSeal® 901** is under severe hydrostatic pressure. Reduce the pressure to minimise the washout of material before injecting. Where hydrostatic pressure exists, it is suggested to increase the accelerator content



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to achieve the shortest practical gel time (under these circumstances, it may be possible to use only a two line pump). Due to its long workability time of 20 to 60 minutes, **MasterSeal® 901** can be easily processed with one part pumps. **MasterSeal® 901** will react in dependence of the used material quantity and the ambient temperature. The data given in the mixing ratio chart are laboratory results, which may differ from actual results on site. **BASF** therefore recommends carrying out a manual test to determine the exact adjustments before injection work is commenced. For sealing existing cracks, joints and seams, inject the mixed resin system into the crevices starting from its widest part through the installed ports or nipples. In the case of vertical cracks start from the lowest level. Inject in each port or nipple (keeping all others except the next one closed) until the pressure is built up to the required level. If resin starts issuing out of the open port or nipple, close it. Maintain the injection pressure for 5 minutes to allow total penetration and close the port before releasing the pressure. Continue until all the ports or nipples are injected. 24 hours after the injection, remove all the nipples or ports and fill in the resulting cavities with **MasterBrace® ADH 1406**.

CLEANING OF TOOLS

Tools and equipment contaminated with uncured **MasterSeal® 901** can be easily cleaned using water. Hardened material should be softened by swelling with Thinner No. 1 and can then be removed mechanically without any great difficulty.

MIXING RATIO CHART

Mixing Ratio Accelerator in ml	Reaction Time					Quantity of accelerator in ml per 1 kg of mixed resin
	20 min.	30 min.	40 min.	50 min.	60 min.	
Ambient Temperature						
5°C			120/50	105/50		
10°C		142/50	105/50	80/50		
15°C		82/50	72/50	65/50	62/50	
20°C	77/50	65/50	55/50	47/50	42/50	
25°C	68/50	55/50	45/50	37/50	32/50	
30°C	50/50	35/50	30/50	27/50	25/50	
35°C	42/50	30/50	25/50	22/50	20/50	
40°C	32/50	25/50	22/50	20/50		
45°C	27/50	22/50				
50°C						

PACKAGING

MasterSeal® 901 is supplied as a 22.066 kg kit:
 Resin 2x10.0 kg
 Accelerator 2x1.0 kg
 Hardener Powder 3x22 g

STORAGE

Store in cool and dry conditions protected from frost. In short-term storage, maximum 2 palletes can be stored on top of each other and delivery must be according to first in first out system. In long term storage, do not store palletes on top of each other.

SHELF LIFE

12 months after the production date under appropriate storing conditions. **MasterSeal® 901** may freeze under 0°C. Tightly seal the cover of the opened pails and do not store more than one week.





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HEALTH AND SAFETY PRECAUTIONS

Avoid contact to skin and eyes during storing and application. If such a contact occurs, it must be washed by soap and plenty of water. Be careful not to inhale its vapor. Must not be used in non-ventilated areas, protective gloves and goggles must be used during the application. Consult a physician urgently if swallowed. Food and drink must be kept outside the application areas. Must be stored away from children. Please look at the Material Safety Data Sheet for detailed information.

DISCLAIMER

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **BASF Türk Kimya Sanayi ve Tic. Ltd. Şti.** is only responsible for the quality of the product. **BASF Türk Kimya Sanayi ve Tic. Ltd. Şti.** is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones.

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