

# MASTERFLEX<sup>®</sup> 601

## Polymer-based water-swelling flexible injection resin

### Description

MASTERFLEX 601 is a solvent-free, low viscosity, two part injection resin based on water-swelling vinylester, which cures to form a flexible and solid material.

### Typical uses

- Injection into Masterflex 900 system injection hoses or directly into concrete and rock. Due to its low absolute viscosity (unaffected by the ambient temperature) and its subsequent low resistance to flow; microcracks and capillaries can easily be filled by injection.
- In contact with water it increases its volume by a factor of 1.5. This enables sealing to take place even when the crack width varies. No other materials have the same characteristics.
- Where movement occurs and transfer of load in joints and cracks is not required. The expansion is dependent on the amount of water available.

### Advantages

- Cures even at temperatures below -10°C.
- Good bond to moistened surfaces. In contact with water no extraneous reactions take place, therefore no gas bubbles or foam layer are formed, both of which would hinder the bonding process.
- Resistant to alkalis, therefore unaffected by freshly poured concrete.
- Passive towards steel, bitumen, foils, joint ribbons and concrete.
- Resistant to weak acids, salt solutions, oils, fats and hydrocarbons.
- In wet and humid conditions, there is a balance between the water content of the adjacent medium and MASTERFLEX 601.
- Remains expanded when concrete has a low moisture content.
- The expansion of MASTERFLEX 601 is reversible and is unaffected by ageing or electrolytic water.
- Withstands permanent water pressure.
- Re-injection and patching of cracks are no longer necessary.

- Suitable for injection with one component or two component pumps.
- Satisfies the requirements of drinking water regulations and is therefore suitable for sealing drinking water reservoirs.

### Packaging

MASTERFLEX 601 is supplied in two components, in separate containers of 10kg each.

Component A		Component B	
resin	yellow	resin	yellow
accelerator	light yellow	hardener powder	white
		hardener liquid	blue

**Note:** although similar in colour, the resins of Components A and B are not identical.

### Technical data\*

Composition:	blended polymers (vinylesters)
Colour:	yellow
Number of basic components:	4
Mixing ratio (A:B):	1:1 (by volume)
Viscosity at 23°C (4mm DIN beaker):	approx. 15 seconds (thin)
Curing / gel time:	see table 1
Reaction to fire:	not flammable

### Application procedure

#### Mixing:

##### For one component pumps

Premix pre-packed activator ingredients of component B by pouring the white hardening powder into the blue hardening liquid and shaking well until all the powder has been dissolved. Then mix the yellow resin of component B with the yellow resin of component A in ratio 1:1. The mixed activator is added to the mixed A+B resins at 5% (by volume). It is recommended to use an electric drill and paddle. The mixing time should be a minimum of two minutes.

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The accelerator, pre-packed with Component A, is not used for one component pumps.

### For two component pumps

Premix pre-packed ingredients of Component A (resin and accelerator). Premix pre-packed activator ingredients of Component B by pouring the white hardening powder into the blue hardening liquid and shaking well until all the powder has been dissolved, then add to the resin of Component B.

The individual mixtures of both components can now be injected using a 1:1 mixing ratio (by volume).

### **Pot life:**

#### For one component pumps

The solution of the activator has a shelf life of approx. 3-4 days.

Components A and B must be mixed shortly before use. The cross linking action starts shortly after the two components are mixed. During the reaction exothermic heat is produced which accelerates the process. Therefore:

- Do not mix large batches
- Divide the mixture up between several small containers
- Avoid heat build-up

Depending on temperature, the following processing times can be expected (based on a mixing ratio of 100:5):

-10°C	approx.	300 min.
0°C	approx.	120 min.
+6°C	approx.	100 min.
+12°C	approx.	40 min.
+20°C	approx.	20 min.
+25°C	approx.	14 min.

The amount of activator can be varied, but must not fall short of 5%. Revert to table 1.

### For two component pumps

The individually mixed component A has a shelf life of approximately 1 day.

The individually mixed component B has a pot life of approximately 24 hours.

### **Application:**

The injection of MASTERFLEX 601 must be done by high pressure piston injection pump. All parts touching the fluid should be made either of stainless steel or chrome coated.

### **Consumption:**

Approx. 0.3 / linear metre of injection hose.

### **Curing / after treatment:**

None.

### **Equipment care**

All equipment used in processing must be cleaned with MASTERFLEX Machine Cleaner both when work is interrupted and on conclusion of work.

### **Storage**

Store in a cool dry place, under cover, out of direct sunlight and protect from extremes of temperature.

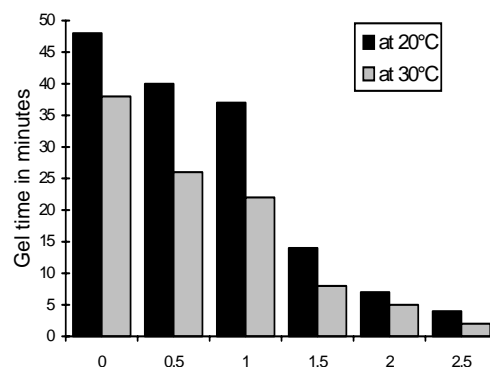
### **Safety precautions**

#### **Eye / skin contact**

Contact with the skin and mucous membranes should be avoided. During processing operations protective goggles must always be worn. If product touches the skin, wash immediately using soap and water, possibly with the addition of household vinegar. If it gets into the eyes, rinse thoroughly with an eyewash filled with boracic solution. An eye specialist should always be consulted. For further information including disposal instructions refer to the Material Safety Data Sheet.

Following curing, MASTERFLEX 601 is physiologically harmless.

Table 1: Gel time



Concentration of accelerator (in component A) in %



The Chemical Company

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## Quality and care

All products originating from BASF's Dubai, UAE 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, ISO 14001 and OHSAS 18001.

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\* Properties listed are only for guidance and are not a guarantee of performance.

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BASF Construction Chemicals UAE LLC

P.O. Box 37127, Dubai, UAE

Tel: +971 4 8851000

Fax: +971 4 8851002

www.BASF-cc.ae

e-mail: marketingcc.mideast@BASF.com



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