

Foamjet F

Ultra rapid setting two-component polyurethane resin with fluid consistency, to be injected, for consolidating and waterproofing of structures subject to weak water ingress

WHERE TO USE

- Consolidating rock subject to water ingress.
- Consolidating water saturated ground.
- Waterproofing concrete structures and cracked walls subject to water ingress, also under pressure.
- Repair of concrete structures or cracked walls also in the presence of water ingress or saturated with humidity.

Some application examples

- Waterproofing tunnels subject to water ingress through possible cracks or in fissures between keystones.
- Waterproofing shafts or hydraulic structures that manifest water leakage through working joints or cracks.
- Repairing cracks in dams, channels and bulkheads when permanently immersed in water.
- Sealing cracks in floorings or slabs that are damp or saturated with water.

TECHNICAL CHARACTERISTICS

Foamjet F is a two-component polyurethane expanding resin, self-extinguishing for injections.

Foamjet F part A and part B must be mixed in the ratio 1:1 by volume, by using an adequate pump: the two components reaction leads to a great resistance polyurethane foam.

Thanks to its high fluidity, **Foamjet F** can penetrate through cracks of only some one hundred microns wide and seals the cracks even if they are subject to water infiltrations.

At the end of the setting time, between 45 and 70 seconds, depending on the temperature, **Foamjet F** becomes completely waterproof and ensures an adequate consolidation to the treated structure.

Foamjet F is CFC-free.

RECOMMENDATIONS

Although **Foamjet F** is also suitable for structural consolidation of cracked concrete not subject to water infiltration or high humidity during injection of the product, it is recommended, when rapid hardening is not required, to substitute **Foamjet F** with **Epojet** fluid epoxy resin.

In cases of infiltrations of water under strong pressure, it is recommended to use **Foamjet T**, high viscosity, two-component polyurethane resin for injection, which has a higher resistance to scouring.

| TECHNICAL DATA (typical values) | | |
|---|--|--------------|
| PRODUCT IDENTITY | | |
| | Part A | Part B |
| Colour: | light yellow | dark brown |
| Appearance: | liquid | liquid |
| Density (at +25°C) (g/cm³): | 1.080 ± 0.02 | 1.240 ± 0.03 |
| Viscosity (at +25°C) (mPa·s): | 250 ± 50 | 200 ± 40 |
| Storage: | 1 years months in original sealed packaging. Protect from humidity and store in temperatures between +5°C and +35°C | |
| Hazard classification according to EC 1999/45: | none | harmful |
| | Before using refer to the "Safety instructions for preparation and application" paragraph and the information on the packaging and Safety Data Sheet | |
| Customs class: | 3909 50 90 | |
| APPLICATION DATA | | |
| Mix ratio: | part A : part B = 1 : 1 (by volume) | |
| Foaming factor: | 20-30 times the initial volume | |
| Beginning of reaction at +15°C: | < 10" | |
| Time required to harden: | 3-5 minutes, depending on ambient conditions | |

Temperature influences the hardening time of **Foamjet F**; temperatures lower than +15°C lengthen setting time. It is therefore recommended to seek information from our technical service before injection takes place in structures that are subject to high pressure water ingress.

DIRECTIONS FOR USE

Sealing cracks by injection

Positioning the injectors

Make off-set holes on the sides of the cracks. The size of the holes should fit the diameter of the injectors that will be used.

Expansion injectors with a non-return valve can be easily fixed by self-tapping completely to the walls of the hole.

If there is no water ingress, normal copper, steel or PVC tubes with a diameter of approximately 10 mm can be used and

can be fixed with **Adesilex PG1**.

Preparing the product and injecting

The two components that make up **Foamjet F** must be mixed together with a special pump for two-component resins.

In order to carry out injection, **Foamjet F** part A and **Foamjet F** part B in the ratio 1:1 by volume, must be separately conveyed through the pump and into the nozzle previously placed on the injector and mixed with a worm screw placed within the nozzle.

After mixing, **Foamjet F** must be injected continuously through the crack.

At the first contact with water, **Foamjet F** increases in volume and becomes a polyurethane foam that seals the cracks, hence blocking infiltrations.

In the absence of water, **Foamjet F** hardens without increasing in volume and rapidly seals the crack.

Consolidating ground and rock

The product is prepared with the same pump for two-component resins used for injecting in the cracks.

During injection, when **Foamjet F** comes in contact with water, it increases in volume. The following resin that is pumped into the ground or rock hardens without foaming since no humidity is present, and pushes the porous material in the most internal layers.

Following this phenomenon, a polyurethane waterproof layer of different thickness is formed, which permanently consolidates the injected material.

Cleaning

Clean injection equipment (pump and tubes) with mineral oil free of water and impurities after use.

CONSUMPTION

- In the absence of water: approximately 1.1 kg of mixture (part A + part B) for litre of cavity.
- In the presence of water: approximately 0.3 kg of mixture (part A + part B) for litre of cavity.

PACKAGING

43 kg units.

- part A = 20 kg;
- part B = 23 kg.

STORAGE

Store in covered and dry place in original sealed containers and at temperatures between +10°C and +30°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

Foamjet F part B is harmful by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact. Do not breathe vapour/spray. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice (technical data sheet where possible). For further and complete information about a safety use of our product please refer to our latest version of the Material Safety Data Sheet.

FOR PROFESSIONAL USERS.

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application: for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our web site www.mapei.com

**All relevant references
for the product are available
upon request and from
www.mapei.com**

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