FOAMJET F

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

CE EN 1504-5

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** component A and component B must be mixed in the ratio 1 : 1 by volume, 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 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 3 and 5 minutes, depending on the temperature, **Foamjet F** becomes completely waterproof and ensures an adequate consolidation to the treated structure. In certain conditions, when the product needs to react more quickly than normal after mixing components A and B, add 0.5-2.5% of **Foamjet AKS** to component A, depending on the conditions in the area where the work is being carried out.
Foamjet F is CFC-free.
Foamjet F meets the requirements defined by EN 1504-9 *("Products and systems for the protection and repair of concrete structures. Definitions, requirements, quality control and evaluation of conformity. General principles for the use of products"*) and the minimum requirements claimed by EN 1504-5: U(S1)W(3)(1/2/3/4)(5/35) (*"Concrete injection"*).

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.
Component A and component B must be shaken well before use in order to re-homogenise any settled admixtures. Component B (isocyanate-based) suffers high humidity condition, therefore we suggest opening before the application and, in case of humid environment, please use the whole content. Component A may suffer from significant increase in viscosity if stored at low temperatures.
Temperature influences the hardening time of **Foamjet F**; temperatures lower than +15°C lengthen the setting time. It is therefore recommended to seek information from our Technical Services Department 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 and injecting the product

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** component A and **Foamjet F** component 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. **Foamjet F** always hardens, with or without water. While the components are mixed, **Foamjet F** increases in volume and becomes a polyurethane foam that seals the cracks, hence blocking infiltrations.

Consolidating ground and rock

The product is prepared with the same pump for two-component resins used for injecting in the cracks. During injection while **Foamjet F** increases in volume; the following resin that is pumped into the ground and the rock, pushes the porous material in the most internal layer. 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

If the reaction takes place in free expansion, 1 litre of product produces 20 litres of foam. If the reaction is affected in a confined space, consumption depends on the degree of confinement.

PACKAGING

43 kg units:

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

STORAGE

Foamjet F can be stored for maximum 1 year in a covered and dry place in its original sealed containers and at temperatures between +10°C and +30°C.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the SDS available from our website www.mapei.com.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY		
	component A	**component B**
Colour:	light yellow	dark brown
Consistency:	liquid	liquid
Density EN 2811-1 (g/ml):	1,10 ± 0,03 at +23°C	1,24 ± 0,04 at +23°C
Viscosity (at +23°C) EN 3219 (mPa·s):	310 ± 62	290 ± 58

APPLICATION DATA	
Mixture characteristics:	component A : component B = 1 : 1 (in volume)
Foaming ratio:	up to 45 the initial volume
Reaction start:	< 10”
Hardening time:	3-5 minutes depending from surrounding environment

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 website www.mapei.com

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