



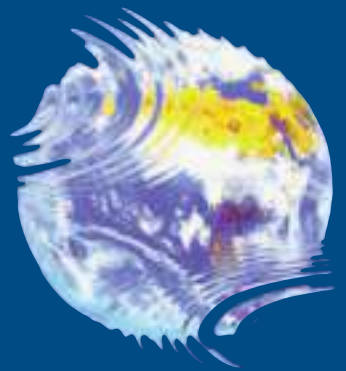
SNF FLOERGER
ZAC de Milieux
42163 Andrézieux Cedex - FRANCE
Tel: + 33 (0)4 77 36 86 00
Fax: + 33 (0)4 77 36 86 96
floerger@snf.fr



L'information présentée dans cette brochure est donnée de bonne foi. En l'état de nos connaissances actuelles, elle reflète la vérité.
Il est de la responsabilité de l'utilisateur de faire un bon usage des produits mentionnés à l'intérieur de cette brochure.

FLOSET™ GEL

*Sealing
and stabilization*



SNF FLOERGER®

FLOSET™ GEL *Sealing and*

The **FLOSET™ GEL** range of products are injection systems based on two-component resins, organo-mineral, acrylic-based compound. They also include formulations based on micro cements. They are mainly used in tunnelling, mining, concrete repair to stabilize, waterproof and fill cracks.

FLOSET™ GEL is a new family of high quality water-based products which present a unique set of characteristics and performances.

The resin reacts with catalysts to make a gel. The setting time can easily be adjusted from a few seconds to several minutes. The cured gel presents water and chemical resistance, can dry and swell again and is long lasting.

FLOSET™ GEL formulations can have a viscosity similar to water which allows injection in very low porosity substrate.





■ *USES*

FLOSET™ GEL has the following main applications:

- Waterproofing injection in tunnelling and mining projects
- Rock cavity filling
- Concrete crack sealing in dams, pits, walls
- Parking-deck waterproofing
- Sewer repair
- Water-tightness in waste treatment plants
- Waterproofing and stabilization of soft grounds prior to excavation
- Waterproof barriers in brick works
- Fire-resisting glass sheet production

■ PRODUCTS DESCRIPTION

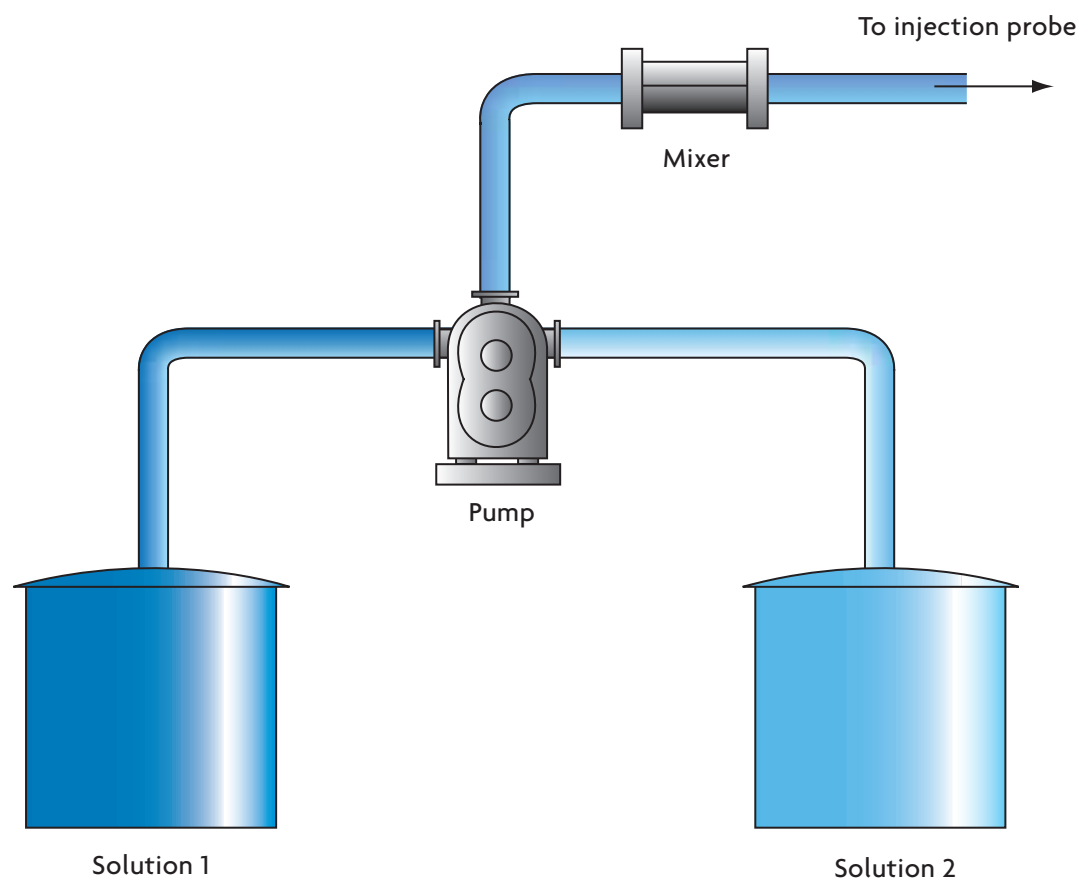
FLOSET™ GEL systems are formed by a mixture of resins, one or two catalysts, water, and, when necessary, complementary additives to achieve particular performances.

The solid content in the final injection system is 10 % or more. The higher strength gels are always obtained at higher concentrations.

- Standard resins are based on (meth)acrylic acid and derivatives, (meth)acrylamide and derivatives and other water-based/water-soluble components which produce gels from catalyzed reaction. These kind of resins present the advantage of having extremely low viscosity and a polymerisation reaction which is very easy to adjust in order to obtain the most suitable flexibility and curing time for the final application.
- In certain applications and under specific conditions, it may be necessary to use alternative resins based on salts of (meth)acrylic acid and derivatives.
- Catalyst A : Triethanolamine in solution in ethylene glycol in order to protect against freezing temperatures.
- Catalyst B : Ammonium or sodium persulfate in powder form. It a strong oxidizing agent which is dissolved in water (1 to 5 wt %) and initiates the polymerisation reaction as soon as it is injected.
- Retarder : Potassium Ferricyanide. The use of this compound could be suitable when a very long gel times is requested.



■ APPLICATION PROCEDURE



Solution 1 :

Catalyst A is thoroughly mixed into the resin, with addition of water when required. The concentration of Catalyst A has an effect on the gel time.

Solution 2 :

Alternatively, Catalyst B is dissolved into water, usually at a concentration lower than 10%. The gel time is mainly controlled by the quantity of Catalyst B added.

The global quantity of water is a function of the desired final gel concentration in the injected substrate.

The two prepared solutions are mixed using either a one-component (only for long gel times) or two-component dosing pump. The latter allows the setting time to be changed during injection as well as the use of very short gel times without risk of gelling in the pump.

■ *ADVANTAGES OF FLOSET™ GEL PRODUCTS*

The components are mostly in liquid form or are soluble in water for easy handling and use. Moreover, they allow the use of continuous mixing and pumping equipment which avoids waste of mixed products.

Since the products are water-based, equipment is rapidly cleaned with water after use and can be re-used quickly without any difficulty.

FLOSET™ GEL products have the lowest possible viscosity of any injection system. This feature allows work at low pressure and can often be the only possible solution for low porosity substrate.

Many systems available on the market polymerize through a chemical reaction which is almost totally uncontrolled. Conversely, **FLOSET™ GEL** systems produce a reaction which is easily controlled and adjusted. Depending on temperature and soil conditions, the setting time can be adjusted from a few seconds up to several minutes.

The products are no corrosive and present low viscosity, therefore traditional equipment can be used to dose and pump **FLOSET™ GEL** injection systems, without any extra investment.

■ *ADVANTAGES OF CURED GEL*

The cured gel is a stable, chemical-resistant, long-lasting polymer. It stands up to aggressive water, chemical and bacteria attacks. Consequently, **FLOSET™ GEL** allows consolidation and waterproofing work which will maintain its performance characteristics over the long term.

If the conditions change over time, polymerised **FLOSET™ GEL** may lose water and shrink, but it is still active and, if rewetted, will swell rapidly to its original size and recover its initial performance characteristics.

The **FLOSET™ GEL** range of products presents different formulations which allow a choice of polymer flexibility depending on the specific application.

FLOSET™ GEL can be also formulated to obtain products with high extrusion resistance when filling cracks in concrete and rock subjected to water pressure.

The high purity of **FLOSET™ GEL** products allows the formulation of transparent polymers for use in applications such as the production of fire-resistant, glass sheets.



■ SAFETY CONSIDERATIONS

FLOSET™ GEL products require proper handling by trained personnel. Serious damage to health can be caused through prolonged exposure by ingestion, inhalation and contact with skin. Only properly informed, trained, and equipped staff should be involved in storage, loading and unloading, or the application of **FLOSET™ GEL** products.

Complete and up-to-date information on the toxicology and environmental safety of **FLOSET™ GEL** can be found in the Material Safety Data Sheet which is supplied with the products. Further information is available from our Product Information & Regulatory Affairs Department.

If the mixing and injection instructions are correctly followed, the final polymer does not constitute a risk to human health or the environment.