

WILLGEL® SWIFT

3-component elastic acrylic gel

1. applications

WILLGEL® SWIFT is an adjustable, low-viscosity, three-component methacrylate-based hydrogel that cures in combination with WILLGEL® POLY in the B-component to form a highly flexible product with high flank adhesion to concrete surfaces.

Due to the water-like viscosity of the mixed product, **WILLGEL®SWIFT** easily penetrates all types of substrates. It is applied with a special 2k pump according to the technical guidelines for the intended type of injection, especially for:

- Curtain injection
- Soil consolidation
- Cavity injection e.g. expansion joints (when using a WILLGEL® POLY polymer dispersion in the B-component).
- Stopping water ingress (adaptation to rapid response)
- Sealing in microtunneling

2. Substance data*

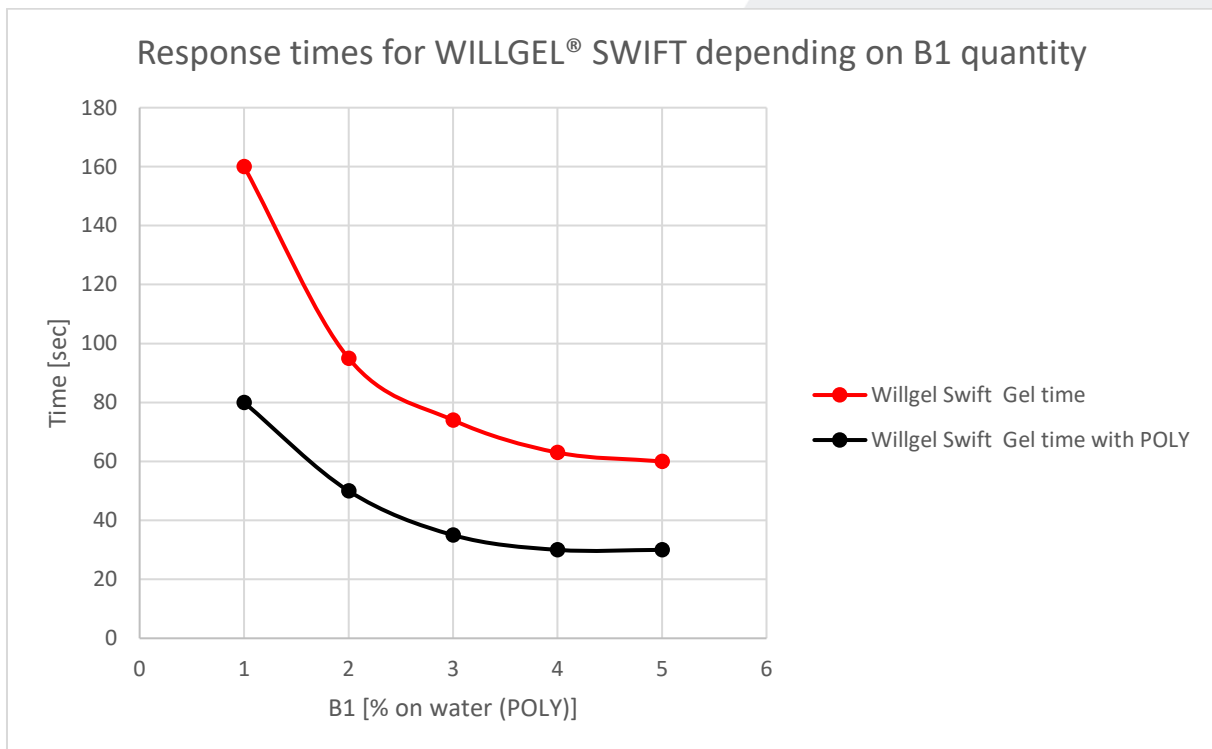
WILLGEL® SWIFT	Unit	Component A1	Component A2	Component B	Norm
Density at 20°C	g/cm ³	1,208	0,94	1,68	DIN 51757
Appearance		Clear liquid	Slightly yellowish	White powder	
Smell		odorless	Amin	odorless	

3. Reaction and mechanical data*

WILLGEL® SWIFT - Mixture	Unit	Mixing ratio	Norm
Components A1 : A2	Parts by Weight	20: 1	
Component B: Water (POLY)	Parts by Weight	0,4: 20	
A: B	Parts by Volume	1: 1	
Mixing viscosity at 20°C	mPas	9	PV_FW20

WILLGEL® SWIFT - Response times		Falling time (gel time)		Norm
		With water	With POLY	
with 1% B at 20°C	Sec.	160	80	PV_FW30
with 2% B at 20°C	Sec.	95	50	PV_FW30
with 3% B at 20°C	Sec.	74	35	PV_FW30
with 4% B at 20°C	Sec.	63	30	PV_FW30
with 5% B at 20°C	Sec.	60	25	PV_FW30
Application temperature		> 5°C		

At the fall time (or gel time), the entire mass has gelled and can no longer be conveyed.



To further accelerate reaction times, it is possible to replace component A2 (in whole or in part) with WILLGEL® FAST (see specific TDB).

To achieve higher final mechanical properties, e.g. in general adhesion, tear resistance and less sensitivity to dry-wet cycles, it is possible to replace the water on the B-side with WILLGEL® POLY (see specific TDB).

4. Composition and properties

WILLGEL® SWIFT Component A1 is a mixture of methacrylates, component A2 is an amine type catalyst and component B is an inorganic water-soluble salt. The correct combination of the components together with water or WILLGEL® POLY results in a low viscosity end product with good chemical resistance to many acids, alkalis, solvents, fuels, etc. During the reaction as well as in the cured state **WILLGEL® SWIFT does** not release any toxic substances to the ground water. Product components not incorporated in the reaction process are rapidly and completely biodegradable. The material, alone and in combination with WILLGEL® POLY, is CE marked according to EN 1504-5 for swellable filling of cracks, voids and defects.

5. Preparation/processing

Processing

The A2 component is completely transferred to the A1 container and mixed for approx. 3 minutes. The B-component is transferred to an appropriate container and filled with 20 liters of tap water and likewise mixed for approx. 3 minutes and completely extinguished.

The ready-to-use A and B sides prepared in this way are processed in a mixing ratio of 1: 1 (parts by volume).

In some cases (crack or joint injection) WILLGEL® POLY is used instead of water to mix the B-component. In this situation, care must be taken to ensure that the B-component dissolves completely in the WILLGEL® POLY. To ensure this, it is recommended to fill the B-component container with water and shake until the powder is completely dissolved. Then add this solution to the WILLGEL® POLY and mix homogeneously.

The activated A-side can be processed for approx. 12 hours (depending on temperature). After this time it is possible to reactivate the A-side. The B-side is usually stable for approx. 5 hours and can also be reactivated further by adding additional B-component. However, before and after a "reactivation" it is recommended to test the mixture in advance.

Machine application

Insert the A and B component suction hoses into the activated canisters and set the preset pressure to the recommended parameters for the application type.

After setting up the machine, it is advisable to check the mixture by a daily test before injection, e.g. by carefully pouring 1-2 double strokes of the material mixed by the machine in an empty clean vessel to check the cloud time, fall time and reaction time. If the sample does not react as expected, repeat the adjustment of the machine until the sample reacts correctly.

Recommended injection technique: Compressed air driven, stainless steel two-component piston pumps with water flushing, e.g. *DESOI AirPower S25-3K / WIWA INJECT 2K 230030 RS F*, or equivalent, with an operating pressure of 6 to 10 bar with static mixer type 13-32 or grid mixer (minimum 10 elements).

Application temperature

Do not use the product at temperatures below 5°C. The product cures much slower at lower temperatures and under unfavorable conditions the reaction may fail to occur. It should be noted that in some cases the temperature of the component or the product temperature in the container at the time of injection is decisive.

Material consumption

Consumption depends on the particular application.

It is advisable to closely follow the guidelines of the injection procedures. In the case of curtain injections and injections in mortar joints (horizontal barrier and surface injection), the total amount of injected material must be divided among the injection steps.

The specified guide values always refer to the ready-mixed material.

Curtain injection	min. 50 kg/m ²	depending on the graduation of the floor
Surface injection	2.0 - 4.0 kg/m ²	per 10 cm wall thickness
Horizontal barrier	1.2 - 2.4 kg/m	per 10 cm wall thickness
Cavity injection	geometric volume * safety coefficient	
Soil stabilization	80 - 200 kg/m ³	depends strongly on graduation
Concrete injection	1-stage injection up to the pressure maximum	

For more information on injection methods, injection conditions, recommended injection parameters and resulting consumption, please contact our technical department.

6. Safety instructions

WILLGEL® SWIFT - Components A1, A2 and B are classified as dangerous according to REGULATION (EC) No. 1272/2008.

During the injection it is recommended to wear suitable liquid-tight clothing, protective goggles and suitable gloves. Clothing soaked by the injection material must be changed as soon as possible. The product is irritating to the skin and in rare cases allergies may occur.

In case of skin or eye contact, rinse immediately with plenty of clean water. During injection, pay attention to the pressure build-up and the resulting hazards.

Observe the usual precautionary measures when handling chemicals. Before using the product, refer to the Safety Data Sheet for precautions and safety information.

7. Storage

At least six months after delivery or twelve months after production if stored dry between 10°C and 30°C. Information on the minimum shelf life is provided by the batch number on the container. When using products that have been stored for a longer period, it is generally recommended that F. Willich GmbH + Co. KG checks whether the product specification is still given before using this product.

8. Delivery form

WILLGEL® SWIFT	Container	Item number
Component A1	20 kg plastic canister	WGEL-SWIFT-A1-20
Component A2	1kg plastic bottle	WGEL-SWIFT-A2-1.0
Component B	0,4 kg plastic bottle	WGEL-SWIFT-B-0.4

Other delivery forms on request.

9. Disposal

In Germany, empty packaging can be taken back by the KBS and Interseroh systems for steel and plastic packaging respectively.

More detailed information about the place as well as the further modalities of the return can be found on the website of the recycling partner working on our behalf:



Circulation System Sheet Metal Packaging
Steel Ltd.
www.kbs-recycling.de
info@kbs-recycling.de
Phone +49 211 239228 0



Interseroh+ GmbH
www.interseroh.plus -
info@interseroh.plus
Tel. +49 2203 9147-1268

Reacted product residues can be disposed of in small quantities with household waste or in larger quantities as EAK 17 02 03 plastics or in accordance with local regulations.

Liquid product residues can be disposed of as EAK 08 01 11 Waste paints and varnishes containing organic solvents or other hazardous substances.

For further information, please refer to the safety data sheets.

10. Test certificates/approvals

Determination of identification properties and performance of WILLGEL® SWIFT crack filling material according to DIN EN 1504-5:2005. INSTITUT IGH, d.d. Zagreb (HR) 2022.

WILLGEL® SWIFT (column test with reference to the DIBt guideline "Evaluation of the effects of building products on soil and groundwater"); Hygiene Institute Gelsenkirchen 2022.

11. Legal notice

***The data given are laboratory values.**

Our technical application recommendations, which we give to support the purchaser or processor on the basis of our experience to the best of our knowledge in accordance with the current state of knowledge in practice and science, are non-binding and do not constitute an agreed quality.

The data and processing instructions given are based on laboratory tests. In practice, the measured values may deviate from them due to influences outside our sphere of action.

We expressly reserve the right to make technical changes in the course of further development. The technical documentation must therefore be read carefully before starting work.

With the publication of a new version of the technical data sheet, all previous data sheets lose their validity. The user must check the products for their suitability for the intended application.

With the publication of this data sheet, previous editions become invalid.

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