WILLGEL® 91

Limitedly elastic, 3-component acrylic gel

1. Applications

WILLGEL® 91 is a reaction time adjustable, low viscosity, three component methacrylate-based hydrogel that cures to a limited elastic product.

Due to the water-like viscosity of the mixed product, **WILLGEL® 91** easily penetrates substrates, construction materials, and soil. The product is injected into the structure or into the ground and is used in particular for:

- Soil stabilization
- Sealing of water ingress
- Veil injection
- Filling of voids for sealing purposes, even in the presence of larger amounts of water (e.g., water-bearing or water-filled joints)

2. Substance data*

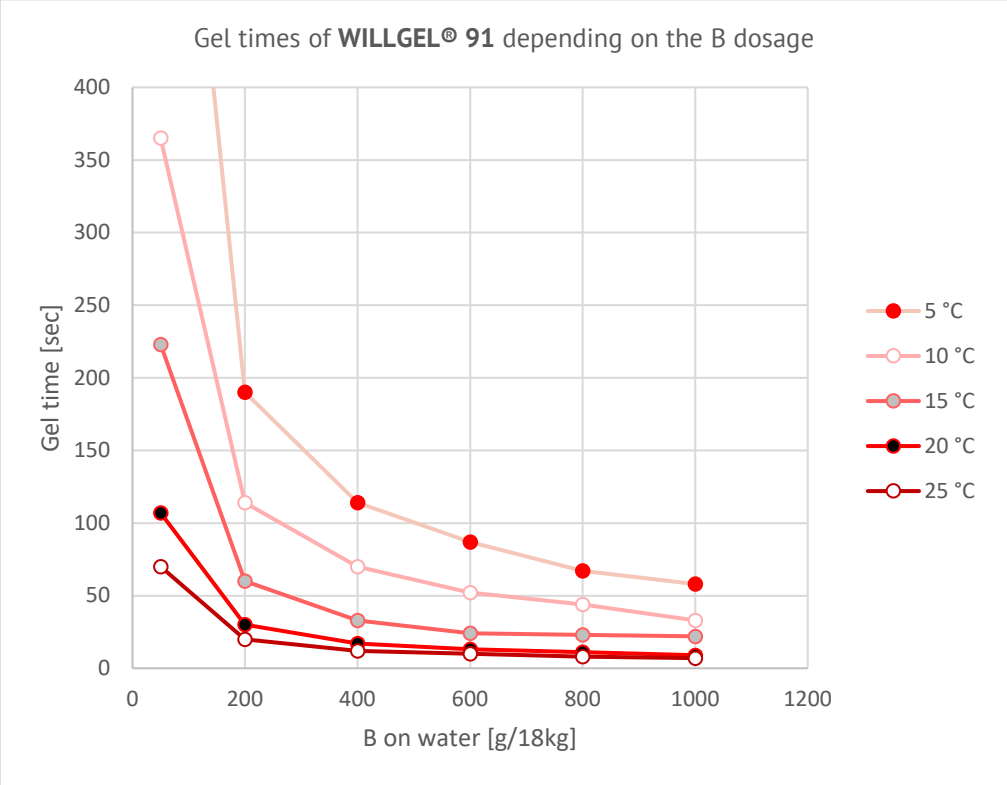
WILLGEL® 91		**-A1**	**-A2**	**-B**	**Norm**
Density at 20°C	g/cm³	approx. 1.130	approx 1.106	1.68	DIN 51757
Appearance		purple liquid	slightly yellowish	white powder	
Smell		characteristic acrylic	odourless	odourless	

3. Reaction and mechanical data*

WILLGEL® 91 – Mixture		**Mixing ratio**
Components A1 : A2	Parts by weight	20 : 1
Component B: Water	Parts by weight	0.4 : 18
A : B	Parts by volume	1 : 1

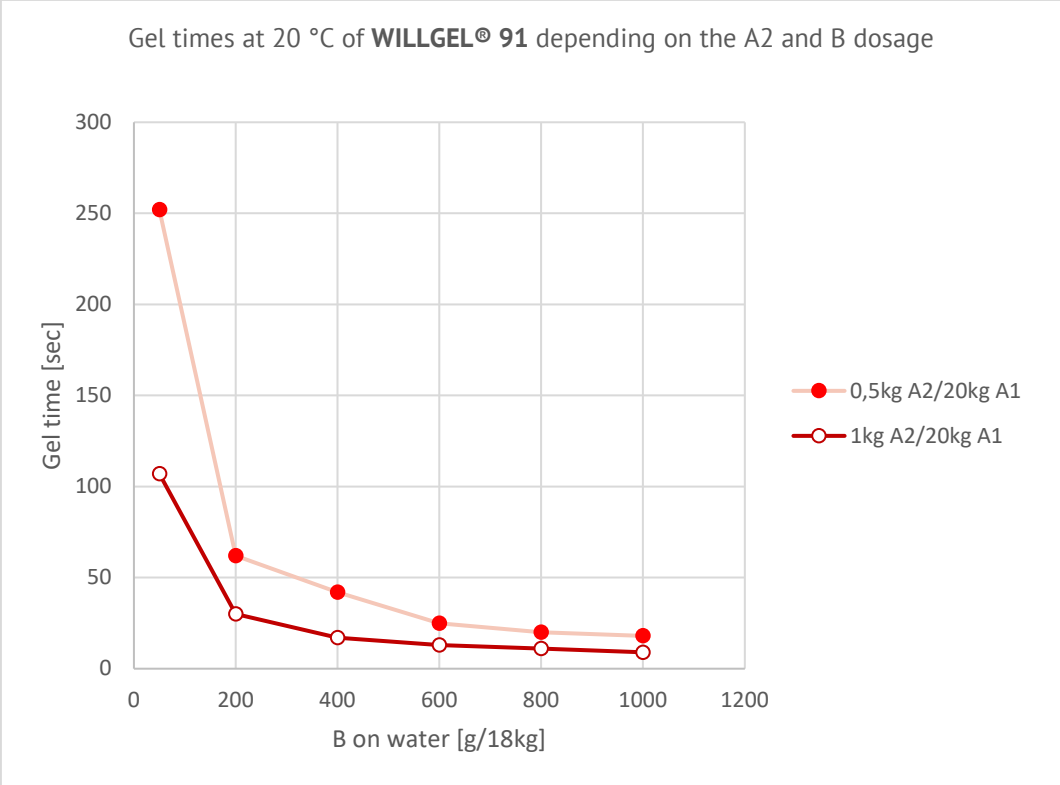
WILLGEL® 91 – Gel time* depending on the B dosage							Norm
B on Wasser		Application temperature					
g/ 18 kg		5°C	10°C	15°C	20°C	25°C	
50	sec	752	365	223	107	70	
200	sec	190	114	60	30	20	PV_FW22
400	sec	114	70	33	17	12	PV_FW22
600	sec	87	52	24	13	10	PV_FW22
800	sec	67	44	23	11	8	PV_FW22
1000	sec	58	33	22	9	7	PV_FW22

By the gel time, the whole mass has gelled and can no longer be conveyed.



B on water		**WILLGEL® 91 – Gel time at 20 °C depending on the A2 and B dosage**		**Norm**
g/18 kg		**0,5 kg A2/20kg A1**	**1 kg A2/20kg A1**	
50	sec	252	107	
200	sec	62	30	PV_FW22
400	sec	42	17	PV_FW22
600	sec	25	13	PV_FW22
800	sec	20	11	PV_FW22
1000	sec	18	9	PV_FW22

**By the gel time, the whole mass has gelled and can no longer be conveyed.*



4. Composition and properties

WILLGEL® 91 -A1 is a mixture of methacrylates, **WILLGEL® 91 -A2** is an amine-like catalyst and **WILLGEL® 91 -B** is an inorganic water-soluble salt.
The correct combination of components together with water 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® 91** does not release any toxic substances to soil and groundwater. Product components not incorporated during the reaction process are rapidly and completely biodegradable.

5. Preparation/Processing

Processing
The A2 component is completely transferred into the A1 container and mixed for approx. 3 minutes.
The B-component is transferred to an appropriate container and filled with 18 litres of tap water and likewise mixed for approx. 3 minutes with a wooden or plastic paddle (do not use a metal stirrer) until fully dissolved. Depending on the amount of A2- and B-components, different gel times can be achieved.

The individually prepared, ready-to-use A and B components are processed at a mixing ratio of 1:1 (by volume) and must be used within approximately 48 hours.

Recommended pump technology: Air-operated, three-component piston pumps made of stainless steel, e.g. *WILLPUMP® AGK 3, DESOI AirPower S25-3C, WIWA* INJECT *14025* or equivalent.

Application temperature
The recommended processing temperature is between 5°C and 40°C.

Material consumption
Consumption depends on the respective application.

For further information on application areas, planning principles and injection procedures, please contact the technical sales department.

6. Safety notes

WILLGEL® 91 - A1 and **WILLGEL® 91 -B** are classified as dangerous according to REGULATION (EC) No 1272/2008. Before starting processing, it is therefore necessary to inform yourself about precautionary measures and safety advice by means of the safety data sheets.

7. Storage

12 months after production in original packaging when stored in dry conditions between 10°C and 25°C, protected from frost, heat, and direct sunlight. The minimum durability is reflected by the batch number on the container.

8. Delivery form

WILLGEL® 91		(item no.)
-A1	20 litre plastic canister of 20 kg	(WGEL-91-A1-1-20)
-A2	1 litre plastic bottle à 1 kg	(WGEL-91-A2-1-1,0)
-B	0.5 l plastic bottle à 0.4 kg	(WGEL-91-B-1-0,4)

Other delivery forms on request.

9. Waste management

In Germany, empty packaging can be taken back by the KBS or Interseroh-System for steel or plastic packaging. The return is limited exclusively to used, completely empty packaging of the same type, shape, and size that we carry in our product range.

Transport and outer packaging are not included.

For more information on the location and further modalities of the return, please visit the website of the recycling partner acting on our behalf:

interseroh
zero waste solutions
244922

Interseroh+ GmbH

www.interseroh.plus
info@interseroh.plus
Tel.: +49 (0)2203 9147 - 1268

KBS 0234

Kreislaufsystem
Blechverpackungen Stahl GmbH
www.kbs-recycling.de
info@kbs-recycling.de
Tel.: +49 (0)211 239228 - 0

Reacted product residues can be disposed of in smaller quantities with household waste, in larger quantities as construction waste or incinerated.
Non-reacted product components must be disposed of in accordance with local regulations.

10. Legal notes

The indicated data are laboratory values.

Our technical application advice, which we give to support the customer or applicator on the base of our experience and to the best of our knowledge according to the current state of knowledge in practice and science, is non-binding and does not represent an agreed quality. The data and processing instructions are based on laboratory tests.

In practice, the measured values may be different due to influences outside our control. We explicitly reserve the right to make technical changes during further development.

The technical documents should 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 applicator must test the products for their suitability for the intended application.

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

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