

# WILLSTOP® 1 + WILLADD® 1

*Fast reacting one component injection resin*

## 1. Applications

**WILLSTOP® 1** is a high performance one component system for sealing water intrusion with high water flows.

**The product:**

- reacts at temperatures below 5°C
- Reaction time can be adjusted by catalyst addition
- Temporary waterproofing in the area of accessible sewers and manholes
- Sealing against flowing water
- Filling of cavities in rock cracks
- Soil consolidation and anchoring in gravel

## 2. Substance data\*

		<b>WILLSTOP® 1</b>	<b>WILLADD® 1</b>	<b>Norm</b>
Density at 20°C	[g/cm <sup>3</sup> ]	1.105 ± 0.05	1.001 ± 0.05	DIN 51757
Viscosity at 10°C	[mPa*s]	approx. 435	-	DIN EN ISO 3219
Viscosity at 15°C	[mPa*s]	approx. 300	-	DIN EN ISO 3219
Viscosity at 20°C	[mPa*s]	approx. 180	approx. 28	DIN EN ISO 3219
Viscosity at 25°C	[mPa*s]	approx. 135	approx. 25	DIN EN ISO 3219
Colour		brown	yellowish	

### 3. Reaction and mechanical data\*

Weight percentage WILLADD® 1[%]	Temperature [°C]	2.00	6.00	10.00
Start of the reaction [sec]	10	-	approx. 19	approx. 12
End of reaction [sec]		-	approx. 105	approx. 77
Start of the reaction [sec]	15	-	approx. 16	approx. 11
End of reaction [sec]		-	approx. 102	approx. 61
Start of the reaction [sec]	20	approx. 48	approx. 14	approx. 10
End of reaction [sec]		approx. 360	approx. 95	approx. 55
Start of the reaction [sec]	25	approx. 35	approx. 10	approx. 8
End of reaction [sec]		approx. 300	approx. 80	approx. 46
Foam factor (free foamed)				approx. 70
Max. Reaction temperature [°C]				83

### 4. Composition and properties

**Components:**

**WILLSTOP® 1** is a modified polyisocyanate.

**WILLADD® 1** is a blend of additives that improves the miscibility of the components and regulates the reaction behaviour of the mixture.

**System:**

When the **WILLSTOP® 1 + WILLADD® 1** system comes into contact with water, it expands and cures rapidly to form a tough, partially open-cell polyurethane foam. The reactivity depends on the temperature and the amount of **WILLADD® Flex** catalyst. If there is not enough water for the reaction, this can be injected additionally (proportions resin : water = 10 : 1).

### 5. Preparation/Processing

**Preparation**

We recommend storing the **WILLSTOP® 1 + WILLADD® 1** system at the desired temperature for at least 12 hours before application to achieve the desired application temperature.

**Processing with a 1K injection system**

Stir **WILLADD® 1** into **WILLSTOP® 1** in the desired quantity. The system is conveyed with a 1K injection system, injected via an injection packer through a previously created borehole behind the manhole or channel wall.

## 6. Safety instructions

**WILLSTOP® 1 + WILLADD® 1** are classified as dangerous according to REGULATION (EC) No. 1272/2008. Before starting processing, it is therefore necessary to obtain information on precautions and safety advice from the safety data sheets.

## 7. Storage

At least six months from date of delivery or twelve months from date of production when stored in a dry place between 10°C and 30°C. Frost can damage the A-component. The minimum durability is reflected by the batch number on the container. If this time is exceeded, we recommend the material is checked by F. Willich GmbH + Co. KG for compliance with the specification.

## 8. Delivery form

	<b>WILLSTOP® 1</b>	<b>WILLADD® 1</b>
20 l tin can à	20 kg	-
10 l tin can à	10 kg	-
5 l tin can à	-	5 kg
1 l tin can à	1 kg	1 kg

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+ GmbH**

[www.interseroh.plus](http://www.interseroh.plus)  
[info@interseroh.plus](mailto:info@interseroh.plus)  
Tel.: +49 (0)2203 9147 - 1268



**Kreislaufsystem**

**Blechverpackungen Stahl GmbH**

[www.kbs-recycling.de](http://www.kbs-recycling.de)  
[info@kbs-recycling.de](mailto: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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