

# WILLSTOP® Flex + WILLADD® Flex

*Flexible one-component resin for gab injection*

## 1. Applications

**WILLSTOP® Flex** is a light brown, water-reactive liquid. The final product is characterized by its high flexibility and elasticity.

When **WILLSTOP® FLEX** comes into contact with water, it expands and quickly hardens into a tough, flexible, closed-cell polyurethane foam. The reactivity depends on temperature and the amount of accelerator **WILLADD® Flex**.

**The product:**

- reacts at temperatures below 5°C
- Reaction time can be adjusted by adding catalyst

**Advantages:**

- Flexible, durable sealing in the area of accessible sewers and manholes
- Sealing against water under pressure
- phthalate-free resin
- User friendly: one-component resin

## 2. Substance data\*

		WILLSTOP® Flex	WILLADD® Flex	Norm
Density at 20°C	[g/cm <sup>3</sup> ]	1.03 ± 0.05	1.015 ± 0.05	DIN 51757
Viscosity @ 5°C	[mPa*s]	approx. 3500	-	DIN EN ISO 3219
Viscosity @ 15°C	[mPa*s]	approx. 1600	-	DIN EN ISO 3219
Viscosity @ 25°C	[mPa*s]	approx. 900	approx. 25	DIN EN ISO 3219
Viscosity @ 30°C	[mPa*s]	approx. 750	-	DIN EN ISO 3219
Colour		light brown	yellowish	

### 3. Reaction and mechanical data\*

Gewichtsanteil WILLADD® Flex [%]	Temperature [°C]	1.00	2.00	5.00
Start of reaction [sec]	5	230	130	60
End of reaction [sec]		770	540	270
Start of reaction [sec]	15	125	105	50
End of reaction [sec]		660	480	240
Start of reaction [sec]	25	110	65	45
End of reaction [sec]		600	405	175
Start of reaction [sec]	30	75	55	30
End of reaction [sec]		560	370	155

The foaming factor is 10 - 15

### 4. Composition and properties

#### Components:

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

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

#### System:

When the **WILLSTOP® Flex** + **WILLADD® Flex** system comes into contact with water, it expands and cures rapidly to form a tough, flexible, closed-cell polyurethane foam. Reactivity depends on the temperature and the amount of **WILLADD® Flex** catalyst.

### 5. Preparation/Processing

#### Preparation

We recommend storing the **WILLSTOP® Flex** + **WILLADD® Flex** 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® Flex** into **WILLSTOP® Flex** 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® Flex** + **WILLADD® Flex** 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

At least six months after delivery or twelve months after production if stored dry between 10°C and 30°C. When using products stored for longer periods, 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

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

Other delivery forms on request.

## 9. Disposal

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. Test certificates/approvals

**Hygiene examination**, Hygiene-Institut des Ruhrgebiets August 2019

## 11. Legal notice

**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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