

# WILLKAT® PL 2K FAST plus

*Non-foaming, elasticized two-component silicate resin*

**DIBt approval: Z-42.3-523**

## 1. Applications

**WILLKAT® PL 2K FAST plus** is a non-foaming, elastified two-component resin with good adhesion even to damp surfaces for the rehabilitation and sealing of sewers and pipes using the short liner method in sewer rehabilitation.

### The product

- impregnates glass fiber mats or polyester fleeces well,
- adheres even to damp surfaces,
- does not foam, even when water is added,
- cures well in thin layers,
- formwork can be easily demolded

**WILLKAT® PL 2K FAST plus** is supplied in two components. Under the name WILLKAT® PL, the system is also available as a three-component resin with variable dosage of the C-component to control the setting speed.

### Advantages:

- quickly applied: cycle time approx. 60 min
- no odor nuisance
- cost-effective repair process

## 2. Substance data\*

		WILLKAT® PL FAST plus -A	WILLKAT® PL -B	Norm
Density at 20°C	g/cm <sup>3</sup>	1.48 ± 0.01	1.13 ± 0.01	DIN 51757
Viscosity at 25°C	mPa*s	300 ± 100	170 ± 50	DIN EN ISO 3219
Colour		honey color	dark-brown	
pH value		approx. 12	-	
Flash point	°C	-	> 200	DIN EN ISO 2719

### 3. Reaction and mechanical data\*

Determination of times according to DIN EN 14022

Mixing ratio A : B Vol.-P. = 100 : 200

Output temperature [°C]	5	10
Pot life [min]	13	7
Insertion time [min]	17	10
Demoulding time [min]	60	55

Mechanical Data			Norm
Glass transition temperature	°C	> 62	ISO 6721-5
Shore D hardness		> D/15:74	DIN EN ISO 868
Tensile bond strength Short term Long term	MPa	> 3.5 > 5	DIN EN 1542
Circumference modulus of elasticity	MPa	> 4000	DIN EN 1228
Bending modulus of elasticity	MPa	> 4300	DIN EN ISO 178
Print module	MPa	> 3700	DIN EN ISO 604
<b>10.000 h Test</b>			Norm
Long term modulus of elasticity	MPa	5155	DIN EN 761
Reduction factor		1.07	DIN EN 761

### 4. Composition and properties

**Components:**

**WILLKAT® PL FAST plus -A** is a special sodium water glass with additives. **WILLKAT® PL -B** is a modified polyisocyanate that gives flexible properties to the final product.

**System:**

During the reaction, the A component hardens into a silicate, while at the same time a solid polyisocyanurate polyurea forms from the B component.

**End product:**

The two interpenetrating solids form a viscoplastic, non-foaming silicate resin (organomineral resin).

## 5. Preparation/Processing

### **Mixture:**

#### PE bottles:

Component A is completely filled into the component B bottle. After closing the bottle, both components are mixed intensively by shaking the bottle until a streak-free product is obtained.

#### Canister:

The A component is intensively mixed with twice the volume of the B component for two minutes.

## 6. Safety notes

**WILLKAT® PL FAST plus -A and WILLKAT® PL -B** 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>WILLKAT® PL FAST plus - A</b>	<b>WILLKAT® PL - B</b>
20 l tin can à	-	21 kg
10 l tin can à	14 kg	-
1,0 l PE bottle à	250 ml	500 ml
1,0 l PE bottle à	335 ml	665 ml

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. Test certificates/Approvals

**DIBt approval Z-42.3-523**

**SBKS type test 14076\_118301\_0007**

**SBKS 10.000 h test 14723\_118301\_0010**

**SBKS water outlet pressure test PL\_SL\_PP pipes\_B22-69486**

## 11. 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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