

WILLKAT® PL 2K SLOW

Non-foaming, elasticized two-component silicate resin

DIBt approval: Z-42.3-523

1. Applications

WILLKAT® PL 2K SLOW 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 SLOW 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 SLOW -A | WILLKAT® PL -B | Norm |
|-------------------|-------------------|---------------------|----------------|-----------------|
| Density at 20°C | g/cm ³ | 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] | 15 | 20 | 25 | 30 |
|-------------------------|-----|-----|----|----|
| Pot life [min] | 21 | 18 | 18 | 16 |
| Insertion time [min] | 35 | 28 | 26 | 24 |
| Demoulding time [min] | 150 | 120 | 90 | 70 |

| 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 |

| 10.000 h Test | | | 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 SLOW -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 SLOW -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

| | WILLKAT® PL SLOW - A | WILLKAT® PL - 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
info@interseroh.plus
Tel.: +49 (0)2203 9147 - 1268



**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. Test certificates/Approvals

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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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