

WILLPUR® SL

Two-component polyurethane resin with high adhesive strength

1. Applications

WILLPUR® SL is a very fast reacting, foaming, two-component polyurethane resin with excellent adhesive properties and very rapid strength development.

WILLPUR® SL is used in all areas of construction, in mining, tunnelling, structural engineering, civil engineering, special civil engineering, traffic route construction and hydraulic engineering and is serves to

- for pressing under, lifting or fixing solid structures such as foundations, floor slabs, traffic route surfaces.
- for the consolidation of unconsolidated rock and soil
- for filling smaller cavities
- for rock consolidation in the area of fault zones
- for the consolidation of coal in mining and heading
- for encapsulation of contaminated areas

Advantages:

- Develops high adhesive forces
- Self-injection due to foaming pressure
- limited foam factor (SF1.5-3)
- High final strength as tough-hard foam
- Very resistant to chemical stress

2. Component characteristics*

		WILLPUR® SL - A	WILLPUR® SL - B	Standard
Density at 20°C	g/cm ³	1.05 ± 0.05	1.23 ± 0.02	DIN 51757
Viscosity at 5°C	mPa*s	1330 ± 200	1600 ± 200	DIN EN ISO 3219
Viscosity at 15°C	mPa*s	500 ± 100	550 ± 150	DIN EN ISO 3219
Viscosity at 25°C	mPa*s	220 ± 70	200 ± 100	DIN EN ISO 3219
Form		colourless liquid	brown liquid	

WILLPUR® SL - A is a mixture of various polyols and additives.

WILLPUR® SL - B is a modified polyisocyanate.

3. Reaction and mechanical data*

Mixing ratio of the components:

	WILLPUR® SL - A	WILLPUR® SL - B
Vol. parts	100	100
Parts by weight	100	118

Changing the mixing ratio can change the reaction times and the mechanical values.

Reaction profile at:	5°C	15°C	20°C	25°C	Standard
Start of foaming [s]	150 ± 30	80 ± 30	40 ± 10	35 ± 10	DIN EN 14022
Foaming end [s]	210 ± 30	100 ± 30	50 ± 20	50 ± 20	DIN EN 14022
Foam factor [s]	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 3	PV_FW16
Reaction temperature [°C]	< 140				PV_FW17

4. Preparation/Processing

The two components are first conveyed separately, in a volume ratio of 1 : 1, via a two-component pump. At the end of the delivery lines, the two components are then brought together in the mixing head and conveyed through a mixing tube with a suitable, integrated static mixer. This is where the intensive, homogeneous mixing of the two resin components takes place. The resin is then injected into the structure, the soil, into the rock or under traffic route surfaces via a borehole plug, packer or injection lance. The initially low-viscosity resin mixture then foams up very quickly and, driven forward by pump pressure and its own foaming pressure, penetrates cracks up to 0.1 mm wide. This enables the resin to bond not only cracks but also fissures and loose rock, e.g., gravel, crushed stone, to fill cavities and, if injection continues, to lift solid structures.

Applicable at ambient temperatures between 5°C and 40°C

Recommendation

We recommend storing the products at a minimum temperature of 15°C for at least 12 hours before application to achieve the recommended application temperature between 15°C and 30°C. The processing temperature for processing with self-priming piston pumps should be at least 15°C.

5. Safety notes

WILLPUR® SL -B contains isocyanates and is classified as dangerous according to REGULATION (EC) No. 1272/2008. Before starting processing, it is necessary to inform yourself about precautionary measures and safety advice by means of the safety data sheets.

6. 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. 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

	WILLPUR® SL - A (item no.)	WILLPUR® SL - B (item no.)
20 l tin can à	20 kg (WPUR-SL-1-A20)	24 kg (WPUR-SL-1-B24)
200 l steel drum à	200 kg (WPUR-SL-1-A200)	240 kg (WPUR-SL-1-B240)
1000 l IBC à	1000 kg (WPUR-SL-1-A1000)	1200 kg (WPUR-SL-1-B1200)

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. 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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