

WILLPUR® WS L

Very fast reacting two-component injection resin

1. Application

WILLPUR® WS L is a very fast-setting 2-component injection resin, free from CFCs and halogens. It is used for sealing and consolidating in dry and water-bearing areas. Without contact with water, the product hardens into a high-strength, non-foamed polyurethane resin; on contact with water, a faster reaction takes place, and the product hardens into a compact, solid foam.

WILLPUR® WS L

- is used to consolidate dry and water-bearing rock
- Seals water inflows from rock, soil or cracks in concrete and brickwork
- Closes cracks and fissures in the rock during tunnelling and prevents water flow along the tunnel axis
- is used for force-locking injection in concrete and masonry
- Penetrates well into areas to be sealed
- has high final strengths

2. Substance data *

		WILLPUR® WS L -A	WILLPUR® WS L -B	Norm
Density @ 20°C	g/cm ³	0.939 – 1.039	1.185 – 1.285	DIN 51757
Viscosity @ 15°C	mPa*s	approx. 920	-	DIN EN ISO 3219
Viscosity @ 25°C	mPa*s	approx. 400	approx. 200	DIN EN ISO 3219
Viscosity @ 30°C	mPa*s	approx. 270	-	
Colour		yellowish	dark brown	

3. Reaction data*

Start time and End time measured according to PV_FW23
Foam factor measured according to PV_FW16

Temperature [°C]		Without water contact		With 1 % water (relating on the mixture)		with 2 % water (relating on the mixture)	
		[sec]	Foaming factor	[sec]	Foaming factor	[sec]	Foaming factor
15	Start	41	1.1	55	4	52	4
	End	100		95		90	
25	Start	30	1.1	36	3.5	35	4
	End	60		75		60	
30	Start	28	1.1	--		--	
	End	55		--		--	

**The indicated data are laboratory values with a scattering of $\pm 15\%$.

4. Composition and properties

WILLPUR® WS L - A is a mixture of various polyols and additives. **WILLPUR® WS L - B** is a modified polyisocyanate. The two components react to form a tough, hard polyurethane resin. On contact with water, the reaction is accelerated, and a solid foam is formed.

5. Preparation/Processing

WILLPUR® WS L - A must be stirred before use.

The two components are pumped directly from the containers at a mixing ratio of 1:1 (by volume) using two-component pumps; homogeneous mixing is achieved using a static mixer. Injection is via packers or injection lances.

Product foams on contact with water.

Recommended processing temperature (component temperature) between 5-40°C
Recommended processing temperature (product) between 15-25 °C

6. Safety notes

WILLPUR® WS L -A and **WILLPUR® WS L -B** are 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.

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. The minimum durability is reflected by the batch number on the container.

8. Delivery form

	WILLPUR® WS L -A (item. -no.)	WILLPUR® WS L -B (item. -no.)
20 l tin can à	18 kg (WPUR-WSL-1-A18)	23 kg (WPUR-WX-1-B23)
1000 l IBC à	939 kg (WPUR-WSL-1-A939)	1185 kg WPUR-WSL-1-B1185)

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



**Kreislaufsystem
Blechverpackungen Stahl GmbH**

www.interseroh.plus
info@interseroh.plus
Tel.: +49 (0)2203 9147 - 1268

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

WILLPUR® WS L Investigation of the elution behaviour of a polyurethane-based injection resin, MFPA Leipzig 2019

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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