



## BETOLIT PU 1C fix

Solvent-free polyurethane injection resin

### 1. Product characteristics

**BETOLIT PU 1C fix** is a specially formulated low-viscous polyurethane resin. Meets the requirements of EN 1504-5.

- expands its starting volume up to 2000% after mixing
- very low viscosity
- very fast hardening

### 2. Use

**BETOLIT PU 1C fix** is a solvent-free, polyurethane injection resin for temporary sealing of leaking cracks in concrete and masonry structures. Reaction with water yields a rigid, slightly flexible polyurethane foam. For permanent sealing of leaking cracks, it is necessary to subsequently **BETOLIT PU 2C elastic** polyurethane injection resin. To be injected with a single-component injection pump.

### 3. Physical and mechanical parameters

Requirements/results according to EN 1504-5

Properties	Declared value or class
Water tightness	Watertight at $2 \times 10^5$ Pa
Viscosity (mPa.s)	< 60
Expansion ratio and rate by water storage	NPD
Workable life	NPD
Sensitivity to water: expansion ratio caused by water storage	NPD
Sensitivity to wet-drying cycles	NPD
Compatibility with concrete	NPD

Non-hardened composition – component A – PU resin

Color	brown
Density (kg/m <sup>3</sup> )	$1\,158 \pm 25$
Viscosity at 20 °C (mPa.s)	96
Flash point (°C)	> 150

Non-hardened composition – component B - catalyst

Color	color-less
Density (kg/m <sup>3</sup> )	$889 \pm 25$
Viscosity at 20 °C (mPa.s)	21
Flash point (°C)	> 150

### 4. Test certificates

Meets the requirements of EN 1504-5.

The product is certified according to Act no. 22/1997 Coll. and the EP and Council Regulation (EU) no. 305/2011 (CPR).

Continuous independent quality control of production ensures the AZL 1098 LABBET<sup>®</sup>.

Supervision of the quality system, EMS and OHS is carried out by Notified Body No. 1020.

### 5. Instruction for preparation and application

Application procedure is in detail specified in the internal technological procedure BETOSAN No.30/12 "TP for cracks injection with **BETOLIT PU** polyurethane resin.

The composition is prepared by proper mixing of component A (PU resin) and B (catalyst) in a specified ratio. Shake the component B (catalyst) well before adding it to the mixture. Mix component A (PU resin) and B (catalyst) in a ratio from 6 to 10% to achieve a required reaction time (see Table below). For injection use packers and a single-component injection pump. The mixing ratio is the following:

<b>BETOLIT PU 1C fix</b>	component A (volume parts)	component B (volume parts)
	10	0.6 ÷ 1
<b>reaction time (at 20 °C)</b>		
Quantity of catalyst (%)	Reaction starting time (s)	Polymerization (s)
6 %	15	70
8 %	12	55
10 %	9	45

Neither temperature of base nor temperature of ambient air shall be below + 10 °C and above + 30 °C.

Injection pump and other tools can be cleaned with **BETOSAN PURCLEAN** agent.

## 6. Specific consumption

Specific consumption of **BETOLIT PU 1C fix** depends on the width of the cracks to be filled.

## 7. Packing and storage

**BETOLIT PU 1C fix** component A is supplied in metal canisters of 25 kg or 10 kg, component B is supplied in cans of 2.5 kg or 1 kg (10% of component A). Shelf life of the product in original undamaged packing is 12 months. The material must be stored protected from moisture and at temperatures between +10 °C and +30 °C. Once opened packing must be for further use well sealed or preferably covered with nitrogen.

During manipulation and storage keep in mind that it is a flammable material of Class IV.

## 8. Health protection at work

Work with a two-component system **BETOLIT PU 1C fix** requires adequate sanitary measures usual for work with materials on the polyurethane basis. First of all it is necessary to follow relevant provisions of Czech Standard SN 65 0201. The workplace shall be properly ventilated, workers shall have adequate personal protective equipment, and no eating, drinking or smoking is allowed while working. In case of eye contamination it is necessary to rinse out eyes with clean water and immediately seek out medical aid.

In case of accidental swallowing it is necessary to immediately cause vomiting and immediately seek out medical aid.

In case of afflicted skin it is necessary to wash thoroughly the irritated skin with warm water and soap and treat it by a suitable reparative cream.

**BETOLIT PU 1C fix** is a flammable material of Class IV.

Issued MSDS meets the requirements of EC-Regulation 1907/2006, Article 31.

Because the product meets the criteria for classification as hazardous, it is necessary to provide the recipient or carriers with MSDS.

In countries where regulation REACH (par. 33.1): EU regulation on chemicals and their safe use (REACH: EC 1907/2006) is valid, professional users and distributors must be provided with following information automatically and without request:

*This product is subject to Regulation (EC) no. 1907/2006 (REACH). It does not contain any substances that could be released from product under normal or reasonably foreseeable conditions of use. Therefore, there are no registration requirements for substances in articles within the meaning of Article 7.1 of the Regulation.*

*Based on our current knowledge, this product does not contain SVHC (substances of very high concern) from candidate list published by the European Chemicals Agency in concentrations above 0.1% (w / w).*

## 9. Waste disposal

During disposal of contaminated packages or clearing debris from product, it is necessary to follow the Act No. 185/2001 Coll. on waste, as amended.


## 10. Important notice

All information mentioned above, especially advice for processing and application of our products, is based on our knowledge from the development of chemical products and on years of experience with



applications in practice at standard conditions, and proper storage and use. Due to the differing conditions during processing, high count of products, varying nature and modifications of base and other external influences, the procedure based on the information provided or on other written or oral recommendations, may not always ensure satisfactory working results. BETOSAN s.r.o. assumes no liability for provided advice or recommendation. The applicator must prove that he submitted complete information on time and in writing which is necessary for a proper detailed assessment by BETOSAN s.r.o. The applicator must test the suitability of the products for the intended application. Proprietary rights of third parties, above all, must be taken into account. All received orders are subject to our current "General sales and delivery conditions". Please always make sure that you follow the most recent issue of the Technical Data Sheet. It is available, along with other information, at our Technical Department or at [www.betosan.cz](http://www.betosan.cz).

## 11. CE marking

 1301	
<b>BETOSAN s.r.o.</b> Na Dolinách 28, 147 00 Prague 4	
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9-9/072013	
EN 1504-5:2014 U(S1)W(1)(4)(10/30)	
<b>BETOLIT PU 1C fix</b> Solvent-free polyurethane injection resin	
Water tightness	watertight at $2 \times 10^5$ Pa
Viscosity (mPa.s)	< 60
Expansion ratio and rate by water storage	NPD
Workable life	NPD
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Sensitivity to wet-drying cycles	NPD
Compatibility with concrete	NPD

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