

# RASCOflex PU110X

## POLYURETHANE INJECTION MATERIAL

### POLYURETHANE INJECTION PRODUCTS

The soft, limited-ductility RASCOflex polyurethanes are solvent-free, 2-component, polyol- and isocyanate-based injection resins. They are injected either as a 2-component system using a static mixer or in premixed form as a 1-component system. The RASCOflex polyurethanes excel by their high versatility and wide-ranging applications. To accommodate the constantly changing injection conditions on site, all limited-ductility RASCOflex polyurethanes can be immediately adapted through modification by additives. All RASCOflex products undergo strict material tests, with particular priority given to their environmental compatibility.

### USE

RASCOflex PU110X is formulated so as to cure without water contact into a compact polyurethane mass of limited ductility. Upon contact with water, however, it foams and can thereby quickly halt the flow of infiltrating water. The non-foaming material injected behind this then forms the permanent waterproof barrier. In many applications, this property eliminates the need for pre-injection with a 1-component polyurethane foam. The injection works can thus be performed in a single operation, thereby saving time and material.

The key feature of RASCOflex PU110X is its very low viscosity. This enables it to penetrate into and seal even the smallest cracks, down to 0.1 mm. RASCOflex PU110X is not only suitable for numerous remedial waterproofing applications, it can also be used for preventive the waterproofing of joints. The use of additives allows various properties of RASCOflex PU110X to be adapted directly on site.

### FEATURES

- extra-low viscosity
- elastic waterproofing
- contact with water speeds up reaction
- for use with either 1-component or 2-component injection pumps
- ductile filling of cracks, voids, interstices and defects



Further product info



0921-CPD-2101



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## TECHNICAL/PHYSICAL DATA

	A-Comp Base component	B-Comp Base component
Supplied form	liquid	liquid
Material colour	colourless / yellowish	brown
Container type	canister	canister
Standard container size	20 ltr / 19.2 kg	20 ltr / 22.8 kg
Density (DIN EN ISO 2811)	0.96 kg/ltr ( $\pm 0.03$ )	1.13 kg/ltr ( $\pm 0.04$ )
Viscosity (DIN EN ISO 3219)	185 - 285 mPas	60 - 90 mPas
Hazardous goods/ADR	none	none

### Mix (ready-to-use)

Mixing ratio	1:1 (by volume)
Viscosity (DIN EN ISO 3219)	80 - 140 mPas
Foam factor	1.1 - 1.5
Pot life (in minutes) at 20° C	30 - 45 min
Application temperature	from +4° C to +35° C
Storage/shelf life	12 months, in original container at +5° C to +25° C, in dry conditions

The technical details are based on laboratory values from external and/or internal laboratory tests. These details are for information purposes only. The exact product values and their tolerances (e.g. temperature fluctuations  $\pm 2^{\circ}\text{C}$ ) are verified and approved on the basis of the test guidelines.

## APPROVALS

- EN 1504-5 System 2+: ZA.1b U(D1) W(1) (1/2/3) (5/35)
- DIN V 18028
- Entered in official BASt (German Federal Highway Research Institute) list of tested and approved products for concrete repair
- REACH-assessed exposure scenarios: water contact, periodic inhalation, application
- REACH-tested raw materials, classed as harmless

## EXPERT REPORTS

- Impact on groundwater hygiene in accordance with DIBt (German Institute for Construction Technology) guidance paper, Institute of Environmental Hygiene and Environmental Medicine, Gelsenkirchen, Germany
- Determination of characteristic values, MFPA Leipzig, Germany
- Compatibility with polymers, MFPA Leipzig, Germany
- Polymer inserts in concrete, MFPA Leipzig, Germany
- Flexural tensile and compressive strength, University of Duisburg-Essen, Germany
- CE certificate
- Conformity certificate
- Further reports on request

## SUPPLY/ADDITIVES

Item no.	Product	Container	Contents
1401.6220.001	RASCOflex PU110X canister set	set	42 kg
1101.6221.001	RASCOflex PU110X A-Comp	canister	19.2 kg
1101.6222.001	RASCOflex PU110X B-Comp	canister	22.8 kg
1101.6223.001	RASCOflex PU110X dual-chamber cartridge	cartridge	2x200ml
1101.6911.001	RASCOflex PU-AC	canister	5 kg
1101.6921.001	RASCOflex PU-THIX	canister	5 kg
1101.6931.001	RASCOflex PU-FO	canister	5 kg

Other container sizes, grouting machines, equipment and accessories available on request

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## APPLICATION/PREPARATION

The A and B components are supplied in the correct, ready-to-use volumetric proportions. The material is applied using a 2-component injection pump (with the components fed in the ratio 1:1 by volume) or a 1-component injection pump where the grout is premixed.

## GENERAL GUIDELINES / SAFETY NOTICE

The gel and curing times are temperature-dependent. The reaction between the components is significantly influenced by the ambient, material, ground and groundwater temperatures. Neither the prevailing ambient temperature nor the material temperature shall be less than + 4°C or greater than + 35°C.

The components shall be properly blended into a homogeneous mix. For grouting with a 2-component injection pump, a static mixer of min. 300 mm length should be used. Do not use water or aqueous agents to clean the equipment and pumps. As all RASCOflex polyurethane resins are moisture-sensitive, always ensure that the containers are properly sealed during storage.

Suitable protective clothing, gloves and goggles shall be worn. An eyewash bottle shall be kept at hand. For further details, please consult the safety data sheet.

## MODIFICATION / ADJUSTMENT OF PRODUCT PROPERTIES

Additives can be used at any time, also directly on site, to tailor RASCOflex PU110X to the demands of the particular situation.

Gel time acceleration: RASCOflex PU-AC  
Foaming agent: RASCOflex PU-FO  
Thixotropic agent: RASCOflex PU-THIX

To ensure correct dosage of the specific additive, please consult the relevant technical data sheet!

## CLEANING OF WORKING EQUIPMENT

As the injection product reacts with water, no parts of the working equipment shall under any circumstances be cleaned with aqueous cleaning agents. Either machine oil or, in particular cases, acetone-based rinsing or cleaning agents are recommended for cleaning all equipment and accessories that have come into contact with polyurethane. Please consult the manufacturer's instructions for the relevant pumps and equipment.

## DISPOSAL

For details on how to dispose of the individual components, please consult the product safety data sheet. Cured material, in moderate quantities, may be disposed of with normal domestic waste.



Mixing video

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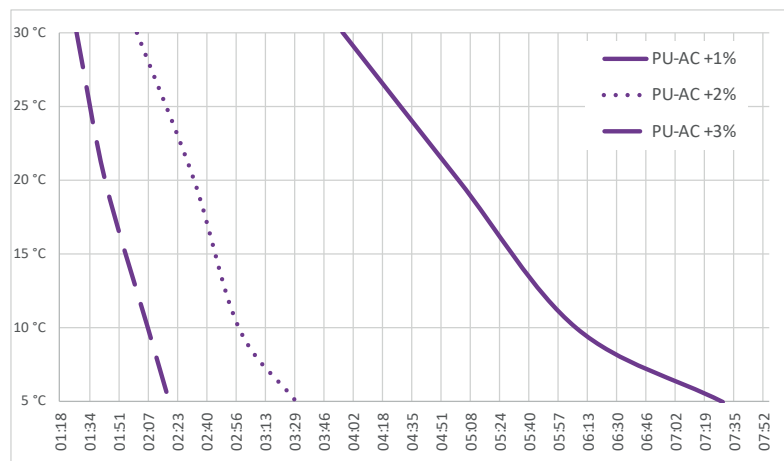
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## GEL TIME WITH ACCELERATOR

Gel time in minutes, in function of material/building fabric temperature



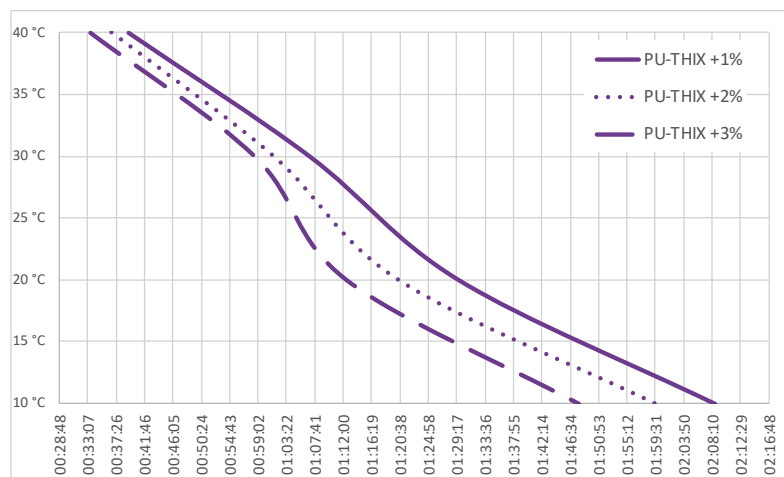
Temp.	Standard	PU-AC +1%	PU-AC +2%	PU-AC +3%
30 °C	00:37:48	00:03:56	00:02:01	00:01:27
20 °C	00:50:37	00:05:01	00:02:33	00:01:43
10 °C	01:13:29	00:06:07	00:02:58	00:02:07
5 °C	01:42:35	00:07:29	00:03:30	00:02:19

Times in (hh:min:sec)

Guide values from laboratory tests!

## GEL TIME WITH THIXOTROPIC AGENT

Gel time in minutes, in function of material/building fabric temperature



Temp.	PU-THIX +1%	PU-THIX +2%	PU-THIX +3%
40 °C	00:39:23	00:36:43	00:33:37
30 °C	01:06:57	01:01:23	00:58:37
20 °C	01:29:39	01:20:24	01:12:37
10 °C	02:08:37	01:59:29	01:47:56

Times in (hh:min:sec)

Guide values from laboratory tests!

**NOTE:** Any further increase, beyond the stated values, in the quantities added is not recommended and may impair waterproofing performance.

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