

## TECHNICAL DATA SHEET

**1-component (+CAT), low viscous, solvent-free polyurethane based injection system. Reacts with water and sand in a strong and durable substrate.**

**Designed for soil stabilization and creating horizontal and vertical waterproof barriers in soils.**



### I. Applications

TEKINJECT PU 1C SOIL is an injection system that can be used for the injection of soils:

- The high obtained compressive strength makes it suitable for stabilizing soils, ensuring a compact, durable and strong substrate.
- Due to its extremely low viscosity (25mPa.s), it can be used to inject very dense soils
- The material is suited for the creation of horizontal and vertical waterproof barriers in soils
- Reaction with water ensures a deep penetration in the soil and will prevent a premature reaction

### II. Properties

- TEKINJECT PU 1C SOIL is a 1-component (+cat), polyurethane based injection system that needs water to react and reacts into a hard, hydrophobic grout.
- Good chemical resistance against many acids, bases, solvents, and fuels (check chemical resistance list)
- No shrinkage after curing
- Free expansion: up to 2 times
- Non-toxic: does not contain solvents.
- Non-flammable.
- Excellent adhesion to mineral building materials such as concrete, cement and brick.
- Variable reaction time by adjusting the TEKINJECT PU 1C SOIL CAT.

## III. Technical Data

- Typical values:

### TEKINJECT PU 1C SOIL RESIN:

Color	Brown
Viscosity (20°C)	25 mPa.s
Density (20°C)	1,1 g/cm <sup>3</sup>
Flash point	>148 °C
Storage temperature	Between 10 °C and 30 °C

### TEKINJECT PU 1C SOIL CAT:

Color	Transparent
Viscosity (20°C)	20 mPas
Density (20°C)	0,97 g/cm <sup>3</sup>
Flash point	>148 °C
Storage temperature	Between 10 °C and 30 °C

### TEKINJECT PU 1C SOIL Mixture:

Color	Brown
Viscosity (20°C)	25 mPa.s
Density (20°C)	1,1 g/cm <sup>3</sup>
Min. application temp	5 °C
Expansion Volume	Up to 2 times in volume
Compressive strength (after 6 weeks, reaction with quartz type H32)	12 MPa
Flexural strength (after 6 weeks, reaction with quartz type H32)	2 MPa

- Reaction times:

Temperature	0,5 % CAT		1 % CAT		2 % CAT	
	Start	end	Start	End	Start	End
5 °C	7'10"	11'33"	3'08"	5'34"	2'36"	4'20"
15 °C	3'02"	5'24"	1'24"	3'08"	50"	2'15"
20 °C	1'24"	3'14"	58"	2'35"	37"	1'45"
25 °C	1'15"	3'02"	47"	2'15"	33"	1'40"

TEKINJECT PU 1C SOIL reacted with 5 % water (PH 7).

## IV. Processing

### 1. Resin preparation

Create 1 mixture with the TEKINJECT PU 1C SOIL RESIN and adequate quantity TEKINJECT PU 1C SOIL CAT.

Depending on the ambient and structure temperature, the reaction times will vary. The higher the temperature, the quicker the reaction time. Secondly the amount of water present in the structure will also influence the reaction time of the mixture. The reaction time of the mixture can be altered by changing the component TEKINJECT PU 1C SOIL CAT. The more TEKINJECT PU 1C SOIL CAT is added, the quicker the reaction time. We recommend a maximum of 10% TEKINJECT PU 1C SOIL CAT to be added.

### 2. Substrate preparation

To guarantee a good injection by TEKINJECT 1C SOIL a soil analysis needs to be performed.

Depending on the application purpose (waterproofing, stabilization,...), the correct injection technique needs to be applied. Please consult your TEKINJECT contact person for more information or the specific application manuals of the injection techniques.

### 3. Injection

The TEKINJECT PU 1C SOIL mixture needs to be injected with a 1-component pump. The selected injection pressure is as low as possible, start injecting and increase until you see the resin flowing. Injection with low pressure ensures a deeper penetration of the resin and complete sealing of the soil.

We highly recommend to consult your TEKINJECT contact person for more information or the specific application manuals of the injection techniques.

### 4. Cleaning

If the components are liquid, the pump can be cleaned with TEKINJECT PU CLEANER. Hence, we recommend, every time there is a stop of more than 15 minutes, and at the end of the injection works to flush the pumps with TEKINJECT PU CLEANER, which is a cleaner with high flash point.

Hardened material needs to be cleaned with PU dissolver.

Packers can be removed, and the boreholes can be sealed with a fast-setting mortar.

For more details see the application manual of the TEKINJECT PU 1C SOIL.

## V. Packaging

TEKINJECT PU 1C SOIL RESIN:	20 kg plastic jerry can 1000 kg IBC
TEKINJECT PU 1C SOIL CAT:	0,5 kg plastic bucket 20 kg plastic jerry can

## VI. Shelf life

24 months after production date in the original, unopened and undamaged packaging, according to the storage instructions of each component (see technical data of this sheet). If the following recommendations are not followed, the shelf life of the material cannot be guaranteed.

## VII. Precautions and Safety Recommendations

- Wear safety and protection materials when handling this material (glasses, gloves, protective clothing).
- In the event of contact with the eyes: rinse thoroughly with clean water and consult a doctor.
- In the event of skin contact: rinse with water thoroughly.
- Mix residues of the TEKINJECT PU 1C SOIL with sand and dispose of in accordance with local regulations.
- The resin can react with water or atmospheric humidity to form CO<sub>2</sub> gas. This can build up pressure in a closed package or container that has already been opened.
- Consult the Material Data Safety Sheet for more information on health and safety regulations.

## VIII. Company Details

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