



PC-Inject Seal® PU 100

Hydrophobic grout based single component polyurethane injection for crack repair

PC-Inject Seal® PU 100 is a water-soluble polyurethane grouting material (reinforced type) that consists of a high molecular compound with isocyanate end groups. It is created through the chemical polymerization of polyisocyanate and various water-soluble polyether components. By utilizing water as a crosslinking agent, this material reacts immediately upon contact with water, causing it to expand rapidly during the curing process. This characteristic enables it to effectively seal and block leakage channels quickly.

FEATURES

- Upon contact with water, the slurry will emulsify and foam, initiating a chemical reaction that creates an impermeable, elastic colloidal consolidated body with excellent water-stopping capabilities.
- The elastic colloidal consolidated body formed post-reaction exhibits remarkable extensibility, elasticity, impermeability, and resistance to low temperatures, maintaining its original shape in water for an extended period.
- It demonstrates good hydrophilicity, low viscosity when mixed with water, and excellent flowability. Additionally, the gel that absorbs water is harmless, non-toxic, and pollution-free for humans.
- As the slurry reacts with water to create elastic cementitious material, it releases CO₂ gas. This gas pressure allows the slurry to be further pushed into structural gaps, showcasing secondary permeability.
- The slurry offers notable expansibility, high water retention, effective foaming, and excellent hydrophilicity and flowability.

PRODUCTS PROPERTIES

Physical Properties	Typical Value
Product	Grout Based on Polyurethane
Appearance	Light Yellow Polyurethane Foam
Solubility in Water	Hydrophobic
Density	1 g/cm ³
Viscosity	1.0×10 ³ a/m Pa.s
Elongation in crack	20-37 %
Adhesive tensile strength	0.75 N/mm ²
Max. Expansion (25°C)	2,700 %
Induction Time (25°C)	15 sec [Ratio 2:1 Resin : Water]
Gel Time (25°C)	150 sec [Ratio 2:1 Resin : Water]
Corrosiveness	Non-Corrosive
Chemical Resistance	Resistant to more organic Solvent, Mild Acids, Alkali
Minimum water demand	1,3 %
Application temperature	+6 - +35 °C
Adhesive tensile strength	0.75 N/mm ²
Free elongation	66 %
Water inclusion	200/s

USES

- Leakage repair, plugging and grouting of underground buildings such as tunnels, coal mines, pits, dams, wharves, etc;
- Plugging and sealing of construction joints, settlement joints, deformation joints, overlapping positions of new and old beams and various concrete cracks.

SURFACE PREPARATION

PC-Inject Seal®PU 100 necessitates water as a reactive component. Prior to injection, it is essential to pre-inject dry structures with water. This process not only assesses the permeability of the structure, rocks, or building foundation but also ensures proper functionality. Moreover, an injection plan should adhere to the guidelines outlined in DIN EN 12715.

INJECTION PACKERS

Ensuring the correct placement of suitable packers is crucial in various industries, such as construction, manufacturing, and shipping. Packers are used to fill gaps, provide support, or act as cushions to protect items during transportation. Properly placing packers helps to prevent damage to goods, secure loads, and maintain the integrity of structures.

When determining the placement of packers, it is essential to consider the specific requirements of the task at hand. Factors such as weight distribution, pressure points, and material resilience should all be taken into account. By strategically positioning packers in the right locations, you can enhance the stability and safety of your project.

APPLICATION PROCEDURE

The administration of **PC-Inject Seal®PU 100** entails utilizing a single-component injection pump with adequate pressure and discharge capability. It is imperative to halt the injection process if the temperature of the ground or structure falls below +6°C.



PACKAGING

The product is available in packages of 10 KG and 20 KG.

SHELF LIFE

24 months from production date, if stored in original sealed packaging, in areas protected from humidity and direct sun exposure. Recommended storage temperature: between 5°C and 25°C.

CURING

The curing time of **PC-Inject Seal®PU 100** will differ based on ambient temperature, quantity used, and application technique. Complete curing typically occurs after 7 days at 23°C.

CLEANING OF EQUIPMENT

It's crucial to clean all tools and application equipment with water immediately after use. If materials are allowed to harden or cure, they can only be removed through mechanical means.

HEALTH AND SAFETY

Please take notice of the safety information and advice given on the packaging labels and safety information sheets.

REMARKS

- The minimum ambient and substrate temperature should be 5°C.
- The material should be stored in a dry, cool environment.
- Optimal storage stability is achieved for unopened containers when stored between 15°C and 30°C.



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TECHNICAL DATA SHEET UPDATED IN
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TDS/PC-INJECT SEAL®PU 100/20

All technical data in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

The information, particularly the recommendations relating to the application and end-use of PC-WC products, are given in good faith based on PC-WC's current knowledge and experience of the products when properly stored, handled and applied under normal conditions by PC-WC recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or any other advice offered. The user must test the product's suitability for the intended application and purpose. PC-WC Global FZ-LLC reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Our technical assistance is at the disposal of the users. Consult the latest update of the technical data sheet on our [website www.pc-wc.com](http://www.pc-wc.com)