KREVO Inject PU-Foam

Water-reactive two-component polyurethane injection foam | Rapid stopping of active leaks

PRODUCT DESCRIPTION

KREVO Inject PU-Foam is a low-viscosity, solvent-free, two-component polyurethane resin system that expands rapidly into a stable foam when it contacts water. It is intended to temporarily stop or reduce active water leakage through concrete cracks and cavities, allowing KREVO Inject PU-Flex permanent flexible sealing resin. Catalyst concentration is selected to control foaming reaction time.

ADVANTAGES

- Rapid water-activated expansion seals flowing cracks and voids.
- Adjustable catalyst dosage allows reaction speed to suit site conditions.
- Low-viscosity liquid can be injected through drilled packers.
- Stable cured foam with adhesion to prepared concrete surfaces.
- Suitable for experienced injection crews working in varied climates.

TYPICAL USES

Emergency water stopping in concrete walls and slabs • Leaking construction joints and crack networks • Foundations, basements and tunnels • Water-retaining and marine concrete structures • Preparation for subsequent permanent PU crack sealing (KREVO Inject PU-Flex).

PRODUCT INFORMATION

PARAMETER	SPECIFICATION
Generic type	Two-component water-reactive polyurethane injection foam
Composition	Solvent-free low-viscosity PU base (Part A) and catalyst (Part B)
Reaction mechanism	Rapid expansion into stable foam on contact with water
Base | Part A	5.0 L (approximately 5.65 kg)
Catalyst | Part B	0.5 L (approximately 0.50 kg)
Standard kit	5.5 L combined (approximately 6.15 kg)
Appearance / use	Liquid components for injection; expanding water-stop foam
Shelf life / storage	12 months in unopened dry containers at approximately +25 °C

TYPICAL PHYSICAL & REACTIVITY PROPERTIES | +25 °C

PROPERTY / TEST METHOD	TYPICAL RESULT
Free foam expansion	≥ 3,000% (at 10% catalyst; +25 °C / 50% RH)
Viscosity	20–40 mPa·s (+25 °C / 50% RH)
Elongation | ASTM D638	15–20%
2% catalyst by volume	Foam starts ~28 s; finishes ~104 s
4% catalyst by volume	Foam starts ~19 s; finishes ~72 s
6% catalyst by volume	Foam starts ~16 s; finishes ~57 s
8% catalyst by volume	Foam starts ~14 s; finishes ~45 s
10% catalyst by volume	Foam starts ~12 s; finishes ~44 s
VOC | reacted foam	< 100 g/L (EPA Method 24 basis)

Application & Reaction Data

KREVO Inject PU-Foam | Catalyst dosing, crack packers, injection pressure and reactivity

APPLICATION PROPERTIES

PARAMETER	SPECIFICATION	PARAMETER	SPECIFICATION
Application range	+5 to +45 °C	Use	Temporary leak stopping
Injection pressure	≥ 4 bar, as site allows	Drilling angle	Approximately 45°
Catalyst dosage	2–10% by base volume	Test conditions	+25 °C / 50% RH
Free foam expansion	≥ 3,000%	Viscosity	20–40 mPa·s
System life	Permanent seal required	Equipment	Dry injection pumps / hoses

Polyurethane foam reacts with water. Foam starting and finishing times depend on catalyst dosage, substrate temperature, relative humidity and leakage rate. Select the catalyst ratio by site trial, prepare pump and packers first, and mix only the quantity that can be injected before the reaction advances.

TYPICAL WATER-STOP INJECTION SEQUENCE

STAGE	MATERIAL / METHOD
1 | Survey	Locate active leaks, crack route and sound injection positions.
2 | Drill / pack	Drill angled holes and install mechanical injection packers.
3 | Equipment	Prepare dry pump, hoses, resin components and selected catalyst ratio.
4 | Inject	Mix A+B and inject sequentially to stop or reduce water leakage.
5 | Completion	Verify water stop and arrange suitable permanent follow-up seal.

CRACK ASSESSMENT & PREPARATION

Identify the active leakage path, concrete condition, crack width and any large voids. Remove unsound concrete and loose contaminants around planned ports. Large water flows may require prior diversion or localized rapid water plugging to make injection controllable. Confirm the repaired area will receive a suitable permanent sealing system where required.

DRILLING, PACKERS & PRESSURE

Drill angled holes approximately 45° to the surface so that each hole intersects the leaking crack near its estimated mid-depth. Install sound, tightened injection packers suited to the substrate. Use covered-reservoir injection equipment with dry hoses and fittings. Plan an orderly packer sequence and test lines before using the resin.

INSTALLATION CONDITION	SPECIFIED CONTROL
Active water flow	Assess leakage route; divert heavy flow locally if needed.
Vertical concrete cracks	Start from lowest installed packer and move progressively upward.
Pump readiness	Dry equipment, covered reservoir and compatible flushing solution.

Inject using an appropriate polyurethane injection pump at not less than approximately 4 bar where site conditions permit. Work sequentially along the leak; for vertical cracks begin at the lowest packer and progress upward. Control pressure to avoid damage to weak concrete and stop when expanding foam has arrested the leakage.

CATALYST RATIO & REACTION TIME

Typical reference foam start / finish times at +25 °C and 50% relative humidity are: 2% catalyst: 28 / 104 s; 4%: 19 / 72 s; 6%: 16 / 57 s; 8%: 14 / 45 s; 10%: 12 / 44 s. All percentages are by volume of the base. Conduct a site trial because temperature and water conditions change the reaction.

Installation & Product Support

KREVO Inject PU-Foam | Mixing, injection, temporary water stopping and site limitations

MIXING PROCEDURE

- Ensure containers, mixing tools, pump and hoses are completely dry before handling resin.
- Transfer the required amount of Part A (base) into a clean, dry mixing vessel.
- Add Part B catalyst at the selected volume percentage, typically 2% to 10% of Part A.
- Mix using a slow-speed stirrer (200 rpm or less) until uniformly blended; use immediately.

INJECTION & FOLLOW-UP

- Flush and prepare the dry injection system with a compatible polyurethane pump-flushing agent; do not leave moisture in lines.
- Pump the mixture through installed packers, beginning at the lowest port on a vertical crack and advancing sequentially.
- Observe foam expansion and leak reduction, adjusting injection sequence and catalyst ratio only after suitable site assessment.
- Clean equipment immediately after use using a compatible flush; once hardened, foam can generally be removed mechanically.

LIMITATIONS & SYSTEM NOTES

- This expanding foam is intended for temporary water stopping; use a suitable secondary resin for a permanent watertight seal.
- Do not apply below +5 °C or above +45 °C without an approved project-specific procedure.
- The cured foam is not designed to accommodate continuing joint or crack movement.
- Do not use in injection-hose systems; keep all mixing and pumping equipment dry.
- Do not dispose of unmixed or partially mixed chemicals into drains or water systems.

HEALTH, SAFETY & ENVIRONMENT

For trained professional injection crews only. Read the current Safety Data Sheet before use. Wear appropriate chemical-resistant gloves, eye protection and protective clothing. Prevent contact of uncured material with skin or eyes. Use appropriate ventilation, spill control and environmental protection; keep materials away from drains and watercourses.

QUALITY & PRODUCT INFORMATION

Injection effectiveness depends on correct leak diagnosis, port geometry, catalyst dosage, equipment cleanliness, water conditions and pressure control. Verify the temporary seal, and specify and install a compatible permanent injection material as required. Quoted laboratory figures are not a substitute for KREVO batch test records and job-site trials.

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