STONHARD
CONSTRUCTION SOLUTIONS

PRODUCT DATA

LEAK INJECT 509 Z RUBBER ACRYL
ACRYLATE INJECTION LIQUID

PRODUCT DESCRIPTION
Leak Inject 509 Z Rubber Acryl is a tough and elastic four-component, acrylate-based injection fluid with the initiator dissolved in a strengthening polymer blend. The use of this strengthening polymer blend leads to excellent physical properties of the gel that is formed.

APPLICATION
Leak Inject 509 Z Rubber Acryl is specifically designed for injecting structures in which waterproofing is critical to success, including areas of fluctuating groundwater levels, settling concrete, expansion joints, etc. and is typically used in tunnel construction.

PROPERTIES
- Injection sealing of cracks, fissures and voids in concrete and masonry.
- Curtain injection (around tunnel segments, drainpipes, porous concrete structures, etc.).
- Leak Inject 509 Z Rubber Acryl is specifically formulated for treating leaks in tunnels including; failed expansion joints, fissures and cracks in concrete segments.
- Leak Inject 509 Z Rubber Acryl has outstanding adhesion to mineral surfaces (concrete, brick) and expands in contact with water up to 290% of its original volume.
- Low viscosity allows deep penetration into fissures and cracks.
- Good general chemical resistance.
- Free from harmful solvents and non-flammable.
- Leak Inject 509 Z Rubber Acryl gel has outstanding water retention capacity, meaning no crack formation in the gel as a result of injected fissures and voids drying out due to fluctuations in the groundwater level. Because it uses a strengthening polymer blend, the gel has improved physical properties such as outstanding cohesion upon swelling, good stability, high water retention capacity, outstanding behaviour through wet-dry cycles and improved tear strength in comparison to standard acrylate injection liquids.

PROCESSING
The Leak Inject 509 Z Rubber Acryl system consists of four components:
- A1: Leak Inject 509 Z Rubber Acryl (the resin)
- A2: Leak Inject 509 Z Rubber Acryl Cat (the catalyst)
- B: Leak Inject 509 Z Rubber Acryl Init (the initiator)
- C: Leak Inject 509 Z Rubber Acryl Strengthener (the strengthening polymer blend)

Two solutions are made up for pumping:
- Solution 1: This is a mixture of the 509 Z Rubber Acryl resin (component A1) with the 509 Z Rubber Acryl Cat catalyst (component A2).

TECHNICAL DATA (Typical Values)	
Component A1 (Leak Inject 509 Z Rubber Acryl)	• Appearance: Purple-Pink Liquid • Density: 1.15 g/ml • Solids Content: 42% - 48% • Viscosity (20°C): 14 mPas • pH: 6.5 - 8 • Fully miscible with water
Component A2 (Leak Inject 509 Z Rubber Acryl Cat)	• Appearance: Pale-Yellow Liquid • Density: 1.11 g/ml • Viscosity (20°C): 22 mPas • Fully miscible with water
Component B (Leak Inject 509 Z Rubber Acryl Init)	White, water-soluble powder
Component C (Leak Inject 509 Z Rubber Acryl Strengthener)	• Appearance: White Liquid • Density: 1.033 g/ml • Solids Content: 38% - 40% • Viscosity (20°C): 15 mPas • pH: 6.5 - 8 • Fully miscible with water
Minimum Application Temperature	5°C
Elongation at Break	>50%
Watertightness Under Pressure (EN 14068)	Waterproof at 2 x 10^5 Pa
Compatibility with Concrete (EN 12637-1)	Pass (compatible with concrete)
Sensitivity to Wet–Dry Cycles (EN 14498 B)	The swelling of the gel reaches a constant level after 10 wet-dry cycles. A wet-dry cycle consists of 1 day of drying at 50°C followed by 6 days of immersion in tap water at a temperature of 20°C
Swelling Capacity Under Water (EN 14498 A)	The swelling reaches a constant level
Volume Increase when kept Under Water (EN 14498)	137% after 10 days, 210% after 20 days, 290% after 36 days (end swelling) in tap water at a temperature of 20°C
Shelf Life	6 months after production date in the original, unopened and undamaged packaging, stored between + 5°C and + 25°C in a dark place

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- Solution 2: This is a mixture of the 509 Z Rubber Acryl Strengthener strengthening polymer blend (component C) with the 509 Z Rubber Acryl Init initiator (component B).

To produce the acrylate gel, these two solutions are mixed in a 1:1 volumetric ratio. 509 Z Rubber Acryl is injected into the crack, fissure or void with a two-component pump (manual, electric or pneumatic). Machine parts that come into contact with the resin should be made of stainless steel.

Reaction times 20°C (at higher temperatures the gel time is reduced. At lower temperatures the gel time increases).

To change the reaction time, the quantity of catalyst remains constant and the quantity of initiator is adjusted.

Solution 1: Add 0.45L (0.5 kg) of catalyst (A2 component) to 8.7L (10 kg) resin (A1 component).
Solution 2: Add (x) kg of initiator (B component) to 8.7L (9 kg) of strengthening polymer blend (C component).

(x) kg initiator (B comp) in 8.7L (9 kg) strengthening polymer blend (C comp).
0.45 L (0.5 kg) catalyst (A2 comp) in 8.7L (10 kg) of resin (A1comp).

Initiator Quantity (x)	Reaction Time
0.5 kg	25 seconds
0.4 kg	31 seconds
0.3 kg	39 seconds
0.2 kg	45 seconds
0.1 kg	1 minute, 45 seconds
0.05 kg	2 minutes, 35 seconds

Prepare only as much solution 1 and solution 2 as can be used the same day. For longer reaction times, please contact your local Stonhard representative.

SIZES AND WEIGHTS
- 509 Z Rubber Acryl (Component A1): 10 kg or 25 kg blue plastic jerrycans (8.7L or 21.8L respectively).
- 509 Z Rubber Acryl Strengthener (Component C): 9 kg or 22.5 kg white plastic jerrycans (8.7L or 21.8L respectively).
- 509 Z Rubber Acryl Initiator (Component B): 0.625 kg plastic container.
- 509 Z Rubber Acryl Cat (Component A2): 0.5 kg (0.45L) or 1.25 kg (1.13L) plastic containers.

CLEANING
Clean the equipment with water.

PRECAUTIONS AND SECURITY MEASURES
- Protect the product from UV light and sunlight and store between 5°C and 25°C.
- Do not use calcium-rich water for the B-Component: Calcium in the water accelerates gel formation.
- Irritant: Wear safety goggles and gloves.
- In case of contact with skin: Wash with soap and water. Rinse well afterward.
- In case of contact with eyes: Rinse for several minutes with clean water. Consult a doctor.
- Absorb spilled Leak Inject 509 Z Rubber Acryl with sand and dispose of according to local regulations.
- For more information refer to the Safety Data Sheets for the various products.

NOTES
- Safety Data Sheets for Leak Inject 509 Z Rubber Acryl products are available upon request.
- A staff of Technical Service Engineers is available to assist with installation or to answer questions related to Leak Inject 509 Z Rubber Acryl products.
- For worldwide availability, additional product information and technical support, contact your local sales representative, or call Stonhard at (800) 263.3112.