KOSTER
Waterproofing Systems

KOSTER Injection Gel S4

Technical Data Sheet IN 294

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IN - Injection systems

Acrylic gel for stopping active water ingress, joint, and curtain injection with adjustable reaction time

Features

KOSTER Injection Gel S4 is used for stopping active water ingress, and to quickly seal joints and for curtain injection. The setting time can be adjusted between 10 seconds and 3 minutes by changing the amount of A2 or B component added. The gel can be colored on site by adding separately supplied pigments.

The standard set is supplied as follows; A1 component: 20 kg, A2 component: 1 kg, B component (salt): 0.4 kg. All components can be ordered separately. To increase adhesion and improve the elongation and tear resistance, KOSTER B+ (dispersion) can be ordered separately.

For curtain injections where a longer gel time is required, KOSTER Injection Gel G4 is recommended. Contact the KOSTER Technical Department for recommendations.

Technical Data

Viscosity	Approx. 30 cps @ 70 °F
Application temperature	> 40 °F

Mixing ratio

Standard mixtures

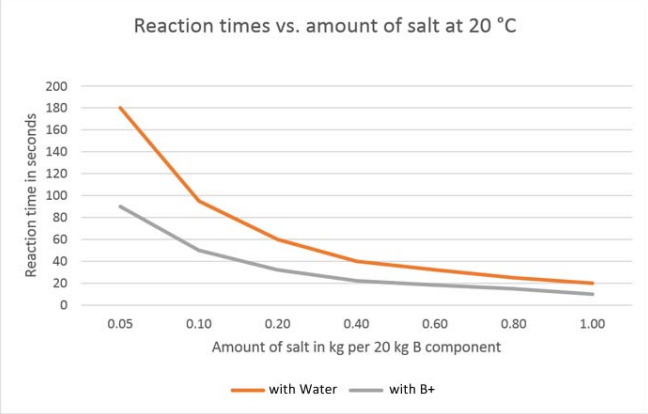
Component A		Component B		Reaction time at 70 °F
A1	A2	B	Water	40 sec.
20 kg	1 kg	0.4 kg	20 kg	
A1	A2	B	B+	20 sec.
20 kg	1 kg	0.4 kg	20 kg	

Slow mixtures

Component A		Component B		Reaction time at 70 °F
A1	A2	B	Water	180 sec.
20 kg	1 kg	0.05 kg	20 kg	
A1	A2	B	B+	90 sec.
20 kg	1 kg	0.05 kg	20 kg	

As with all reactions with injection gels, the reaction time is always dependent on the material temperature.Please contact the KOSTER Technical Department for reaction times over 3 minutes. In these cases, use KOSTER G4 Injection Gel.

For variable adjustment, the reaction times can be approximately taken from the following diagram:



Fields of Application

Water stopping: In the event of heavy water ingress, water can be stopped by accelerating the gel time.

Joint injection: Using KOSTER B + improves both the flank adhesion and the elongation at break, which especially makes sense when injecting joints. The reaction times are approximately halved in contrast to the standard mixture, but can still be controlled by the amount of B component added. For joint injection, a longer gel time is usually recommended. Sealing joints with KOSTER Injection Gel S4 is typically done on building components in contact with soil for repair work to stop water entering from outside. Acrylic gel joint waterproofing must always be designed in such a way that the gel seal can not dry out, by using KOSTER FS Joint Sealant or KOSTER Joint Tape 20.

Curtain Injection: For demarcation of curtain injections (i.e. into gravel), a faster gel time is useful to avoid further outflow of the material. It is also possible to create a lower penetration of average sands with a faster reaction time. In other cases, it is recommended to use KOSTER Injection Gel G4, which has a particularly low viscosity and a standard reaction time of 4 minutes.

Application

The material is injected using a 2-component-injection pump with an integrated water flush, e. g. the KOSTER Acrylic Gel Pump. Before application, adjust the components to the desired gel time as described. It should be noted that the setting of the gel requires that the injection technique can be made technically possible. For example, too much acceleration of the gel increases the risk that the mixing head is clogged by gel.

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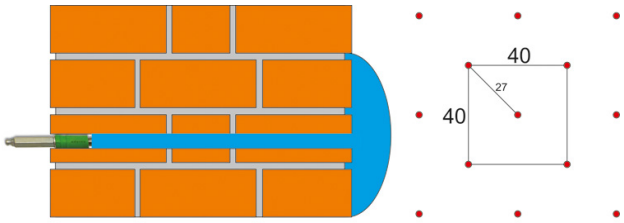
Mixing
Standard mixtures
Add the A2 component (1 kg) to the A1 canister. Close container and mix by rocking the container on its edge for 3 minutes.

For the standard mixture, which gives a gel time of 40 seconds at 70°F, pour the entire B-component into the empty canister and fill with 20 kg of water to a height of 8.25 inches (can be marked in advance), seal, and mix by rocking for 30 seconds.The green canister can be cleaned and re-used.
Other gel times, B Component
When adjusting gel times, consult the diagram above. Measure the proper amount of B Component and transfer to the empty green canister. Fill with 20 kg of water to a height of 8.25 inches, seal, and mix by rocking for 30 seconds.
Using KOSTER B+
If KOSTER B+ is to be used, the measured amount of B-Component is transferred into the canister with the KOSTER B+. Seal container and mix by shaking or rocking for at least 3 minutes. Do not add water. The mixed B/B+components can be used for 2 hours.

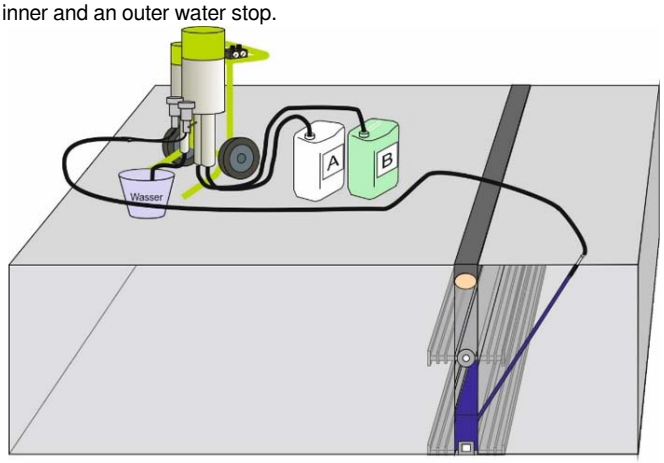
Curtain injection
In the case of curtain injection, the building component to be injected is drilled as shown below, in a grid of typically 40 cm square with a central hole in the center. 10-18 mm long pressure packers are installed (such as KOSTER Superpackers). In the case of perforated bricks, use injection lances (such as KOSTER Distributor Lances) or KOSTER Gel Packers which discharge the material on the outside of the building component to avoid filling the cavities. The injection is carried out in a multi-stage process with adjusted injection pressure and waiting time corresponding to the temperature between the injection stages. Please note: Overly accelerated gel times for the KOSTER Injection Gel S4 are not suitable for curtian injection, because sufficient distribution is not achieved. In this case, use KOSTER G4 injection Gel. For detailed instructions, contact the KOSTER Technical Department.



Joint injection
Joint injection must always be adapted to the circumstances. Detailed instructions cannot be given due to the large number of different joint structures.

In general, the number of packers can often be kept relatively low in the area of joint injection since the grout can spread well within the joint. For overhead work on horizontal joints (eg in multi-story car parks), it may be useful to pre-inject the joint with KOSTER Injection Gel S4 to prevent the gel from leaking out of the joint, then use KOSTER Injection Gel S4 with the B+ component added to fill the joint .

Holes should always be positioned so that existing waterproofing is not drilled through, as shown below in the illustrated injection between an inner and an outer water stop.



To avoid soiling of surfaces, walls and floor areas should be covered before starting work. Cured gel on floor and wall surfaces can be removed mechanically if necessary.

Coverage
Dependent on application.

Cleaning
Clean the pump immediately after use with clean water. Place the three intake hoses in buckets of clean water, and pump clean water through the machine.

Packaging

IN 294 001 A2	1 kg
IN 294 018 B+	18 kg

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IN 294 021	Component A1: 20 kg; Component A2: 1 kg; Component B: 0.4 kg
IN 294 400 B	400 g

Storage

Store cool and dry in originally sealed containers. The containers can be stored for for 12 months under proper storage conditions (dry, 50 - 75°F). Do not store A-Component in direct sunlight.

Safety

Wear protective clothing, gloves and goggles during processing and application of the material. During the application of the material, pressure builds up. Do not stand directly behind the packers. In case of skin contact, wash off the material immediately with lots of soap and water. In case of eye contact, flush eyes immediately and thoroughly with water or preferably an emergency eye wash bottle. Consult a doctor. Observe all governmental, state, and local safety guidelines when processing the material.

Limited Warranty

KOSTER warrants that its product shall be in accordance with the specifications published in the current revision of the products data sheet. KOSTER covenants that in the event any of its products fail to meet their published specifications, KOSTER shall replace those products proved to be defective. KOSTER shall not be responsible for any incidental or consequential damages due to the breach of its warranties. Notwithstanding the foregoing, KOSTER's sole liability hereunder shall not exceed the cost of the defective product originally purchased. EXCEPT AS SET FORTH ABOVE, KOSTER MAKES NO OTHER WARRANTIES EXPRESS OR IMPLIED AND MAKES NO WARRANTY AS TO THE MERCHANTABILITY OR FITNESS OF THE PRODUCT FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The user must determine if the product is suited for the intended use and the user must bear the risks and liabilities associated with it.

Related products

KOSTER KB-FIX 5	Art.-Nr. C 515
KOSTER Injection Gel G4	Art.-Nr. IN 290
KOSTER Superpacker 10 mm x 85 mm CH	Art.-Nr. IN 912 001
KOSTER Acrylic Gel Pump	Art.-Nr. IN 930 001
KOSTER Grip Head	Art.-Nr. IN 953 005
KOSTER Joint Sealant FS-V	Art.-Nr. J 231
KOSTER Joint Sealant FS-H	Art.-Nr. J 232
KOSTER Joint Sealant FS-V Grey	Art.-Nr. J 233
KOSTER Joint Sealant FS-H grey	Art.-Nr. J 234
KOSTER Joint Tape 20	Art.-Nr. J 820 020
KOSTER Joint Tape 30	Art.-Nr. J 830 020
KOSTER KD 2 Blitz Powder	Art.-Nr. W 512
KOSTER Repair Mortar	Art.-Nr. W 530 025
KOSTER Waterstop	Art.-Nr. W 540 015

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