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TEKINJECT AC FLEX

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TECHNICAL DATA SHEET

Very elastic, acrylic based injection system.

Designed for crack and joint sealing, consolidation in presence of water and the (re)injection of hoses and membranes.

I. Applications

TEKINJECT AC FLEX is an injection system designed for sealing cracks and joints in concrete. Due to its very low viscosity (equivalent of water) it can be used to seal the finest cracks. Setting time can be adjusted accordingly, which guarantees sealing in a variable application field:

- Sealing of cracks (from 0,05mm up to 4mm, depending on the strength of the counter pressure)
- Sealing of joints (recommended use of the TEKINJECT AC POLYMER)
- Curtain injection beneath slabs or brickwork to re-establish the waterproofing capabilities of the structure
- Injection of (re)injectable hoses
- Injection of failed membrane systems or injectable membrane systems
- Soil consolidation and creation of waterproof barriers

TEKINJECT AC FLEX is compatible with the TEKINJECT AC POLYMER component, which creates an extremely elastic and durable gel, with high resistance to fluctuating water tables.

II. Properties

- TEKINJECT AC FLEX is a 4-component, very elastic, acrylic based injection system that is water-expanding and reacts into an elastic, durable gel.
- Good chemical resistance against many acids, bases, solvents, and fuels (check chemical resistance list)
- Non-toxic: does not contain acrylamide, methacrylamide, formaldehyde or solvents.
- Non-flammable.
- Excellent adhesion on mineral building materials such as concrete, cement and brick.
- Variable reaction time from few seconds to several minutes.
- High water retention capacity: when the injected cracks dry out due to temperature or ground water level fluctuations the gel will not crack easily
- The cured gel has excellent durability in wet-dry cycles.

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III. Technical Data

- Typical values:

TEKINJECT AC FLEX RESIN:

Color	Blue liquid
Viscosity (20°C)	5-30 mPa.s (depending on testing method)
Density (20°C)	1,15 - 1,2 g/cm^3
PH	6,0-7,5
Active parts	40%
Storage temperature	2 - 35°C

TEKINJECT AC ACCELERATOR:

Color	Transparent liquid
Viscosity (20°C)	< 30 mPa.s
Density (20°C)	1,05 -1,11 g/cm^3
PH	10-12
Storage temperature	0 – 35 °C

TEKINJECT AC NPS:

Color	White powder
Storage temperature	2 - 35 °C

TEKINJECT AC FLEX Mixture:

Color	Blue (reacted gel will turn amber)
Viscosity (20°C)	5-15 mPa.s (depending on testing method)
Density (20°C)	1,1-1,15 g/cm^3
PH	6,0-7,5
Elongation at Break (hardened)	300%
Water absorption	33%
Min. application temp	2°C

- Reaction times:

% ACC	% NPS	Reaction time 20 °C
5	0,25	14’ 06”
10	0,15	10’55”
10	0,5	3’37”
10	1	1’42”
10	2	1’02”
10	3	50”
10	4	35”
10	5	29”

We advise the use of the TEKINJECT AC RETARDER at temperatures as from 40°C if long reaction times should be required.

% ACC	% NPS	% Retarder	Reaction time 40 °C
5	0,25	2	23’ 05”
5	0,25	3	28’03”
5	0,25	4	47’02”

IV. Processing

1. Resin preparation

Create 2 mixtures with the TEKINJECT AC FLEX components in plastic buckets. When mixing the components, you should always use a wooden spatula:

Mixture 1:
20 kg TEKINJECT AC FLEX RESIN +.. % TEKINJECT AC ACCELERATOR (+ .. % RETARDER)
Mixture 2:
Option 1: 20 kg WATER + .. % TEKINJECT AC NPS
Option 2: 20 kg TEKINJECT AC POLYMER + .. % TEKINJECT AC NPS
Option 3: 10 kg TEKINJECT AC POLYMER + 10 kg WATER + .. % TEKINJECT AC NPS

Depending on the ambient and structure temperature, the reaction times will vary (check 3. Technical data, Reaction times). The higher the temperature, the quicker the reaction time. The more TEKINJECT AC FLEX NPS component is added, the quicker the reaction time.

2. Substrate preparation

Check the quality of the substrate, injection means increased pressure on the substrate, so the substrate needs to be of sufficient strength.

Determine the packers according to the injection technique, substrate dimensions and type of pump. According to the selected packer and injection technique, the holes in the substrate need to be drilled. Tighten the packers well to make sure the injected pressure is distributed.

The distance and pattern of the packers/bore holes depend on the substrate structure and the injection technique. Please consult your TEKINJECT contact person for more information or the specific application manuals of the injection techniques.

3. **Injection**

Always use a 2-component stainless steel pump for acrylic injection resins. The 2 mixtures are mixed to a homogeneous mixture in the mixing head of the pump and inject in a 1-to-1 volume ratio.

We always advise to do an on-site trial in plastic cups to determine the reaction speed of the material.

The selected injection pressure is as low as possible. Start at the lowest point and increase until you see the resin flowing. Injection with low pressure ensure a deeper penetration of the resin and complete sealing of the structure.

Start injecting at the lowest point in case of a vertical application and at the widest point for a horizontal application. Open the valve of the gun, hold the pressure, and inject until the resin appears in the next packer. Stop pumping and proceed to the next packers. In order to make sure the material is penetrated in the full structure, opening and closing the valve and letting the material flow, can be advised. Continue the process until the whole structure is sealed.

4. **Cleaning**

If the acrylic components are liquid, they pumps can be rinsed with water. Hence, we recommend to flush the pumps with water every time you stop the injection for more than 15min.

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

For more details see application manual of the TEKINJECT AC FLEX

V. Packaging

TEKINJECT AC FLEX RESIN:	20 kg plastic jerry can 1000 kg IBC
TEKINJECT AC FLEX ACCELERATOR:	2 kg plastic jerry can 20 kg plastic jerry can
TEKINJECT AC FLEX NPS:	0,050 kg plastic bottle 1 kg plastic bucket 25 kg bag
TEKINJECT AC FLEX POLYMER	20 kg plastic jerry can 1000 kg IBC

VI. Shelf life

12 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.

Acrylate materials are highly sensitive to UV-light and high and low temperatures.

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 AC FLEX with sand and dispose of in accordance with local regulations.
  Consult the Material Data Safety Sheet for more information on health and safety regulations.

VIII. Company details

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IX. CE Marking

Notifying body: BCCA, Cantersteen 47, BE-1000 Brussels
Notifying body number: 0749
Certificate of conformity of the factory production control:
0749-CPR-BC-2-565-27704-0001-0001

Essential characteristics	Performance	Harmonised technical specification
Watertightness, EN 14068 (crack conditionning)	>= 2 x 10^5 Pa No water Leak	EN 1504-5 :2014
Compatibility with Concrete	- 20 % lost deformation work	
Viscosity	30 mPa.s	
Durability - sensitivity to wet – dry cycles EN 14498	Expansion ratio reach a constant level	
Pot Life	23°C : 29 sec 10°C: 59 sec 30°C :18 sec	