PC® 509 Z ACRYL

TECHNICAL DATA SHEET

4-component, elastic, acrylic injection resin with low viscosity for the water sealing of cracks and voids.

APPLICATIONS

- Water sealing of cracks and voids in walls, floors, concrete constructions, underground structures, ...
- Can be used in constructions that are not permanently in contact with water (fluctuating ground water level).
- Injection of very fine cracks.

PROPERTIES

- Reacts into an elastic, durable gel.
- Good general chemical resistance.
- Does not contain acrylamide, methacrylamide, formaldehyde or solvents.
- Non-flammable.
- Excellent adhesion on mineral building materials such as concrete, cement and brick.
- Suitable for absorbing shrinkage and expansion of injected cracks and voids caused by temperature fluctuations.
- The reaction speed can be adjusted from a 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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Release: 10 - 06 - 20

PACKAGING

RESIN	CATALYST	INITIATOR
25 kg	2.5 kg	2 x 0.625 kg

MIXING RATIO

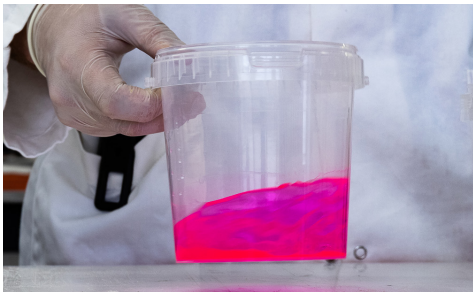
	SOLUTION 1	SOLUTION 2
1:1 by volume	PC® 509 Z Acryl Resin with PC® 509 Acryl Catalyst	PC® 509 Acryl Initiator with water

TECHNICAL DATA (Typical values)

	RESIN	CATALYST	INITIATOR
Colour	Purple-pink liquid	Clear yellow liquid	White powder
Viscosity (20 °C)	19 mPas	7 mPas	
Density (20 °C)	1.15 g/cm³	1.04 g/cm³	
PH	6.5 - 8		
% Active parts	42 % - 48 %		
Compatible with water	Yes	Yes	Soluble

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)
Sensitive for wet-dry cycles	EN 14498 B	No change in swelling capacity after 10 wet-dry cycles. *
Swelling capacity under water	EN 14498 A	The swelling capacity reaches a constant level
Increase of volume by conservation under water	EN 14498	150 % after 7 days of immersion in water at 21 °C.

*A wet-dry cycle consists of 1 day of drying at 50 ° C, followed by 6 days of immersion in water at a temperature of 21 ° C.



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PROCESSING

1 PREPARATION

The PC® 509 Z Acryl components are supplied ready to use.
Create 2 mixtures in separate plastic buckets. Prepare only as much as will be used the same day.

Solution 1: PC® 509 Z Acryl Resin mixed with PC® 509 Acryl Catalyst.
Solution 2: PC® 509 Acryl Initiator mixed with clean tap water.

Attention:
- The amount of water needs to be similar in volume to solution 1.
- When mixing the resin, always use a wooden or stainless steel spatula.

- The reaction time depends on the temperature of the material, the building structure and the possible amount of water present. Higher temperature will speed up the reaction time and lower temperature will slow it down.
- We advise to make an on-site trial, before injection, to observe and define the reaction time.
- To change the reaction time, only adapt the quantity of the PC® 509 Acryl Initiator. The quantity of the other components stays the same. Contact your TRADECC representative for longer reaction times.
- Use a two-component (manual, electric or pneumatic) stainless steel pump. Verify that pump and equipment are clean and that no residues from previous injection works are left.
- The two mixtures are inserted separately in the pump, but are mixed homogeneously in a volume ratio of 1:1 in the mixing head of the pump before being injected through the pump nozzle.
- Check the quality of the concrete, as injection implicates pressure.

REACTION TIMES AT 20 °C

SOLUTION 1				SOLUTION 2			
Resin		Catalyst		Initiator	Water*		
Kg	Liter	Kg	Liter	Kg	Kg	Liter	Reaction time at 20 °C
25	21.74	2.50	2.40	1.25	24.14	24.14	24 sec
25	21.74	2.50	2.40	1.00	24.14	24.14	31 sec
25	21.74	2.50	2.40	0.75	24.14	24.14	40 sec
25	21.74	2.50	2.40	0.625	24.14	24.14	44 sec**
25	21.74	2.50	2.40	0.50	24.14	24.14	56 sec
25	21.74	2.50	2.40	0.25	24.14	24.14	1 min 12 sec

* This is an approximate value as the volume of the initiator has not been taken into account.

** Standard composition.

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2 DRILL HOLES AND PACKERS

- Determine the type and dimensions of the packers according to the pump type, plate thickness and injection type.
- Make the crack visible down to the structural concrete so that the drilling patterns can be determined.
- If reinforcement steel is present, try to locate it and plan the drilling pattern so that the reinforcement is not pierced.
- Drill the holes at an angle of about 45° or less and in the direction of the crack. Make sure the bore crosses the crack.
- The distance of the drilled holes depends on the width of the crack.
- Place the packer in the drill hole.

3 INJECTION ACRYLIC RESIN

- Prepare the pump to start the injection.
- The injection pressure varies depending on the structure and size of the crack.
- Begin the injection at the lowest point of the crack.
- Continue to inject until the resin leaks from the adjacent packer(s). This is necessary to achieve an even material distribution.
- Stop pumping, disconnect and continue to the next packer.
- Continue the procedure until the crack is completely filled.

4 CLEANING

- After the material is cured, packers can be removed.
- The drilled holes can be covered up with a fast setting mortar, PC® Cristal Patch'n Plug.
- Clean and flush the pump equipment with water every time there is a stop of more than 15 minutes. Or whenever necessary and at the end of the injection, flush with a sufficient amount of water.
- Make sure that the pump is well cleaned and only stop when clear water is coming out of the pump.

STORAGE

Storage:
In a dry and dark place between + 5 °C and + 25 °C.

Shelf life:
6 months after production date in the original, unopened and undamaged packaging. If stored at temperatures higher than 25 °C the shelf life can not be guaranteed.

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PRECAUTIONS AND SAFETY RECOMMENDATIONS

- Protect the products against UV and sunlight.
- Don't use water that contains a lot of minerals for the preparation of solution 2. The minerals can accelerate the gel reaction.
- Wear safety glasses, gloves and protective clothing. Avoid contact with skin and eyes.
- In the event of contact with eyes: rinse thoroughly with clean water and consult a doctor.
- Mix residues of PC® 509 Z Acryl with sand or sawdust and dispose the mixed material in accordance with local regulations.
- Consult the SDS sheet.

CE MARKING

CE

0749

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0749 - CPD
BC2-565-1895-0004-001

EN 1504-5
U(S1) W(1) (1/2/3/4) (5/30)
Concrete injection product for swelling filling of cracks

Watertightness	≥ 2 x 10^5 Pa
Workability - Viscosity	≤ 60 mPas
Corrosion behaviour	Deemed to have no corrosive effect
Expansion ratio and evolution by water storage	Volume change: 150 %
Durability - Sensitivity to water	The expansion reaches a constant level
Durability - Sensitivity to wet-drying cycles	No modification of the expansion ratio
Durability - Compatibility with concrete	Pass
Dangerous substances	Comply with 5.4

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