PC® 509 RUBBER ACRYL

TECHNICAL DATA SHEET

5-component, highly elastic, low viscous acrylic injection resin with excellent physical properties. Ideal for water sealing underground structures, such as tunnels.

APPLICATIONS

- Curtain injections around tunnel segments, drainpipes, porous concrete structures, etc.
- Injection of structures that require the strong physical properties of the acrylic gel due to fluctuations in groundwater levels, concrete settling, expansion joints, etc.

STORAGE

Storage:
In a dry 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 cannot be guaranteed.

PROPERTIES

- The initiator is dissolved in a strengthening polymer blend instead of water. As a result, the acrylic gel has greatly improved physical properties compared to standard acrylic injection resins, such as superior tear strength.
- Low viscosity.
- Good general chemical resistance.
- Excellent adhesion on mineral building materials such as concrete, cement and brick.
- Reacts into an elastic, durable gel.
- Does not contain acrylamide, methacrylamide, formaldehyde or solvents.
- Non-flammable.
- Outstanding water retention capacity: when the injected cracks, fissures and voids 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.

TRADECC nv
Terbekehofdreef 50-52
BE - 2610 Antwerpen
BTW: BE 0442.368.005

T +32 3 828 94 95
E info@tradecc.com
www.tradecc.com

Release: 04 - 05 - 23

MIXING RATIO

	SOLUTION 1	SOLUTION 2
1:1 by volume	PC® 509 Rubber Acryl Resin with PC® 509 Rubber Acryl Additive and PC® 509 Acryl Catalyst	PC® 509 Acryl Initiator with PC® 509 Rubber Acryl Strengthener

TECHNICAL DATA (Typical values)

	RESIN	ADDITIVE	CATALYST	INITIATOR	STRENGTHENER	MIXTURE
Appearance	Purple-pink liquid	Clear transparent liquid	Pale yellow liquid	White powder	White liquid	Whitish pink
Viscosity (20°C)	18 mPas	5 mPas	7 mPas		25 mPas	
Density	1.173 g/cm^3	0.931 g/cm^3	1.04 g/cm^3		1.019 g/cm^3	± 1.09 g/cm^3
PH	5 - 6	10 - 11	11 - 12		7 - 8	
Solid matter content	42 % - 48 %				40 % - 43 %	40 % - 50 %
Fully miscible with water	Yes	Yes	Yes	Soluble	Yes	
Packaging	24.910 kg	0.09 kg	2.50 kg	2 x 0.625 kg	23.7 kg	

CURED ACRYLATE AT 20 °C

Tensile Strength	< 0.5 MPa
Elongation	> 250 %
Bond strength	No adhesive failure between the concrete and the cured acrylate gel
Shrinkage	< 15 mass%

Release: 04 - 05 - 23

PROCESSING

The PC® 509 Rubber Acryl system consists of four components:

- A1: PC® 509 Rubber Acryl (the resin)
- A2: PC® 509 Acryl Cat (the catalyst)
- B: PC® 509 Acryl Init (the initiator)
- C: PC® 509 Rubber Acryl Strengthener (the strengthening polymer blend)

Two solutions are made up for processing.

- Solution 1: This is a mixture of the PC® 509 Rubber Acryl resin (component A1) with the PC® 509 Acryl Cat catalyst (component A2).

- Solution 2: This is a mixture of the PC® 509 Rubber Acryl Strengthener (component C) with the PC® 509 Acryl Init initiator (component B).

To produce the acrylate gel, these two solutions are mixed in a 1/1 volumetric ratio. PC® 509 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 decreases. At lower temperatures the gel time increases):

To change the reaction time, keep the quantity of catalyst constant and vary only the quantity of initiator.

REACTION TIMES AT 20 °C

SOLUTION 1						SOLUTION 2			
Resin		Additive		Catalyst		Initiator	Strengthener*		
Kg	Liter	Kg	Liter	Kg	Liter	Kg	Kg	Liter	Reaction time at 20 °C
24.910	21.236	0.09	0.0967	2.50	2.40	1.25	23.7	23.258	28 sec
24.910	21.236	0.09	0.0967	2.50	2.40	1	23.7	23.258	36 sec
24.910	21.236	0.09	0.0967	2.50	2.40	0.75	23.7	23.258	44 sec
24.910	21.236	0.09	0.0967	2.50	2.40	0.625	23.7	23.258	56 sec**
24.910	21.236	0.09	0.0967	2.50	2.40	0.5	23.7	23.258	1 min 12 sec
24.910	21.236	0.09	0.0967	2.50	2.40	0.25	23.7	23.258	2 min 12sec

* This is an approximate value as the volume of the initiator is assumed to be approximately 0.5 l. This volume can of course be lower or higher, dependent on the amount of initiator that is used.
** Standard composition.

TRADECC nv
Terbekehofdreef 50-52
BE - 2610 Antwerpen
BTW: BE 0442.368.005

T +32 3 828 94 95
E info@tradecc.com
www.tradecc.com

Release: 04 - 05 - 23

4 CLEANING

- After the material has cured, packers can be removed.
- The drilled holes can be covered up with the fast setting mortar such as PC® Patch'n Plug.
- Clean and flush the pump equipment with water at any time there is a stop of more than 15 minutes. Or, whenever necessary and at the end of the injection, rinse 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.

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 (hard water). 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.
- In the event of contact with skin: wash with lots of water and soap. Rinse well afterwards.
- Mix residues of PC® 509 Rubber Acryl with sand or sawdust and dispose of in accordance with local regulations.
- Consult the safety data sheets for more information.

CE MARKING

CE

0749

ECC N.V.
Terbekehofdreef 50-52
B-2610 Wilrijk

09

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 mPa.s
Corrosion behaviour	Deemed to have no corrosive effect
Expansion ratio and evolution by water storage	Volume change: ± 120 %
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

For additional documentation, safety data sheets, instruction videos, sample tests, sample test guidelines, etc. contact our sales department.

Release: 04 - 05 - 23