

## ECMAGROUT PU R 420

**TWO COMPONENT, LOW VISCOUS, POLYURETHANE INJECTION SYSTEM FOR THE PERMANENT & ELASTIC SEALING OF CRACKS**

### Description

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ECMAGROUT PU R 420 is a two component, low viscous, solvent and phthalate free, polyurethane injection system for the elastic sealing of cracks in concrete structures.

Mixing ratio 2:1 in volume

When mixed in the proportions supplied ECMAGROUT PU R 420 reacts to form a tough, flexible resin.

### Advantages

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- Low viscosity allows full penetration in fine cracks and voids
- The cured material remains flexible
- Suitable for hot and cold climates
- Good adhesion to dry, moist and wet concrete or masonry.
- Can withstand high hydrostatic pressures as the cured resin is impermeable to water
- The cured material is stable after curing
- Can be pumped as a single component premix because of the long pot life; therefore, a single component injection pump can be used
- The cured material is non-toxic
- The system is suitable for use in contact with potable water
- During injection the viscosity is low and it increases shortly before gelling.

### Uses

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- For leaking cracks, the water is stopped by the ECMAGROUT PU F 200 (water stop foam) as a temporary stop; the crack can be permanently sealed by an after injection with the ECMAGROUT PU R 420 to form an elastic seal.
- Because of the long pot life, it is possible to inject dripping cracks on the same packer 2 or 3 times until solid resin comes out of the front/crack.
- Beams and slab columns
- Water retaining structures
- Sewage treatment plants
- Substructure concrete constructions

### Packaging

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8 Kg packs

ECMAGROUT PU R 420 (Part A) = 5 kg

ECMAGROUT PU R 420 (Part B) = 3 kg



## Technical Specification at 25°C and 50% R.H

Property	Typical Results
Mixing ratio p.b.v.	2:1
Mixing ratio p.b.w.	100:60
Viscosity of the Mix mPa.s	140-160
Pot life at 25C (minutes)	60-80
Gel time at 25C (minutes)	70-90
Tensile strength MPa	1.5-2.5
Elongation at Break (%)	30-50
Shore A Hardness	50-70
Intended use	Ductile filling of cracks
Min. width of the crack in mm	0.1
Moisture state of the crack	Dry, wet, moist cracks
Min and max use temperature	5°C - 45°C
Corrosion behavior	Deemed to have no corrosive effect

### Installation Guidelines

- ECMAGROUT PU R 420 should be applied by experienced grouting crews.
- ECMAS provides detailed method of statements on all its products for use in various applications and must be referred to prior to starting the work.
- The information below is a summary intended for guidance only.
- Detailed information and guidance of pump and packer selection for specific requirements are available from ECMAS.
- ECMAGROUT PU R 420 is carried out through packers installed in holes drilled into the concrete.
- The holes should be drilled at 45 degree to the concrete surface and intercept at the mid-point of the estimated crack depth.
- Large cracks should be sealed with the fast setting ECMAREP 504 prior to injection. Allow ECMAREP 504 to harden completely before injecting ECMAGROUT PU R 420
- When a large flow of water is present, pre-inject with ECMAGROUT PU F 200.
- Prior to injection the crack could be flushed with water to remove salt, dust etc. from the crack.

### Mixing

- Due to the long pot life for the ECMAGROUT PU R 420 it can be pumped as a single component pre-mix
- Pour the content of the Part A into a CLEAN, DRY plastic bucket.
- Add the required amount of Part B
- Mix thoroughly manually or with a slow speed mixer (stirrer fixed to a drilling machine) for about half a minute until the mix is homogeneous.

### Injection Process

- Polyurethanes are water sensitive and to avoid pump and hose blockages they should be flushed with a suitable cleaning agent like ECMACLEAN prior to using the polyurethanes
- ECMAGROUT PU R420 is then injected into the holes with a high-pressure pump having a covered reservoir to avoid moisture comes into the pre-mix and is capable of reaching pressures up to 200 bar. This forces the ECMAGROUT PU R 420 deep into the structure and allows penetration into the smallest cracks.

- Inject the packers sequentially; on a vertical crack start the injection from the lowest packer and continue to the next packer etc.
- For small cracks pump according to the previous point and if foam comes out of the front from the crack do a second injection according to the same procedure. If still foam comes a third time until pure resin comes out on the front from the crack.

## Cleaning

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Injection pumps should be flushed and tools cleaned immediately after use, before the resin sets, using ECMACLEAN. Once the resin has set, it can only be removed by mechanical means.

## Precautions

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- Avoid skin contact.
- Do not discard unmixed or partially mixed material into the water system. If any doubts arise concerning temperature, application or substrate conditions, consult the local ECMAS office.
- To avoid condensation drums should only be opened when the material in the drum has the same or slightly higher temperature than the temperature on the working place.

## Shelf Life & Storage

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The shelf life is 6 months when stored between 5°C and 35°C with a less than 50% RH in a dry store in original, unopened containers. Once a pack has been opened, use immediately. Purging a part pack with nitrogen is essential. Contact ECMAS for more details.

## Health and Safety

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- These products are for industrial use only by trained operatives.
- Products should be disposed-off according to the local legislation. Refer to the MSDS for general recommendations.
- All persons in contact with the materials (or in the neighborhood of the injection) should wear the appropriate protective clothing, gloves and safety glasses.
- In case of spills and accidents, refer to the MSDS of the products or when in doubt contact your local ECMAS representative.
- Always wear appropriate protective gear for the job at hand according to local guidelines and regulations.
- Protective goggles should always be worn when handling chemical products.
- Please refer to the MSDS for further recommendations prior to use these products.

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