

ECMAGROUT PU F 220

SINGLE COMPONENT, HYDROPHILIC POLYURETHANE INJECTION SYSTEM FORMING A FLEXIBLE FOAM AFTER REACTION WITH WATER

Description

ECMAGROUT PU F 220 is a Hydrophilic, single component, 100% MDI based, Solvent and Phthalate free, water-reactive, hydrophilic Polyurethane injection system forming a flexible foam after reaction with water which acts as an active water stop system.

Advantages

- The cured material remains permanently flexible
- Suitable for hot and cold climates
- Good adhesion to the substrate
- Can withstand high hydrostatic pressures
- The cured material is stable after curing
- Application with electric or pneumatic injection pumps
- Water soluble in uncured state.
- Suitable for applications where fluctuating groundwater levels are encountered.
- 100% MDI based and no TDI in it.
- The cured material is non-toxic.
- The system is suitable for use in contact with potable water
- Being hydrophilic, it will react with up to 500% of water

Uses

- Preventative or remedial water proofing of structures.
- Seal off wet, moist and water containing structures
- For sewer repair and manhole repair, manhole etc.
- Consolidation of loose or unstable soil

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

Property	Typical Results
Viscosity mPa.s	160-180
VOC	<100 g/L
Intended use	Swelling fitted filling of cracks
Allowed min. width of the crack	0.1 mm
Moisture state of the crack	Wet, moist or dripping water
Min and max use temperature	5°C – 45°C
Corrosion behavior	Deemed to have no corrosive effect

Test Recipe:

100 grams of PU F 220 + X grams of Catalyst F + 100 grams of water

Cream time: is the time from the start of the mixing until the foaming starts.

Gel time: is the time from the start of mixing until the foam does not expand anymore



Mix ratios and approx. reaction times at 25°C and 50% R.H.

Catalyst Percentage	Cream Time at 25°C (Sec)	Gel Time at 25°C (Sec)
2%	16 - 20	80 - 95
4%	12 - 16	35 - 45
6%	11 - 15	30 - 35
8%	10 - 13	25 - 30
10%	10 - 12	20 - 25

Packaging

20 kg packs

Installation Guidelines

- ECMAGROUT PU F 220 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 F 220 is carried out through packers installed in holes drilled into the concrete.
- The holes should be drilled at 45 degrees to the concrete surface and intercept at the mid-point of the estimated crack depth.

Injection Process

- The ECMAGROUT PU F 220 should be injected using a standard injection machine having a covered reservoir to avoid moisture coming into the mix.
- Large cracks should be sealed with the fast-setting ECMAREP 504 prior to injection. Allow ECMAREP 504 to harden completely before injecting ECMAGROUT PU F 220
- ECMAGROUT PU F 220 is then injected into the holes with a high-pressure pump capable of reaching pressures up to 200 bar. This forces the ECMAGROUT PU F 220 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.

Cleaning

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

- 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

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

- 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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