MC-Montan Injekt FR / FN / FS

Injection resins for sealing and solidification of rock and structures

Product Properties

- Low-viscosity polymer reactive injection resin
- Variable reactivity
- Water-displacing
- Limited foaming when directly mixed with water (rigid foam)
- Waterproof
- High compressive- and tensile strength
- Complying with building material class B2 for fire behavior acc. to DIN 4102 in the injection medium
- Complying with DIBt standards for appraisal of impact of building products on soil and groundwater
- REACH-assessed exposure scenarios: long-term water-contact, periodical inhalation, application

Areas of Application

- Sealing and solidification of rocks, subsoil and building construction in special foundation engineering and tunneling
- Sealing of building pits
- Stabilization of building ground against ground seepage risk
- Increase of load-bearing capacity of building ground under base slabs and bed-plates
- Sealing and reinforcing of cracks, joints, voids of concrete, masonry and natural stone

Application

Product description
MC-Montan Injekt FR, MC-Montan Injekt FN and MC-Montan Injekt FS are two-component injection resins which cure to a waterproof resin body. MC-Montan Injekt FR reacts very fast, MC-Montan Injekt FN reacts fast and MC-Montan Injekt FS reacts slowly. The injection resins can be injected into areas with and without water stress. They fulfil high water hygienic requirements. In contact or when mixed with water the resins are foaming to a solid and closed-cell foam. Reactivity can be controlled by the use of additives.

Preparative measures
Prior to each application the injectivity of the rocks, building ground or structure must be checked and an injection concept is to be defined.

Mixing of components
MC-Montan Inject FR, MC-Montan inject FN and MC-Montan inject FS respectively to mix as component A with MC-Montan inject F as component B. The mixing of the components takes place during the injection in the mixing-head of the 2-component injection pump (mixing section 20 cm grid mixers).

Injection packers / Injection lances
For injection suitable injection packers or injection lances with an inner diameter of ≥ 4 mm are to be used. Arrangement and setting depth of the packers have to comply with the injection concept.

Addition of additives
The reaction of the MC-Montan Injekt FR / FN / FS can be accelerated by adding MC-KAT 27 up to 1 % into component A before mixing with component B.

Injection
Injection is carried out using a 2-component injection pump with sufficient pressure and capacity (e.g. MC-I 700). MC-Montan Injekt FS also may be injected using a 1-component injection pump (e.g. MC-I 510).

Injection of the resins must be stopped if the temperature of the structure /ground < 5 °C and > 40 °C.

Cleaning of equipment
In case of any longer interruption of work, exceeding the pot life of the resin, the injection pump must be flushed thoroughly with MC-Verdünnung PU (thinner). Partially or completely cured material can only be removed mechanically.

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Technical Data for MC-Montan Injekt FR / FN / FS

Characteristic	Unit	Value*	Comments
Mixing ratio	p.b.v.	1 : 1	component A : component B (MC-Montan Injekt FR/FN/FS) : MC-Montan Injekt F
Density	kg/dm³	approx. 1.13	mixed, DIN EN ISO 2811-1
Dynamic viscosity	mPa·s	approx. 300 ± 50	DIN EN ISO 3219
Volume expansion in contact with water	-	2 - 10 times	depending on counter pressure
Application time MC-Montan Injekt FR MC-Montan Injekt FN MC-Montan Injekt FS	 s min min	 approx. 20 - 30 approx. 1 approx. 60	 ASTM D7/487 ASTM D7/487 ASTM D7/487
Application temperature	°C	5 to 40	rock surface and material temperature
Compressive strength	N/mm²	50	ISO 604
Flexural tensile strength	N/mm²	25	ISO 178, 2 % deformation

* All technical data are lab values and relate to + 21 ± 2 °C and 50 % relative humidity.

Product Characteristics MC-Montan Injekt FR / FN / FS

Colour	brown
Delivery	MC-Montan Injekt FR: 20 l canister MC-Montan Injekt FN: 20 l canister MC-Montan Injekt FS: 20 l canister MC-Montan Injekt F: 20 l canister MC-Kat 27: 400 ml bottle, 5 x 400 ml per box MC-Additiv ST: 400 ml bottle, 5 x 400 ml per box
Storage	Can be stored in original unopened packs at temperatures between + 5 °C and + 35 °C in dry conditions for at least 18 months. Protect from frost! Same requirements are valid for transport.
Equipment cleaning	MC-Verdünnung PU (MC-Thinner PU) Water or water-based cleaning agents must not be used under any circumstance!
Disposal	Packs must be emptied completely.

Safety Advice:
Please take notice of the safety information and advice given on the packaging labels and safety information sheets.

Edition 12/18. Some technical changes have been made to this print medium. Older editions are invalid and may not be used anymore. If a technically revised new edition is issued, this edition becomes invalid.

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