

### INJECTION RESIN FOR THE WATERPROOFING OF WATER-BEARING CRACKS

#### Description

EP GROUT PU1K resin is a solvent free polyurethane injection material which is used in conjunction with EP GROUT PU1K catalyst. EP GROUT PU1K foams with water contact by high increase in volume and becomes firm visco elastic foam, which seals temporarily against further water penetration. EP GROUT PU1K is resistant against acids and lyes and attacks neither bitumen nor joint tapes. In case of very dry surfaces the material does not foam immediately but it hardens slowly due to the steady addition of existing air resp. soil moisture.

#### Uses

EP GROUT PU1K is used for the injection of water bearing cracks and joints in concrete and stone.

EP GROUT PU1K is used for

- Stoppage of water inflows from cracks, joints, etc.
- Compacting of loose stones..

#### Advantages

- Ready to use
- Very high foam volume on water influx
- Rapid, visco-plastic and solid foam formation
- For the temporary sealing of cracks, with penetrating water
- Resistant to a range of acids and alkalis
- Compatible with bitumens

#### Technical Data

EP Grout PU1K Resin	
Appearance	Brown Liquid
Viscosity at 25°C Brookfield DV 11 spindle no. 2 at 60 rpm	300 - 450 mPa·s
Flash point	>180°C
Density at 25°C	1.13
Catalyst	
Appearance	Clear liquid
Viscosity at 25°C Brookfield DV 11 spindle no.2 at 60 rpm	25 - 40 mPa·s
Flash point	>180°C
Density at 25°C	1.00

#### Application Instruction

##### Instruction of use:

EP GROUT PU1K reacts with the air humidity and with water. Therefore, a skin may form on the surface of the liquid in open cans which does not affect the injection procedure. Generally, EP GROUT PU1K is injected into the water bearing areas by means of injection nozzles and handers. Motor-driven pumps.

When in contact with water EP GROUT PU1K foams up strongly and hardens. If the zone to be waterproofed contains insufficient water, additional injection of water - preliminarily or subsequently - will support the reaction and hardening of EP GROUT PU1K. The application is to be affected in accordance with the ZTV-rises or Riled of the Daft (regulations for crack injection).

##### Recommendation:

We recommend storing the product prior to use for at least 12 hours at a minimum temperature of 15°C in order to ensure the recommended processing temperature of between 15°-30°C.

##### Application Guidelines:

EP GROUT PU1K is a complete system for void filling and leak sealing in concrete or masonry structures and sandy soils.

Adaptable reaction time is possible by varying the catalyst ratio from between 2% to 10%. Reaction with water results in the formation of a semi - flexible polyurethane foam which is hydrophobic and chemically resistant. The reaction time can beset from 30 sec to 12 minutes. (See table of reaction times overleaf.) The pre-mixed resin can be pumped by means of a single component injection pump that is equipped for high pressure. Following the injection, the pump must be thoroughly cleaned with FCSC Cleaner.

#### Packaging

EP GROUT PU1K is supplied in packs as mentioned below packing size: 5.5 kgs.  
(Resin: 5.0 Kg + catalyst: 0.5 kgs)

#### Consumption

- Existing cracks (crack width approx. 0.2 mm) have to
- be bored in a distance of approx. 20 cm.
- The bore holes have to be cleaned with oil free
- Pressure air from the dust.
- Place the injection packers Inject EP GROUT PU1K with the suitable injection Equipment.
- vertical cracks start the injection from the left side

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#### Curing

EP GROUT PU1K – All tests carried out using the following mix ratio.

EP GROUT PU1K: 100 parts by weight

Catalyst: As a percentage of EP GROUT PU1K by weight, as stated in the results.

Water: In all tests, 10 parts by weight.

#### Cream Time

EP GROUT PU1K	1%	2%	5%	10%
10°C	128 sec	125 sec	41 sec	25 sec
15°C	100 sec	68 sec	36 sec	24 sec
25°C	73 sec	55sec	24 sec	20 sec
35°C	60 sec	30 sec	22 sec	19 sec

#### Rise Time

EP GROUT PU1K	1%	2%	5%	10%
10°C	600 sec	349 sec	124 sec	78 sec
15°C	540 sec	305 sec	120 sec	75 sec
25°C	480 sec	285 sec	115 sec	63 sec
35°C	300 sec	184 sec	108 sec	60 sec

#### Expansion Rate

EP GROUT PU1K	1%	2%	5%	10%
10°C	8X	11X	15X	28X
15°C	9X	14X	20X	29X
25°C	10X	15X	25X	30X
35°C	10X	20X	25X	30X

All technical data stated herein is based on tests carried out under laboratory conditions

#### Storage and Shelf life

Storage stability in well-sealed drums

Resin: 12 months in original sealed drums.

Catalyst: 12 months in original sealed drums.

These materials are both temperature and moisture sensitive.

Therefore, materials should be stored in an area with temperatures not exceeding 40°C or not lower than 10°C.

#### Safety Precautions

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data..

#### Note

Always make sure that the material is homogeneous, mix the resin using a dry clean drill and paddle mixer for a minimum of 15 sec before application.

It is recommended that the material be conditioned to appropriate temperatures for at least 12 hours prior to application.

Important: Keep containers sealed whilst not being used. Moisture may be absorbed from the atmosphere causing it to reaction. Careful consideration should be given to applications below 10°C on a falling thermometer to avoid possible crystallisation.

#### Disclaimer

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labour involved in the application are beyond our control.