

Mapegel UTT System

Three-component flexible hydrophilic gel for waterproofing by injection in underground structures

DESCRIPTION

Flexible three-component hydrophilic gel with excellent adhesive properties for waterproofing by injection in underground structures. Specifically formulated to absorb shrinkage and expansion of cracks and voids generated by temperature variations.

WHERE TO USE

- Natural tunnels (traditional and mechanized tunnelling).
- Artificial tunnels (cut and cover).
- Underground constructions.

Application examples

- Waterproofing of loose and/or incoherent soil.
- Waterproofing of hydraulic structures with water leaks through macro-porosity and micro-cracks.
- Waterproofing of dam walls.
- Waterproofing of bulkheads.
- Waterproofing of tunnels.
- Repair of waterproofing systems (damaged or defective) by injection by means of re-injectable valves or pipes (repair of synthetic membranes and waterstops).

TECHNICAL CHARACTERISTICS

Mapegel UTT System is a hydrophilic gel based on

acrylic and methacrylic monomers, consisting of 3 components:

- component 1 = acrylic resin in aqueous solution;
- component 2 = hardener in aqueous solution;
- component 3 = powder accelerating salt.

Thanks to its low viscosity, **Mapegel UTT System** is able to easily penetrate micro-porosity and small cracks by sealing them perfectly.

After hardening, **Mapegel UTT System** has a high elasticity, watertightness and excellent chemical resistance towards the main organic and inorganic liquids.

Mapegel UTT System is perfectly compatible with **Mapeplan** waterproofing systems.

APPLICATION PROCEDURE

Preparation of the product

Once the reaction time has been fixed (see table 1 below), the preparation of the product must be carried out following the procedure below.

Solution A:

Pour into a clean plastic container 25 kg of component 1 and add, while mixing, the entire content of component 2 (2.5 kg).

Solution B:

In a second container, pour component 3 in water (see Tab. 1).

TECHNICAL DATA (typical values)			
PRODUCT IDENTITY			
	Mapegel UTT 1	Mapegel UTT 2	Mapegel UTT 3
Consistency:	liquid	liquid	powder
Density at +23°C (g/cm ³):	1.15	1.044	1.98
Colour:	violet-pink	yellow	white
Solubility of the system in water (comp. 1 + comp. 2 + comp. 3):	total		
APPLICATION DATA			
Mixing ratio (by volume):	solution A : solution B = 1 : 1		
Viscosity of system at +23°C (mPa·s) (comp. 1 + comp. 2 + comp. 3) (EN ISO 3219):	≤ 60		
Color of the mix:	violet-pink		

Tab. 1 - Gel time depending on the quantity of components

Temperature (°C)	UTT 1 (kg)	UTT 2 (kg)	Water (kg)	UTT 3 (kg)	Gel time
+5	25	2.5	20	1.25	40''
				0.63	1'10''
				0.15	>10'
+5	25	1.875	20	1.25	2'05''
				0.63	5'15''
				0.15	>15'
+22	25	2.5	20	1.25	10''
				0.63	28''
				0.15	130''
+22	25	1.875	20	1.25	15''
				0.63	50''
				0.15	3'10''
+35	25	2.5	20	1.25	7''
				0.63	12''
				0.15	42''
+35	25	1.875	20	1.25	11''
				0.63	30''
				0.15	1'15''

N.B.: the data listed above refer to values obtained in the laboratory. During installation on site, they may vary due to heat exchanges between the resin and the surrounding environment. By increasing or reducing the quantity of comp. 2 or comp.3, reaction times can be changed.

N.B.: the final mixing ratio between solution A and solution B must be 1 : 1.

Do not use metal tools for preparation. In case of using a drill, it's better to prefer plastic mixers or, if mixing should be done manually, use wooden equipment.

By increasing or reducing component 2 or component 3, reaction times can be modified. Solution A and solution B, after preparation, if kept separate, are stable for about 6-8 hours at a temperature of +20°C.

Product application

Pump the two solutions separately, in the ratio of 1 : 1 in volume, using a steel pump for two-component products equipped with a special static mixer placed just before the injection point.

Cleaning

The equipment used for injection (pump and pipes), must be washed with plenty of clean water before the gelling of the product.

CONSUMPTION

See Tab.1

PACKAGING

Mapegel UTT System component 1 = 25 kg drum.

Mapegel UTT System component 2 = 2.5 kg bottle.

Mapegel UTT System component 3 = 2x0.625 kg bottle.

STORAGE

Mapegel UTT System can be stored for 6 months in a covered and dry place, in the original well-closed packaging, at a temperature between +5°C and +25°C. Keep component 3 away from heat and flammable products.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

For further and complete information about the safe use of our product please refer to

the latest version of our Safety Data Sheets available from our website www.mapei.com.

PRODUCT FOR PROFESSIONAL USE.

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

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**Mapegel-UTT
System**



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