

## **RUBBERTITE**

**General Building Inspectorate Approval for curtain grouting**  
**CE-marking RUBBERTITE in accordance with EN 1504-5**  
**CE-marking RUBBERTITE / POLINIT in accordance with EN 1504-5**  
**General Building Authority Test Certificate with VPRESS**  
**General Building Authority Test Certificate with ECOPRESS**  
**DIBt expertise for crack filler RUBBERTITE/POLINIT**



### **Properties:**

*RUBBERTITE* is a three-component, water-expanding hydrogel on acrylate or methacrylate basis that hardens to a rubber-like, flexible product.

*RUBBERTITE* is especially noted for its extremely low blending viscosity that is almost equivalent to the viscosity of water. This renders a series of renovation procedures possible that cannot be accomplished with injection materials of a higher viscosity.

*RUBBERTITE* can be applied in the case of grout curtains, brickwork injection, horizontal barriers and ground stabilisation.

*RUBBERTITE* combined with *POLINIT* is suitable for filling cracks in concrete structures and for injection hose grouting (further information see Technical Data Sheet *POLINIT*).

In cured state *RUBBERTITE* has a good chemical resistance against many acids, bases, solvents and fuels etc. due to its high-quality material basis (see chemical resistance list).

During reaction and in cured state *RUBBERTITE* emits no toxic substances into the groundwater. Product elements that are not built in during the reaction process (monomers, intermediates) are rapidly and completely biodegradable.

*RUBBERTITE* has a German General Building Inspectorate Approval as an injection product for curtain grouting.

*RUBBERTITE* in combination with *POLINIT* has a DIBt-certificate for use as a crack filler within the framework of the German Reinforced Concrete Committee (DAfStb) in the guideline for protection and repair of concrete components (Guideline for protection and repair of concrete structures).

*RUBBERTITE* alone and combined with *POLINIT* is CE marked according to EN 1504-5, System 2+ as a concrete injection product for swelling fitted filling of cracks.

## Technical Data:

### Substance data of components:

#### *Component A1*

|                       |                                |                 |
|-----------------------|--------------------------------|-----------------|
| Consistency           | liquid                         |                 |
| Colour                | transparent                    |                 |
| Odour                 | ester-like                     |                 |
| Spec. density (23°C)  | approx. 1.06 g/cm <sup>3</sup> | DIN EN ISO 3675 |
| Dyn. viscosity (23°C) | approx. 15 mPas                | DIN EN ISO 2555 |

#### *Component AII*

|                       |                                |                 |
|-----------------------|--------------------------------|-----------------|
| Consistency           | liquid                         |                 |
| Colour                | colourless                     |                 |
| Odour                 | amine-like                     |                 |
| Spec. density (23°C)  | approx. 0.93 g/cm <sup>3</sup> | DIN EN ISO 3675 |
| Dyn. viscosity (23°C) | approx. 7.5 mPas               | DIN EN ISO 2555 |

#### *Component BII*

|                      |                                |  |
|----------------------|--------------------------------|--|
| Consistency          | solid                          |  |
| Colour               | white                          |  |
| Odour                | odourless                      |  |
| Spec. density (23°C) | approx. 2.59 g/cm <sup>3</sup> |  |
| Bulk density (23°C)  | approx. 1.15 g/cm <sup>3</sup> |  |

### Mixture of A-and B-component:

|                             |                  |                       |
|-----------------------------|------------------|-----------------------|
| Processing temperature *    | 5 - 40°C         | substrate temperature |
| Viscosity of mixture (23°C) | approx. 2.5 mPas | DIN EN ISO 3219       |

### Reaction data at 23°C:

|              |                |              |
|--------------|----------------|--------------|
| Pot-life     | approx. 5 min  | DIN EN 14022 |
| Final curing | approx. 10 min |              |

### Properties after curing:

|                     |                  |                |
|---------------------|------------------|----------------|
| Consistency         | rubber-like      |                |
| Colour              | white            |                |
| E-modulus           | approx. 0.13 MPa | DIN EN ISO 527 |
| Tensile strength    | approx. 0.08 MPa | DIN EN ISO 527 |
| Elongation at break | approx. 290 %    | DIN EN ISO 527 |
| Water absorption    | approx. 20 %     | DIN EN ISO 62  |

Chemical resistance: DIN EN ISO 175

#### Classification:

- + resistant (non or little effect)
- +/- limited resistant (moderate effect)
- not resistant (serious effect)

| Chemical compound  | Classification | Remarks  |
|--|----------------|--|
| Acetone  | +              |  |
| Ammoniac solution 32 %   | -              | resistant for 72 h   |
| Petrol   | +              |  |
| Brackish water   | +              |  |
| 2-Butoxyethanol  | +/-            | loss of elasticity by forming of xerogel   |
| Butylmethacrylate  | +              | minor colour change from white to transparent  |
| Calcium hydroxide solution pH12  | +              |  |
| Cyclohexanol   | +/-            | colour change from white to transparent  |
| Diesel fuel  | +              |  |
| Acetic acid 96 %   | +/-            | strong swelling  |
| Ethanol  | +              |  |
| Ethyl acetate  | +/-            | slight shrinkage   |
| Ethylene glycol  | +/-            | strong swelling without losing elasticity, colour change from white to transparent-white |
| n-Hexane   | +              |  |
| Isobutyl methacrylate  | +              |  |
| Kerosine, Jet fuel (Jet A1)  | +              |  |
| Castor oil   | +              |  |
| Sea water  | +              |  |
| Methanol   | +              |  |
| Mineral oil 15W40  | +              |  |
| Sodium hydroxide solution 5 %  | -              | strong swelling  |
| Sodium hydroxide solution 10 %   | -              | strong swelling  |
| Hydrochloric acid 37 %   | +              |  |
| Sulfuric acid 96 %   | -              | resistant for 72 h   |
| aqueous solution with pH 3 and SO <sub>4</sub> <sup>2-</sup> content > 4000 mg/l** | +              |  |
| Toluene  | +              |  |
| m-Xylene   | +              |  |
| o-Xylene   | +              |  |

\* The declared range of temperature complies with our recommendations. Generally, the product reacts even at very low temperatures (from experience down to approx. -15°C) or distinct higher values than +40°C. Admittedly, problems might occur, which are not directly related to the properties of the product. At sharp frost the air line of the pump might freeze or even present ice inside the structural element to be sealed can cause difficulties. At temperatures above-average too short reaction times can arise, which prevent an entire and successful filling of the injection area. Beside that it might happen that the activated A-component at very high temperatures starts curing even without addition of the B-component, which results in a blockage of the injection pump.

\*\* Concrete-attacking water in accordance with DIN 4030, Part 1, Table 4

## Processing:

### 1. In case of curtain grouting, brickwork injection, horizontal barrier and ground stabilisation:

The All container is emptied completely into the AI container and mixed for approx. 3 minutes.

The BII component is filled into a container equivalent to the AI component and filled with 20 litre of tap water, then it is mixed again for 3 minutes.

The A and B components prepared in this way are ready for use and are processed 1 : 1 (parts by volume) by means of an 2K injection pump.

Indicated injection pumps: *BOOSTER 10 A*  
*MINIBOOSTER 5U*  
*TPH INJECT AirPower S25-3K, VA*

The AI component activated with All can be used for approx. 12 hours (depending on temperature). Using the activated AI component is not recommended after this period.

The ready-for-use B component remains stable for approx. 5 hours (depending on temperature).

## 2. In case of crack injection and injection hose grouting:

The All container is emptied completely into the AI container and mixed for approx. 3 minutes.

In case of crack injection and injection hose grouting *POLINIT* is used instead of water for mixing the B component.

To ensure that component BII (hardener salt) is completely dissolved in *POLINIT* the following procedure is recommended:

The BII container is half-filled with tap water, then shaken until the BII salt is completely dissolved. This salt solution is filled into *POLINIT* and is mixed homogenously.

The A and B components prepared in this way are ready for use and are processed 1 : 1 (parts by volume) by means of an 2K injection pump.

Indicated injection pumps: *BOOSTER 10 A*  
*MINIBOOSTER 5U*  
*TPH INJECT Airpower S25-3K, VA*

The AI component activated with All can be used for approx. 12 hours (depending on temperature). Using the activated AI component is not recommended after this period.

The ready-for-use B component (BII salt solution + *POLINIT*) remains stable for approx. 5 hours (depending on temperature).

### **Safety information:**

*RUBBERTITE* component AI, All and BII is classified as hazardous according to Regulation (EC) 1272/2008 (CLP).

It is therefore necessary, before beginning processing, to become familiar with the precautions and safety advice as indicated in the material safety data sheet.

### **Packaging:**

|               |                        |
|---------------|------------------------|
| Component AI  | 20 kg plastic canister |
| Component All | 1 kg plastic bottle    |
| Component BII | 0,3 kg plastic can     |

*POLINIT* 20 kg plastic canister

Bigger packaging on request.

**Storage:**

Shelf life at least 12 month in original packaging when stored in dry conditions between 15-25°C, protected from heat, frost and direct sunlight.

After the expiration the use of the product is generally not recommended, unless an approval has been provided by TPH. This approval can only be obtained by the quality assurance department of TPH releasing the material after verification of main properties being within specification.

**Disposal:**

Small quantities of cured product residues can be disposed of as normal domestic waste. Dispose of not cured product components must be effected in accordance with the corresponding local regulations. For further information please refer to the material safety data sheets.

**Test certificates:**

Microbiological test for sterility, LADR Geesthacht 1999

Compatibility test for waterstops in contact with *RUBBERTITE* acrylate gel; MFPA Leipzig 1999

Corrosion resistance test of reinforcing steel to *RUBBERTITE* acrylate gel; MFPA Leipzig 1999

Determination of resistance of acrylate gels *RUBBERTITE* and *VARIOTITE* to different fluids; MFPA Leipzig 1999

Application technology test of injection product *RUBBERTITE* for horizontal barrier to reduce the capillary water transport in brickwork; MFPA Leipzig 2000

Examination of the thermal conductivity and water vapour permeability of brickwork that had been saturated with *RUBBERTITE*; MFPA Leipzig 2000

Examination of the low-inflammability of *RUBBERTITE* acrylate gel in compliance with DIN 4102; MFPA Leipzig 2002

Resistance tests of *RUBBERTITE* acrylate gel; MFPA Leipzig 2002

Application technology test of injection product *RUBBERTITE* / *POLINIT* (for crack injection in reinforced concrete structures); MFPA Leipzig 2004

Resistance test of *RUBBERTITE* and *RUBBERTITE* / *POLINIT* to freeze-thaw cycling; MFPA Leipzig 2005

Examination of the leaching behaviour with reversed flow direction of the acrylate gel *RUBBERTITE* (column trial referring to DIBt Guideline "Assessments of the effects of construction products on soil and ground water"); MFPA Leipzig 2007

Examination of the leaching behaviour with reversed flow direction of the acrylate gel *RUBBERTITE* (column trial referring to DIBt Guideline "Assessments of the effects of construction products on soil and ground water") - additional testing -; MFPA Leipzig 2007

Determination of electrical conductivity of the acrylate gels *RUBBERTITE* and *RUBBERTITE/POLINIT*; MFPA Leipzig 2008

Examination of corrosion protection of an acrylate gel system for crack injection in reinforced concrete; IBAC Aachen 2008

Expert opinion on the application of acrylate gel *RUBBERTITE* with *POLINIT* as injection product for sealing of reinforced concrete structures; Prof. Dr. Raupach, IBAC Aachen 2008

Determination of performance characteristics of the acrylate gel *RUBBERTITE* as injection product for curtain grouting in the ground; MFPA Leipzig 2008

Screening of standard flammability (building material class B2) according to DIN 4102 part 1, edition May 1998; MFPA Leipzig 2008

General Building Inspectorate Approval "Hydrogel *RUBBERTITE* for curtain grouting"; DIBt Berlin 2008

Suitable test of the *RUBBERTITE* injection gel in compliance with the Directive 804.61.02 of the Deutsche Bahn; MFPA Leipzig 2009

Long-time behaviour of *RUBBERTITE* at tidal zone storage and outplacement inside soil for 10 years; MFPA Leipzig 2009

Determination of the identification properties and performances of *RUBBERTITE* / *POLINIT* polyacrylate gel according to EN 1504-5; MFPA Leipzig 2011

Acrylate gel *RUBBERTITE* / *POLINIT* - Evidence of watertightness of injected cracks with cyclic movement; MFPA Leipzig 2011

Test of watertightness of *RUBBERTITE*/*POLINIT* according to DIN EN 14068 at a water pressure of 7 bar; MFPA Leipzig 2011

Resistance test of injection products to concrete-corrosive fluids; MFPA Leipzig 2011

Swelling behaviour of the acrylate gel *RUBBERTITE* + *POLINIT TX* in contact with sea water; MFPA Leipzig 2012

Examination of the leaching behaviour of the injection product *RUBBERTITE* in connection with the renewal of the General Building Inspectorate Approval Z-101.29-3; MFPA Leipzig 2013

Testing of acrylate gel *RUBBERTITE* + *POLINIT* for obtaining a General Building Inspectorate Approval as injection product for filling of cracks in reinforced concrete structures; MFPA Leipzig 2013

Examination of contact behaviour of injection resins based on acrylate to anhydrite; MFPA Leipzig 2014

Long-time behaviour of *RUBBERTITE* at tidal zone storage and outplacement inside soil for approx. 16 years; MFPA Leipzig 2015

*RUBBERTITE* / *POLINIT* - Examination of the leaching behaviour of an injection product based on acrylate; MFPA Leipzig 2016

Preparation of gel prisms at high injection pressure - Application by using of piston pump Desoi PN-1435-3K; MFPA Leipzig 2016

General Building Authority Test Certificate for the injection hose system *VPRESS* with injection gel *RUBBERTITE / POLINIT*; MFPA Leipzig 2016

General Building Authority Test Certificate for the injection hose system *ECOPRESS* with injection gel *RUBBERTITE / POLINIT*; MFPA Leipzig 2016

Resistance test of acrylate gels to concrete-corrosive fluids; MFPA Leipzig 2018

Examination according to TrinkwV 2012 and Coatings Guideline; görtler analytical services gmbH Vaterstetten 2018

Determination of the identification properties and performances of *RUBBERTITE* concrete injection product according to DIN EN 1504-5; MFPA Leipzig 2018

Test of the effect of *HYDROPOX EP1*, *RUBBERTITE*, *RUBBERTITE + POLINIT*, *PUR-O-CRACK*, *PUR-O-CRACK PLUS* and *PUR-O-STOP FS-L* injection products on elastomers in concrete according to DIN EN 12637-3; MFPA Leipzig 2018

*RUBBERTITE* - Examination of the leaching behaviour of an injection resin based on acrylate; MFPA Leipzig 2019

Behaviour of *RUBBERTITE* acrylate gel after outplacement inside soil for nearly 20 years; MFPA Leipzig 2019

Behaviour of *RUBBERTITE* acrylate gel after tidal zone storage for 20 years; MFPA Leipzig 2019

DIBt report for *RUBBERTITE / POLINIT* concrete injection product; DIBt Berlin 2019

Investigation of the reaction time of injection materials under high pressure; MFPA Leipzig 2020

*RUBBERTITE / POLINIT* Examination of eluate samples for selected parameters of the Drinking Water Ordinance and KTW BWGL; JenaBios 2022

**Legal notice:**

The correct and thus successful application of our products is not subject to our control. A guarantee can be issued for the quality of our products within the framework of our sales and supply conditions, however not for successful processing. All data and specifications in this specification sheet are based on the present state of the art and the right to changes and adaptations for the sake of development remains explicitly reserved. The consumption specifications designated by us can be only average empirical values, where deviations are possible on an individual basis and therefore cannot be excluded by us.

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