

Drinking water tanks –  
coatings of

***epasit***




**Enjoy drinking water –  
with *epasit***




For more than 30 years internal coatings in drinking water tanks



### Planning



The supply with fresh drinking water has to be guaranteed. Therefore, drinking water tanks are an important part in the supply chain. They have to be of a quality such as they neither are corroded by the drinking water nor that the drinking water gets spoiled by them. This applies as well to new constructions as to repairs. In this connection, planners, manufacturers of the material, fabricators and operators bear a special responsibility.



In order to check the quality of the concrete and/or the existing coating, measurements are performed by an appropriately equipped inspection authority. These serve to determine how the substrate is prepared and to choose the appropriate coating system. The planning may only be carried out by an expert who has the specific knowledge required in this field. The repair is carried out according to the applicable sets of rules and the specifications of the *epasit* GmbH.

Removing the old films by...



## Preparation / processing

### Preparation of the substrate

A stable substrate is a prerequisite for the permanent adhesion between substrate and coating system. Therefore, the substrate has to be examined and prepared before applying the coating.

### Application of the coating material

The quality of the internal coating in drinking water tanks depends decisively on the type and the meticulousness of the processing and on the material. Therefore, the indications regarding processing and consumption made by the manufacturer have strictly to be observed and controlled periodically. In this connection it is particularly important to ensure an undamaged film, a uniform film thickness and a surface which is as flat as possible. During the processing, the relative humidity of the air should be high, condensation, however, has absolutely to be avoided. When applying the mortar manually, it will be mixed by means of an appropriate mixing device and applied in several working cycles on



Stalactite-shaped application on the ceiling

the surface to be coated by using a trowel. By treating the surface with a smoothing trowel a level surface will be obtained. When applying the mortar mechanically, the coating may be applied in one working cycle on the ceiling with the help of an appropriate machine. Vertical areas are sprayed on in one or

two layers up to the required film thickness and are smoothed over with a smoothing trowel. The surface structure of the coating depends on the processing technology.

## Coated and not coated drinking water tanks



## Processing / re-treatment



Wall application



Floor application

### Processing / re-treatment

The coating has to be protected against damaging influences until it is sufficiently hardened. Therefore, the re-treatment of the coating has to be carried out before its complete hydration. If there is the danger of condensation of water, air dehumidifiers have to be used until the mortar is set and a constant relative humidity of the air has to be guaranteed by means of an appropriate dehumidification or moistening over a relatively long period. A drying-out of the coating before the first filling must be prevented. To that end, the coating has to be kept damp for a sufficiently long time whereby the condensation of water and/or standing water films are definitely to be avoided on the coating.

### Cleaning and disinfecting

When the coating material is sufficiently set, the water chamber is cleaned and disinfected. Thereby, the coating material must not be damaged.

### Inspections after the processing

After having completed the coating in situ inspections may be carried out to guarantee that the surface is undamaged and hardened, that there exists a safe connection to the substrate and that the prescribed minimum film thickness has been observed.



Even bed of mortar



finished Drinking water tanks



For new constructions and the repair of drinking water tanks, the following materials of *epasit* are used, whereas according to the system applied the same material may also be employed for different fields of application:

- > Anticorrosive coating for the derusted reinforcing steel  
*epasit MineralDicht trinkwasserbeschichtung*
- > Bonding bridge for the repair mortar to be applied or for the protective coating (if required)  
*epasit MineralSanoPro hb*
- > Repair mortar to repair defective spots in the concrete  
*Reparaturmörtel epasit u (up to a depth of 1cm)*  
*epasit MineralDicht trinkwasserputz top 300 (for a depth of more than 1cm)*
- > Levelling filler to close pores and sinkholes or to equalize surface roughnesses in the concrete  
*Reparaturmörtel epasit u*
- > Protective coating as an all-over internal coating  
*epasit MineralDicht trinkwasserbeschichtung (film thickness of up to 5 mm)*  
*epasit MineralDicht trinkwasserputz top 300 (film thickness of more than 5 mm)*  
*epasit MineralDicht trinkwasserputz white (film thickness of more than 5 mm)*
- > Waterproofing agent to increase the resistance of the coating  
*Mineralverfestiger epasit mv*

Test certificates and survey reports in accordance with the DVGW work sheets W 270, W 300 and W 347 as well as regarding the long-term stability are available.

#### Annotations

The statements contained in this leaflet give an overview over the planning and execution of the internal coating of the components in drinking water tanks of concrete with cement-bound mortars both for new constructions and for repairs. Detailed information is to be found in the technical documents of the *epasit* GmbH.