

VANDEX SPECIALISED PRODUCTS FOR REINSTATING DRINKING WATER TANK

The redevelopment of the Liebewil reservoir, supplying water for Köniz, commissioned in 1979, was ordered by the food inspectorate in 1999. The inner surface areas of both chambers, each with a water storage capacity of approx. 3,900 m³, were originally covered with ceramic tiles. As later became apparent, these were not laid free from hollow cavities.

An important objective of water supply operators is having durable, cleaning-friendly inner surfaces of the reservoir. The hygienic requirements of the food laws must be adhered to in full. As a result of the untightness of the tile joints used for the facing of the interior of the reservoir, an ideal breeding ground was created for bacterial growth. In addition, individual tiles were constantly becoming detached as a result of the insufficient adhesion. In close collaboration with an engineering office and following intensive studies of different alternatives, the owners of the

construction decided in favour of redevelopment of the surfaces with water contact by means of a new cementitious coating.

SYSTEM SOLUTION FOR THE NEW INNER COATING

For the reprofiling of surfaces with insufficient concrete cover, the purely mineral, high-density VANDEX CEMLINE MORTAR was used. This special product for drinking water reservoirs can be processed mechanically or manually in single layers with a layer thickness of 5 to 30 mm. This mortar was used for the entire floor area where the quality of the concrete slab turned out to be highly defective, for which reason it had to be removed and built up again. The high-density slurry VANDEX CEMLINE TOP GREY, with an overall thickness of 3–4 mm (corresponds to 6–8 kg/m²), was used as final coating.

The material was spray applied in an “orange peel” finish. This

leads to a closed, pore and cavity free surface. In addition, VANDEX MINERALIT was applied as surface hardening.

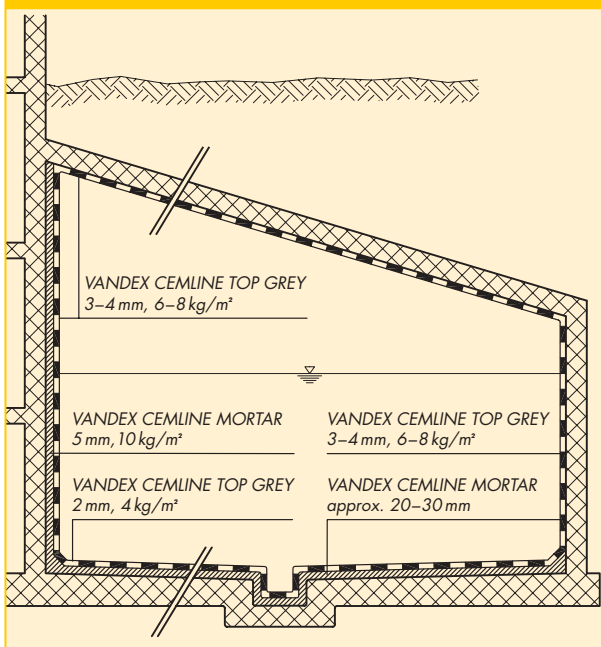
HIGH IMPORTANCE OF QUALITY ASSURANCE

During the entire redevelopment work, high importance is attached to quality assurance. If possible, the requirements on quality are to be determined in measurable criteria. The following points require intensive monitoring:

- Preparation of substrates (stability, cleanliness, surface roughness) for ensuring the mechanical bond of the newly applied material
- Moisture of the prepared underground at the time of application for optimum adhesion
- Amount of mixing water for the cementitious materials, as low a water-cement ratio as possible
- Climatic conditions during the hardening phase for ensuring undisturbed hydration of the coating



DRINKING WATER TANK LIEBEWIL, SWITZERLAND



TECHNICAL INFORMATION

Year of construction:	1979
Capacity:	7,800 m ³ (2 chambers)
Total area floor:	1,400 m ²
Total area wall:	1,800 m ²
Total area ceiling:	1,400 m ²



Owner: Community of Köniz, Berne, **Site Management:** Ryser Engineering AG, Berne,
Planning: Weber + Brönnimann AG, Civil Engineers SIA/USIC, **Vandex Applicator:**
 Marti AG Berne, Renesco Bautenschutz