Rehabilitation of Drinking Water Reservoirs - Materials and Material Systems

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A lot of drinking water reservoirs are more than 50 years old. So they often have reached the end of their technical lifetime. Due to this and the necessity to recover the latest generally accepted engineering rehabilitation of drinking water reservoirs is in focus of many water suppliers.

For the rehabilitation of drinking water reservoirs made of concrete a variety of different material systems for linings and coatings are used. In addition to the hygienic requirements technical requirements are also important. Therefore the user is confronted with complex issues that lead to the correct answer to the selection of a suitable material system. Among this material, all materials including construction materials and building materials, the direct or indirect contact with drinking water have to be understood.

Often the lack of knowledge about the hygienic and non-technical suitability of used materials in drinking water is the cause of an (not in the sense of the European Drinking Water Directive) adverse change of the drinking water.

The selection of a suitable material or material system for the construction and rehabilitation of drinking water reservoirs is connected with a not inconsiderable effort. A thematic analysis and expertise are already entrusted with the planning engineer and therefore essential. The material-specific requirements for the hygienic suitability have an equally great importance, as the design-related requirements and must also be considered during the planning and construction phase.

The decision for "the right material system" requires detailed knowledge of the professional engineer. This is: The recording of the actual condition, determination of the stability of the structure, knowledge of the relevant exposure and the common principles of repair and rehabilitation as well as of suitable material systems. Limitations of the respective systems have to be reliably detected.