

Detailed investigation of an old masonry dam

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SYNOPSIS. The gravity dam, described in this paper, is now over 100 years old. After such a long period of operation, a rehabilitation of the upstream face of the dam is necessary. During the last rehabilitation between 1965 and 1967 a protective shotcrete layer was applied on the upstream face. In the present rehabilitation the shotcrete layer will be maintained and a drained geomembrane will be installed. The geomembrane will be fastened by a system, which consists of inner and outer stainless steel profiles. These profiles are anchored onto the shotcrete layer.

Because the strata for fixing the anchors (the shotcrete layer) is now over 30 years old – and requires maintenance – major testing (e.g. georadar) of the shotcrete layer was carried out to give a guarantee of a sufficient bearing capacity of the anchor. The testing of the shotcrete is important to establish a basis for the design of the anchorage system.

This paper will describe the construction of the geomembrane lining with special consideration of the fastening of the steel profiles and the testing of the shotcrete layer.