

ANALYSIS OF THE EFFECTS CAUSED BY ALKALI-AGGREGATE REACTION ON CONCRETE STRUCTURES

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Abstract. This paper presents the results of a three-dimensional model of the one instrumented brazilian concrete dam and foundation. In order to analyze the effects of the concrete expansion due alkali-aggregate reaction, a three-dimensional mathematical models were prepared for simulation purposes using the ANSYS finite element program with APDL language coupling structural-hygrometric to represent a nonlinear behavior. This paper presents the results obtained for the stress evolution in the concrete dams instrumented.