A STUDY ON EVALUATION OF STRENGTH OF ROCKFILL MATERIALS UNDER LOW CONFINING PRESSURE CONDITION

Abstract: In this study, we evaluate shear strength of rock materials under low confining pressure condition with several kinds of tests, and establish a rationalized method of setting their design strength considering the confining pressure dependency.

We carried out large-scale triaxial compression tests under low confining pressure, large-scale box shear tests, and laboratory and field surface sliding tests for rock materials. Based on results of these tests and previous research works, we investigated evaluation method of the shear strength under low confining pressure. In addition, we proposed the setting method of the design strength of rock materials considering the confining pressure dependency.

Key words: embankment dam, rockfill materials, design strength, confining pressure dependency, cost reduction