UNDRAINED STRENGTH OF K_0 NORMALLY CONSOLIDATED CLAYS BASED ON AN ANISOTROPIC YIELD FUNCTION

by

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Abstract

Undrained triaxial compression and extension stress strain behavior of saturated remolded clay consolidated under the K_0 stress condition is investigated. Test results indicate that the effective stress path is affected by the stress condition during consolidation. Based on the test results, the authors propose a new method of predicting the undrained compression and extension strength of K_0 normally consolidated clays using an anisotropic yield function, which is derived from the shape of the observed effective stress path. The applicability of the proposed method is examined by comparing the calculated and observed undrained shearing behaviors.

Key words : normally consolidated clay, undrained shear strength, yield function

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