

EXPERIMENTAL CHARACTERISATION OF DRAINED PROPERTIES OF SKÅNE CLAY TILL

Yohanes Armediaz^A, Erika Tudisco^A, Minna Karstunen^B, Per Lindh^{A,C}

^A Lund University

^B Chalmers University of Technology

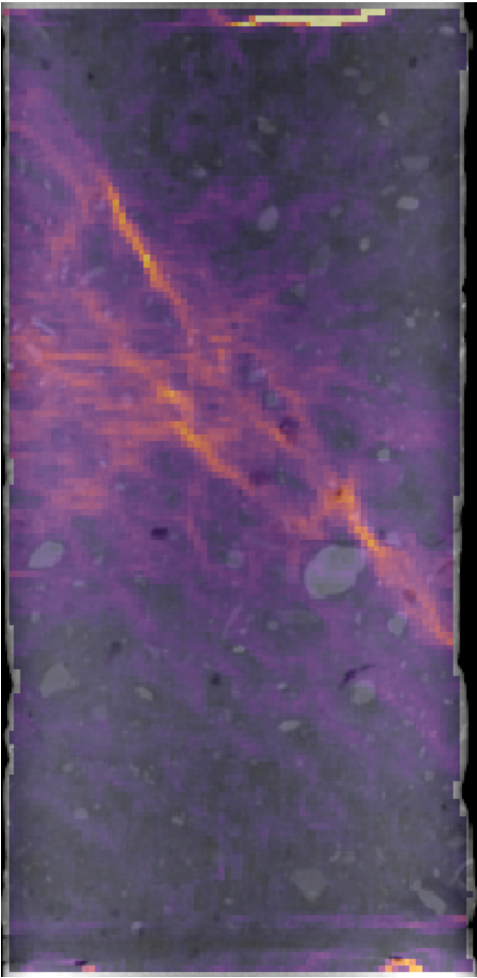
^C Trafikverket

Föredragshållare: Yohanes Armediaz

Abstract

In Skåne region found in southern Sweden, clay till makes up most of the underlying soil. Located within the region, Malmö is one of the fastest growing cities in Sweden. This means that there is an increasing need for more extensive infrastructure to support the growth and this leads to an increase in demand from the industry to have a better understanding of the soil behaviour. Past research on clay till has mostly been focused on its undrained properties while the drained properties are derived empirically from the undrained properties. This often leads to a very conservative geotechnical design with consequent unnecessary economic and environmental costs.

In this project, an experimental investigation campaign to study the drained properties of clay till found in Skåne is conducted. This campaign includes performing 1) geotechnical and geophysical in-situ field tests; 2) laboratory tests, i.e. drained triaxial tests on reconstituted samples and 3) X-ray tomography. The findings from these tests will then be used as a benchmark and compared to empirical formula currently used in the industry in an effort to improve the relationship.



Figur 1. 3D volume image of a clay till sample superimposed with its shear strain post-failure.