

KOSEKI LAB.

[Prediction of deformation and failure of ground]

Department of Human and Social Systems

<http://soil.iis.u-tokyo.ac.jp/>

Geotechnical Engineering

Civil
engineering
department

Development of innovative soil testing techniques

In order to make an accurate prediction of deformation and failure of ground, mechanical properties of geomaterials (e.g., sand, gravel, soft rock, improved soil and recycled soil) are investigated for a wide range of strain levels. The following soil testing techniques have been newly developed for the investigation, which are also applied to practice for designing variety of earth structures and foundations.

Stacked-ring simple shear test apparatus – capable of conducting multiple tests on single specimen while maintaining its shape (see below for typical test results)

Large strain torsional shear test apparatus on hollow cylindrical specimen

High pressure plane strain compression test apparatus with planer observation window

3-DOF local deformation transducers on hollow cylindrical specimen

Large scale true-triaxial test apparatus

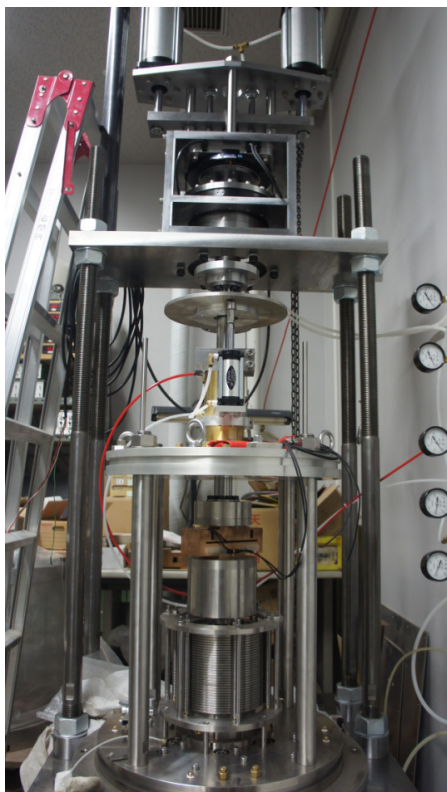


Fig.1 Stacked-ring simple shear test apparatus

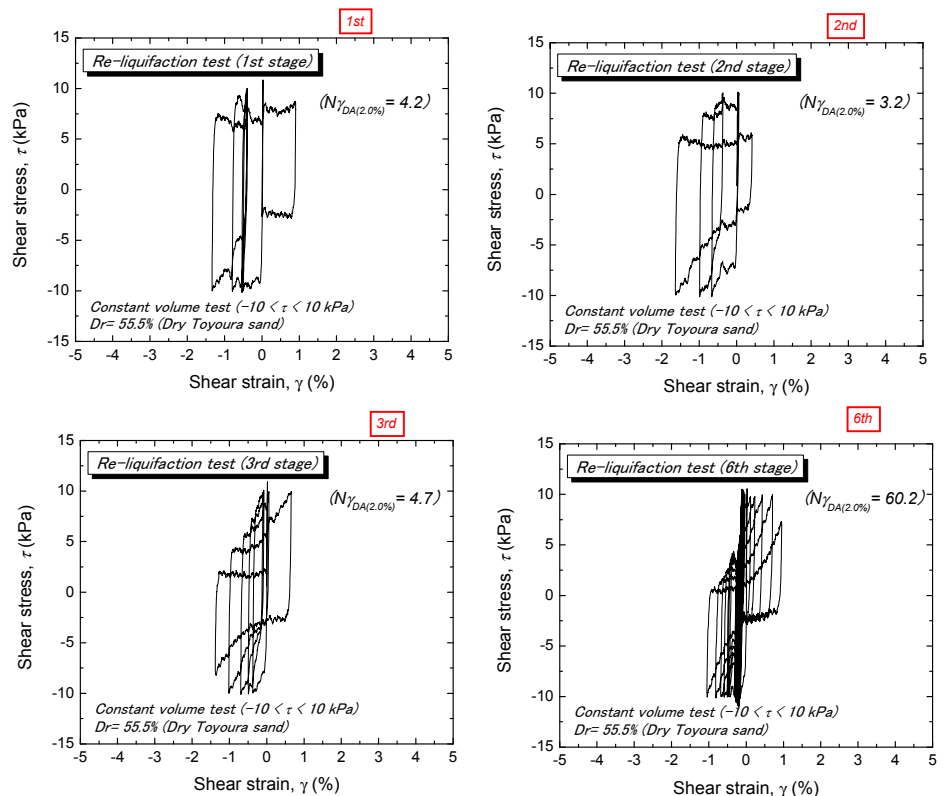


Fig.2 Typical results from multiple liquefaction tests on single specimen