Exhibiting advanced technologies in soil testing

Koseki LAB.

[Estimation of ground deformation and failure]

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Mechanical Property of Liquefied Stabilized Soil

Recently in Japan, effective use of construction generated soils has been highly required. One of the typical countermeasures has been the application to the liquefied soil stabilization method. In this method, construction generated soil can be reused by mixing water and stabilizer such as cement. To expand its application range and accelerate the reuse of the construction generated soil, mechanical property of liquefied stabilized soil was investigated by a series of detailed soil testing.

- ◆Liquefied stabilization of construction generated soil (Fig. 1)
- ◆Drained triaxial compression tests on the liquefied stabilized soil under different confining stresses (Fig. 2)
- ◆Observation of different trends of behavior in volumetric strain during isotropic consolidation (Fig. 3), peak and residual strength in drained shear (Fig. 4), and local deformation characteristics (Fig. 5) under different confining stresses, due to the strength of the liquefied stabilized soil that has been derived from the stabilization of the original soil

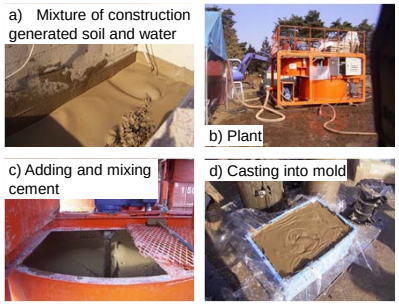


Fig. 1 Liquefied soil stabilization

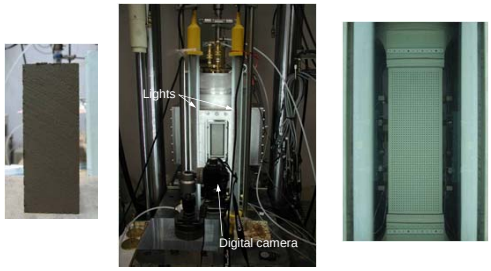


Fig. 2 Draind triaxial compression test

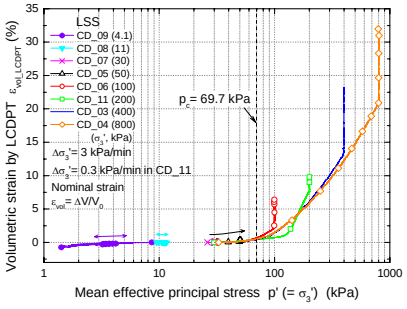
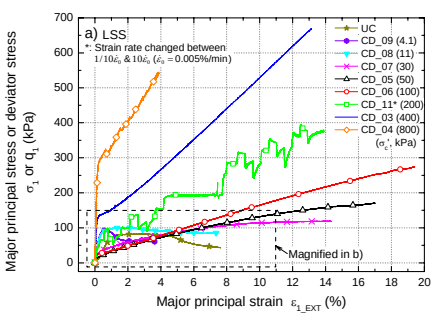


Fig. 3 Volumetric strain during isotropic consolidation



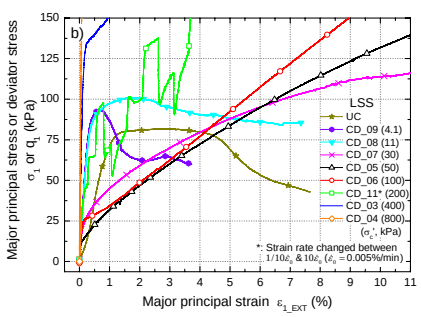


Fig. 4 Stress-strain relationships in drained triaxial compression tests

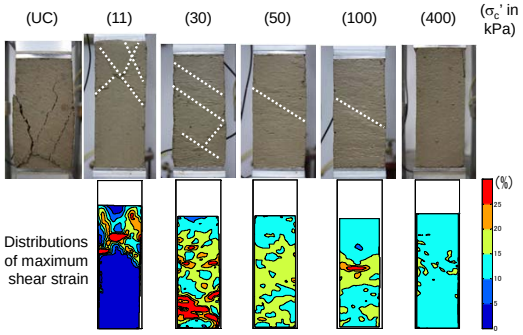


Fig. 5 Local deformation of specimens