

## Effect of Plastic Fines on Undrained Behavior of Clayey Sands

**Authors :** Saeed Talamkhani, Seyed Abolhassan Naeini

**Abstract :** In recent years, the occurrence of several liquefactions in sandy soils containing various values of clay content has shown that in addition to silty sands, clayey sands are also susceptible to liquefaction. Therefore, it is necessary to investigate the properties of these soil compositions and their behavioral characteristics. This paper presents the effect of clay fines on the undrained shear strength of sands at various confining pressures. For this purpose, a series of unconsolidated undrained triaxial shear tests were carried out on clean sand and sand mixed with 5, 10, 15, 20, and 30 percent of clay fines. It was found that the presence of clay particle in sandy specimens change the dilative behavior to contraction. The result also showed that increasing the clay fines up to 10 percent causes to increase the potential for liquefaction, and decreases it at higher values fine content. These results reveal the important role of clay particles in changing the undrained strength of the sandy soil.

**Keywords :** clayey sand, liquefaction, triaxial test, undrained shear strength

**Conference Title :** ICGGE 2018 : International Conference on Geomechanics and Geoenvironmental Engineering

**Conference Location :** Dublin, Ireland

**Conference Dates :** August 16-17, 2018