

# Liquefaction of Soil

## Abstract

Liquefaction is the phenomena when there is loss of strength in saturated and cohesion-less soils. There is some methods has been done and error percentage had been calculated with the actual field tests.

## Introduction

Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake and it can also exert higher pressure on retaining walls, which can cause them to slide or tilt. This movement can cause destruction of structures on the ground surface and settlement of the retained soil.

## Objective

The process that causes the soil to collapse and liquefy during an earthquake. Soil are most susceptible to this occurrence.

## Methodology

Mitigation by deep soil mixing methods

Compaction, Permeation and Jet Grouting

Drain pile technique.

Dynamic compaction and stone column construction

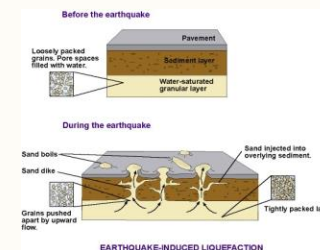
## Overview



Liquefaction has been observed in earthquakes for many years. In fact, written records dating back hundreds and even thousands of years describe earthquake effects that are now known to be associated with liquefaction.

## Effects of Liquefaction

1. Loss of bearing strength
2. Lateral spreading
3. Flow failures
4. Ground oscillation
5. Flotation



## Results

The results show that applying these methods reduces the risk of damages to the structure, remediation measures are usually employed.

## Conclusion

It can be clearly concluded that the ill effects caused by liquefaction have highly damage to structures built on liquefied soils. Hence the various methods which severity of damage of liquefaction can be reduced.

## References

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