

# Soil Mechanics

## Consolidation and Bearing Capacity

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### **Abstract**

Geotechnical analysis including settlement and foundation design.

## 1 Introduction

This report presents computational analysis of soil mechanics.

## 2 Mathematical Framework



Figure 1: Primary analysis results.

### 3 Secondary Analysis



soil\_mechanics\_plot2.pdf

Figure 2: Secondary analysis comparison.

## 4 Parameter Study



Figure 3: Parameter sensitivity analysis.

## 5 2D Visualization



Figure 4: Two-dimensional field visualization.

## 6 Distribution Analysis



Figure 5: Statistical distribution analysis.

## 7 Time Series



Figure 6: Time series visualization.

## 8 Results Summary

## 9 Conclusions

This analysis demonstrates the computational approach to soil mechanics.