

1. Record Nr.	UNINA9910788273603321
Autore	Han Jie <1964->
Titolo	Principles and practice of ground improvement // Jie Han
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2015 2015
ISBN	1-118-42130-2
Descrizione fisica	1 online resource (435 p.)
Collana	New York Academy of Sciences
Classificazione	TEC009020
Disciplina	624.1/51
Soggetti	Soil stabilization Foundations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cover; Title Page; Copyright; Contents; Preface; Chapter 1 Introduction; 1.1 Introduction; 1.2 Problematic Geomaterials and Conditions; 1.2.1 Problematic Geomaterials; 1.2.2 Problematic Conditions; 1.3 Geotechnical Problems and Failures; 1.4 Ground Improvement Methods and Classification; 1.4.1 Historical Developments; 1.4.2 Classification; 1.4.3 General Description, Function, and Application; 1.5 Selection of Ground Improvement Method; 1.5.1 Necessity of Ground Improvement; 1.5.2 Factors for Selecting Ground Improvement Method; Structural Conditions; Geotechnical Conditions Environmental Constraints Construction Conditions; Reliability and Durability; 1.5.3 Selection Procedure; 1.6 Design Considerations; 1.7 Construction; 1.8 Quality Control and Assurance; 1.9 Recent Advances and Trends for Future Developments; 1.9.1 Recent Advances; 1.9.2 Trends for Future Developments; 1.10 Organization of Book; Problems; References; Chapter 2 Geotechnical Materials, Testing, and Design; 2.1 Introduction; 2.2 Geomaterials and Properties; 2.2.1 Classifications; 2.2.2 Physical Properties; 2.2.3 Mechanical Properties; 2.2.4 Hydraulic Properties; 2.2.5 Compaction of Geomaterial 2.3 Geosynthetics and Properties 2.3.1 Type of Geosynthetic; 2.3.2 Function; 2.3.3 Properties and Test Methods; Physical Properties; Hydraulic Properties; Mechanical Properties; Geosynthetic-Soil/Block Interaction Properties; Allowable Properties; 2.4 In situ Testing; 2.4.1

Standard Penetration Test; Introduction; Measured Parameter; Correlation; 2.4.2 Cone Penetration Test; Introduction; Measured Parameters; Soil Classification and Correlation; 2.4.3 Vane Shear Test; Introduction; Measured Value; 2.4.4 Pressuremeter Test; Introduction; Measured Parameters; 2.4.5 Plate Load Test; Introduction Measured Parameters 2.5 Shallow Foundation Design; 2.5.1 Bearing Capacity; 2.5.2 Settlement; Elastic Solution; Consolidation Test-based Method; Empirical Method; Secondary Compression; 2.5.3 Consolidation; 2.6 Slope Stability Analysis; 2.6.1 Introduction; 2.6.2 Methods for Slope Stability Analysis; Stability Conditions for Analysis; Factor of Safety; Infinite Slope Analysis; Ordinary Method of Slices; Simplified Bishop's Method; Spencer's Method; Minimum Factor of Safety and Safety Map; Numerical Methods; 2.7 Earth Retaining Wall Analysis; 2.7.1 Type of Wall 2.7.2 Lateral Earth Pressure Coefficient 2.7.3 Rankine's Theory; 2.7.4 Coulomb's Theory; 2.8 Liquefaction Analysis; 2.8.1 Liquefaction Potential; 2.8.2 Earthquake-Induced Settlement; Problems; References; Chapter 3 Shallow and Deep Compaction; 3.1 Introduction; 3.2 Densification Principles; 3.3 Conventional Compaction; 3.3.1 Introduction; Basic Concept; Suitability; Applications; Advantages and Limitations; 3.3.2 Principles; Compaction Curve; Relative Compaction; One-Point Method; Influence Factors; Influence Depth; 3.3.3 Design Considerations; Performance Requirements Selection of Compaction Equipment

---

**Sommario/riassunto**

"The proposed book focuses on the principles and design of ground improvement technologies"--

---