

1. Record Nr.	UNISA996212459203316
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Titolo	Nondestructive testing of deep foundations [[electronic resource] /] / Bernard Hertlein and Allen Davis
Pubbl/distr/stampa	Chichester, England ; ; Hoboken, NJ, : J. Wiley, c2006
ISBN	1-280-73979-7 9786610739790 0-470-03483-1 0-470-03482-3
Descrizione fisica	1 online resource (292 p.)
Altri autori (Persone)	DavisAllen George
Disciplina	624.150287
Soggetti	Foundations - Testing Piling (Civil engineering) - Testing Nondestructive testing
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 (p. [255]-265) and index.
Nota di contenuto	Nondestructive Testing of Deep Foundations; Contents; Foreword; Preface; About the Authors; Acknowledgements; Photography and IllustrationCredits; 1Introduction and a Brief History; 1.1 Introduction; 1.2 A Brief History of Deep Foundations and the Advent of NDT; 1.2.1 Caveat and Acknowledgement; 1.2.2 The History; 1.3 Deep Foundation Failures and NDT; 1.3.1 Esso Oil Tanks, Fawley, Hants, UK; 1.3.2 Neumaier Hall, Moorhead, MN, USA; 1.3.3 Tampa Crosstown Expressway, Tampa, FL, USA; 1.3.4 Yuen Chau Kok, Shatin Area 14B, Phase 2, Hong Kong; 1.4 Deficiencies in Existing Foundations 2 Deep Foundation Construction Methods2.1 Driven Piles - Timber, Steel and Concrete; 2.1.1 Drop-hammers; 2.1.2 Diesel Hammers; 2.1.3 Hydraulic Hammers; 2.1.4 Pile-driving Vibrators; 2.1.5 Direct-push Pile Installers; 2.1.6 Advantages and Limitations of Driven Piles; 2.2 Caissons and Drilled Shafts; 2.2.1 Advantages and Limitations of Drilled Shafts; 2.2.2 Advantages and Limitations of Slurry; 2.3 Diaphragm Walls, Cut-off Walls and Barrettes; 2.4 Augered, Cast-in-Place Piles; 2.4.1 Advantages and Limitations of ACIP Piles; 2.5 Micropiles or Minipiles; 2.5.1 Applications

2.5.2 Drilled Micropile Type/Classification 2.5.3 Relationship between Micropile Application, Design Concept and Construction Type; 2.5.4 Design Aspects; 2.5.5 Nondestructive Testing; 2.5.6 Research and Development; 2.6 Stone Columns and other Soil Improvement Techniques; 2.6.1 Stone Columns; 2.6.2 Deep Mixing; 2.6.3 Permeation Grouting; 2.6.4 Dynamic Compaction; 3 How Soils Affect the Choice of Foundation; 4 Traditional, Visual and New Inspection Methods for Deep Foundation Construction; 4.1 Driven Piles; 4.2 Augered, Cast-in-Place Piles; 4.3 Drilled Shafts; 4.3.1 Dry Hole Construction 4.3.2 Wet Hole Construction 4.4 The Inspector's Role; 5 A Review of Full-scale Load-testing Techniques; 5.1 Static Load-Test Techniques - Axial Compression; 5.1.1 Reaction Systems; 5.1.2 Proof Testing; 5.1.3 Load-Transfer Tests; 5.1.4 Quick Load Test; 5.1.5 Constant Rate of Penetration Test; 5.1.6 Bi-directional Load Test (Osterberg Cell); 5.2 Static Load-Test Techniques - Axial Tension; 5.3 Static Load-Test Techniques - Lateral; 6 High-strain Testing for Capacity and/or Integrity; 6.1 High-Strain Dynamic (Drop-Weight) Testing of Driven Piles; 6.1.1 The Case Method; 6.1.2 The TNO Method 6.1.3 The Effect of Soil and Other Factors 6.2 High-Strain Testing of Drilled Shafts and Augered, Cast-in-Place Piles; 6.2.1 CEBTP Simbat; 6.2.2 SIMBAT Test Methodology; 6.3 Modification of Shaft Head for High-Strain Tests; 6.4 Practical Considerations for Drop-Weight Techniques; 6.4.1 Newton's Apple; 6.5 HSDT Alternatives; 6.5.1 The Static Dynamic Method; 6.5.2 The Fundex Method; 6.6 Limitations of High-Strain Dynamic Testing; 7 Low-strain Surface Tests - Sonic Echo; 7.1 Sonic Echo (Impulse ECHO); 7.1.1 Test Principle; 7.1.2 Typical Test Procedure; 7.1.3 Data Processing and Display 7.1.4 Effect of Impedance Change

Sommario/riassunto

Nondestructive Testing involves the use of methods such as wave propagation, electromagnetism, electrical conductivity, and thermal conductivity to test structural integrity and thereby allow nondestructive assessment of structures and the possibility of structural failures before they occur. Nondestructive Testing of Deep Foundations covers different techniques designed to provide information about the integrity and quality of the material that makes up a deep foundation. Nondestructive Testing methods are used at all stages of a structure's life - from new construction quality co