

1. Record Nr.	UNINA9910819243203321
Autore	Lade P.
Titolo	Triaxial testing of soils / / Poul V. Lade
Pubbl/distr/stampa	Chichester, West Sussex, England : , : Wiley Blackwell, , 2016 ©2016
ISBN	1-119-10660-5 1-119-10659-1
Descrizione fisica	1 online resource (780 p.)
Collana	THEi Wiley ebooks
Disciplina	624.1/514
Soggetti	Shear strength of soils - 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 and index.
Nota di contenuto	Title Page; Table of Contents; Preface; References; About the Author; 1 Principles of Triaxial Testing; 1.1 Purpose of triaxial tests; 1.2 Concept of testing; 1.3 The triaxial test; 1.4 Advantages and limitations; 1.5 Test stages - consolidation and shearing; 1.6 Types of tests; 2 Computations and Presentation of Test Results; 2.1 Data reduction; 2.2 Stress-strain diagrams; 2.3 Strength diagrams; 2.4 Stress paths; 2.5 Linear regression analysis; 2.6 Three-dimensional stress states; 2.7 Principal stress space; 3 Triaxial Equipment; 3.1 Triaxial setup; 3.2 Triaxial cell; 3.3 Piston 3.4 Pressure supply 3.5 Vertical loading equipment; 3.6 Triaxial cell with integrated loading system; 4 Instrumentation, Measurements, and Control; 4.1 Purpose of instrumentation; 4.2 Principle of measurements; 4.3 Instrument characteristics; 4.4 Electrical instrument operation principles; 4.5 Instrument measurement uncertainty; 4.6 Instrument performance characteristics; 4.7 Measurement of linear deformations; 4.8 Measurement of volume changes; 4.9 Measurement of axial load; 4.10 Measurement of pressure; 4.11 Specifications for instruments; 4.12 Factors in the selection of instruments 4.13 Measurement redundancy 4.14 Calibration of instruments; 4.15 Data acquisition; 4.16 Test control; 5 Preparation of Triaxial Specimens; 5.1 Intact specimens; 5.2 Laboratory preparation of specimens; 5.3 Measurement of specimen dimensions; 5.4 Specimen installation; 6 Specimen Saturation; 6.1 Reasons for saturation; 6.2 Reasons for lack

of full saturation; 6.3 Effects of lack of full saturation; 6.4 B-value test; 6.5 Determination of degree of saturation; 6.6 Methods of saturating triaxial specimens; 6.7 Range of application of saturation methods; 7 Testing Stage I
7.1 Objective of consolidation 7.2 Selection of consolidation stresses; 7.3 Coefficient of consolidation; 8 Testing Stage II; 8.1 Introduction; 8.2 Selection of vertical strain rate; 8.3 Effects of lubricated ends and specimen shape; 8.4 Selection of specimen size; 8.5 Effects of membrane penetration; 8.6 Post test inspection of specimen; 9 Corrections to Measurements; 9.1 Principles of measurements; 9.2 Types of corrections; 9.3 Importance of corrections - strong and weak specimens; 9.4 Tests on very short specimens; 9.5 Vertical load; 9.6 Vertical deformation; 9.7 Volume change
9.8 Cell and pore pressures 10 Special Tests and Test Considerations; 10.1 Introduction; 10.2 K0-tests; 10.3 Extension tests; 10.4 Tests on unsaturated soils; 10.5 Frozen soils; 10.6 Time effects tests; 10.7 Determination of hydraulic conductivity; 10.8 Bender element tests; 11 Tests with Three Unequal Principal Stresses; 11.1 Introduction; 11.2 Tests with constant principal stress directions; 11.3 Tests with rotating principal stress directions; Appendix A: Manufacturing of Latex Rubber Membranes; A.1 The process; A.2 Products for membrane fabrication; A.3 Create an aluminum mold
A.4 Two tanks
