

Consolidated Undrained Triaxial Compression Test For

This report presents instructions and tables for determining isotropic and anisotropic shear strengths from results of consolidated, undrained triaxial compression tests.

One-volume library of instant geotechnical and foundation data Now for the first time ever, geotechnical, foundation, and civil engineers...geologists...architects, planners, and construction managers can quickly find information they must refer to every working day, in one compact source. Edited by Robert W. Day, the time -and effort-saving Geotechnical Engineer's Portable Handbook gives you field exploration guidelines and lab procedures. You'll find soil and rock classification, basic phase relationships, and all the tables and charts you need for stress distribution, pavement, and pipeline design. You also get abundant information on all types of geotechnical analyses, including settlement, bearing capacity, expansive soil, slope stability - plus coverage of retaining walls and building foundations. Other construction-related topics covered include grading, instrumentation, excavation, underpinning, groundwater control and more.

This is the fifth volume in a series of publications containing classic papers from the early years of the Offshore Technology Conference (OTC), the world's leading event for the development of offshore resources in the fields of exploration, drilling, production, and environmental protection. The American Society of Civil Engineers (ASCE), through its participation in and support of the OTC, plays a major role in the innovation and evolution of the technologies needed to overcome the challenges facing development of resources in the offshore environment. The years since the first OTC Conference in 1969 have seen the presentation of over 10,000 papers in the various technical disciplines central to offshore development. A few of the civil engineering papers, presented throughout OTC's history, provided innovation in, vision for and lasting impact on the design, construction, or installation of offshore infrastructure. Many have been adopted by design standards worldwide or became an integral part of design software. Some have had influence far beyond the offshore industry, and some have become integral to the design process of onshore structures such as buildings and bridges. Offshore Technology in Civil Engineering: Hall of Fame Papers from the Early Years; Volume Five is a collection of the eight winning papers inducted in 2010 at an award ceremony during OTC in May of 2010. The engineering methods published in these papers have proven their value through widespread use, permeating codes, standards, guidelines, and engineering software.

This book is intended primarily to serve the needs of the undergraduate civil engineering student and aims at the clear explanation, in adequate depth, of the fundamental principles of soil mechanics. The understanding of these principles is considered to be an essential foundation upon which future practical experience in soils engineering can be built. The choice of material involves an element of personal opinion but the contents of this book should cover the requirements of most undergraduate courses to honours level. It is assumed that the student has no prior knowledge of the subject but has a good understanding of basic mechanics. The book includes a comprehensive range of worked examples and problems set for solution by the student to consolidate understanding of the fundamental principles and illustrate their application in simple practical situations. The International System of Units is used throughout the book. A list of references is included at the end of each chapter as an aid to the more advanced study of any particular topic. It is intended also that the book will serve as a useful source of reference for the practising engineer. In the third edition no changes have been made to the aims of the book. Except for the order of two chapters being interchanged and for minor changes in the order of material in the chapter on consolidation theory, the basic structure of the book is unaltered.

Soil Stress-Strain Behavior: Measurement, Modeling and Analysis

Effects of Strain Rate in Consolidated-undrained Triaxial Compression Tests of Cohesive Soils

Designation: D4767 - 04

Construction Technology for Tall Buildings

Handbook of Geotechnical Testing: Basic Theory, Procedures and Comparison of Standards

Research in Earth Physics Phase Report No. 13

This book introduces the latest construction practices and processes for tall buildings from foundation to roof. It attempts to acquaint readers with the methods, materials, equipment and systems used for the construction of tall buildings. The text progresses through the stages of site investigation, excavation and foundations, basement construction, structural systems for the superstructure, site and material handling, wall and floor construction, cladding and roof construction. The construction sequence, merits and limitations of the various proprietary systems commonly used in these respective stages are discussed. This fourth edition also includes several new topics not covered in the previous edition. The target readers are practitioners and students in the related professions including architecture, engineering, building, real estate, construction, project and facilities management, and quantity and land surveying.

The results of a series of consolidated-undrained (CU) triaxial compression tests performed on normally consolidated and overconsolidated specimens of two clays consolidated both isotropically (ICU tests) and anisotropically (ACU tests) are presented and analyzed in this report. The specimens were trimmed from samples of Vicksburg Buckshot clay (LL = 57) and a clay from the East Atchafalaya Basin Protection Levee (EABPL) project area (LL = 79), both of which had been consolidated from a slurry in large-diameter consolidometers under a maximum vertical consolidation pressure of 3.0 kg/sq cm. Data presented include stress-strain curves, pore pressure observations, final water content distributions within the specimens, and shear strength envelopes based on total and effective stresses. Test results indicate that the change in volume during consolidation and the water content at the end of consolidation are not a unique function of the vertical consolidation stresses but are related to the mean effective consolidation stress. Total stress envelopes based on Taylor's method of deriving strengths of anisotropically consolidated specimens from test results obtained from isotropically consolidated specimens slightly underestimate observed values. In this context, Taylor's method is an appropriate means of predicting strengths for various $K_{sub c}$ ratios from conventional ICU tests. Use of hyperbolic stress-strain relationships derived from ICU tests in finite element codes for ACU conditions will lead to erroneous results. Further testing of anisotropically consolidated soils under stress systems that better simulate in situ conditions is needed.

This first volume of a specialty 2-volume work contains 34 papers pertaining to the natural behaviour of diverse geomaterials found in different parts of the world. Each paper is organized along the outline: location and distribution, engineering geology, composition, state and index properties, structure, engineering properties, quality / reliability of data with reference to methods of sampling and testing, and relation to engineering problems. This extensive body of collated knowledge is integrated by three overview papers covering engineering geology, mechanical behaviour and engineering implications. Topics: Overview papers; Marine clays; Estuarine Clays; Lacustrine clays; Stiff clays; Sands and other cohesionless soils; Residual and other tropical Soils; Weak rock.

"Although the triaxial compression test is presently the most widely used procedure for determining strength and stress-deformation properties of soils, there have been no books published on triaxial testing since the 1962 second edition of the landmark work *The Measurement of Soil Properties in the Triaxial Test* by Bishop and Henkel. It is apparent there is a need to document advances made in triaxial testing since publication of Bishop and Henkel's book and to examine the current state of the art in a forum devoted solely to triaxial testing. Because of increasing versatility brought about by recent developments in testing techniques and equipment, it is also important that the geotechnical profession be provided with an up-to-date awareness of potential uses for the triaxial test."--Overview.

Soil Mechanics in Engineering Practice

Developments in Geotechnical Engineering: from Harvard to New Delhi 1936-1994

Soil Dynamics and Foundation Modeling

A Study of the Liquefaction Phenomena of a Fine Sand Utilizing the Consolidated-undrained Triaxial Compression Test Under Controlled Stress Loading

Characterisation and Engineering Properties of Natural Soils

Foundation Design Codes and Soil Investigation in View of International Harmonization and Performance Based Design

The results of consolidated-undrained (R) triaxial compression tests with pore pressure measurements performed to determine the effects of strain rate on the strength and deformation characteristics of Vicksburg buckshot clay (CH) are presented and analyzed in this report. The 1.4-in.-dia triaxial specimens were compacted with a Harvard miniature compactor to 95 percent of maximum dry density derived from the standard effort compaction test with water contents 2 percentage points wet of standard optimum. Standard caps and bases (having the same diameter as the test specimen, with 1-in.-diam rigid porous inserts and drainage connections) were used in the triaxial tests. After back-pressure saturation and consolidation under effective confining pressures of 0.5 and 5.0 kg per sq cm, specimens with and without filter strips were axially loaded at rates of strain varying from 1.2 to 0.0012 percent per minute. Data presented include stress-strain curves, pore pressure observations, final water content distributions within the specimens, and shear strength envelopes based on total stresses. (Author).

The International Symposium on "Coastal Geotechnical Engineering in Practice (IS-Yokohama 2000)" was held from 20 to 22 September 2000 in Yokohama, Japan and sponsored both by TC-30 of ISSMGE on "Coastal Geotechnical Engineering" and by the Japanese Geotechnical Society (JGS). This symposium attracted 310 participants from many countries and I
Introductory technical guidance for civil, structural and geotechnical engineers and construction managers interested in design and construction of foundations for buildings and other structures. Here is what is discussed: 1. BACKFILL FOR SUBSURFACE STRUCTURES 2. BEARING CAPACITY ANALYSIS 3. DEEP FOUNDATIONS 4. EARTHWORK FOR FOUNDATIONS 5. ENGINEERING PROPERTIES OF SOIL AND ROCK 6. EXCAVATION FOR STRUCTURES 7. FIELD AND LABORATORY INVESTIGATIONS FOR FOUNDATIONS IN EXPANSIVE SOILS 8. FOUNDATION DESIGN IN COLD REGIONS 9. FOUNDATIONS ON FILL AND BACKFILLING 10. FOUNDATIONS IN AREAS OF SIGNIFICANT FROST PENETRATION.

This 5th edition covers the latest practices and processes of various alternative methods for the construction of tall buildings from foundation to roof. The text progresses through the stages of site investigation, excavation and earthmoving, foundation construction, basement construction, structural systems for the superstructure, site and material handling, wall and floor construction, external wall and roof construction. The planning, safety and environmental considerations, methods, materials, equipment, and construction sequence of the various proprietary systems for each of these respectively stages are discussed. The target readers are practitioners and students in building and construction professions including architecture, engineering, project and facilities management, building and construction management, real estate, quantity and land surveying.

Manual of Geotechnical Laboratory Soil Testing

Geosynthetics in Civil and Environmental Engineering

Effects of Anisotropic Versus Isotropic Consolidation in Consolidated-Undrained Triaxial Compression Tests of Cohesive Soils

Triaxial Testing of Soils

A Collection of Papers of the Geotechnical Symposium in Rome, March 16-17, 2006

A discussion of developments in the measurement and interpretation of advanced laboratory stress-strain testing of geomaterials. It includes a collection of case studies which apply the test results and is based on the activities of the technical committee No 29 of the ISSMGE.

Concluding the trilogy on geological materials in construction, this authoritative volume reviews many uses of clays, ranging from simple fills to sophisticated products. Comprehensive and international coverage is achieved by an expert team, including geologists, engineers and architects. Packed with information prepared for a wide readership, this unique handbook is also copiously illustrated. The volume is dedicated to the memory of Professor Sir Alec Skempton. Various definitions of 'clay' are explored. Clay mineralogy is described, plus the geological formation of clay deposits and their fundamental materials properties. World and British clay deposits are reviewed and explained. New compositional data are provided for clay formations throughout the stratigraphic column. Investigative techniques and interpretation are considered, ranging from site exploration to laboratory assessment of composition and engineering performance. Major civil engineering applications are addressed, including earthworks, earthmoving and specialized roles utilizing clays. Traditional earthen building is included and shown to dominate construction in places. Clay-based construction materials are detailed, including bricks, ceramics and cements. The volume also includes a comprehensive glossary.

This volume provides an authoritative and comprehensive state-of-the-art review of hot desert terrains in all parts of the world, their geomaterials and influence on civil engineering site investigation, design and construction. It primarily covers conditions and materials in modern hot deserts, but there is also coverage of unmodified ancient desert soils that exhibit engineering behaviour similar to modern desert materials. Thorough and up-to-date guidance on modern field evaluation and ground investigation techniques in hot arid areas is provided, including reference to a new approach to the desert model and detailed specialized assessments of the latest methods for materials characterization and testing. The volume is based on world-wide experience in hot desert terrain and draws upon the knowledge and expertise of the members of a Geological Society Engineering Group Working Party comprising practising geologists, geomorphologists and civil engineers with a wealth of varied, but complementary experience of working in hot deserts. This is an essential reference book for professionals, as well as a valuable textbook for students. It is written in a style that is accessible to the non-specialist. A comprehensive glossary is also included.

The contributions contained in these proceedings are divided into three main sections: theme lectures presented during the pre-workshop lecture series; keynote lectures and other contributed papers; and a translation of the Japanese geotechnical design code.

Construction Technology For Tall Buildings (4th Edition)

Advanced Triaxial Testing of Soil and Rock

Principles and Practices of Soil Mechanics and Foundation Engineering

Mohr Circles, Stress Paths and Geotechnics

Effects of Anisotropic Versus Isotropic Consolidation in Consolidated-undrained Triaxial Compression Tests of Cohesive Soils

Geotechnical Engineer's Portable Handbook

The material in this work is focused on recent developments in research into the stress-strain behavior of geomaterials, with an emphasis on laboratory measurements, soil constitutive modeling and behavior of soil structures (such as reinforced soils, piles and slopes). The latest advancements in the field, such as the rate effect and dynamic behavior of both clay and sand, behavior of modified soils and soil mixtures, and soil liquefaction are addressed. This book reviews the developments that have taken place in the field of geotechnical engineering since the first international conference on Soil Mechanics and Foundation Engineering was held in Harvard University in 1936 until the January 1994 conference in New Delhi, India.

When stresses are applied to saturated soil, deformation will occur as water in voids is squeezed out. Consolidation Analyses of Soils focuses on the consolidation of fully saturated soils. The book follows a classic approach by beginning with one-dimensional constitutive relations of soils and one-dimensional consolidation. It then moves on to analytical solutions to several one-dimensional consolidation problems and one-dimensional finite strain consolidation. The authors also present a finite element method for consolidation analysis of one-dimensional problems, analytical solutions to consolidation of soil with vertical drains, and a finite difference method for consolidation analysis of one-dimensional problems. Simplified methods for consolidation analysis of soils exhibiting creep are introduced and applied to different cases. Three-dimensional consolidation equations and solutions of typical three-dimensional consolidation problems are covered, as well as simplified finite element consolidation analysis of soils with vertical drain and finite element method for three-dimensional consolidation problems. The book is unique in that it covers both classic solutions and state-of-the-art work in consolidation analyses of soils. Authors Jian-Hua Yin is Chair Professor of Soil Mechanics in the Department of Civil and Environmental Engineering at The Hong Kong Polytechnic University. Guofu Zhu is a Professor in the Department of Engineering Structures and Mechanics at Wuhan University of Technology, China.

This book presents a comprehensive topical overview on soil dynamics and foundation modeling in offshore and earthquake engineering. The spectrum of topics include, but is not limited to, soil behavior, soil dynamics, earthquake site response analysis, soil liquefactions, as well as the modeling and assessment of shallow and deep foundations. The author provides the reader with both theory and practical applications, and thoroughly links the methodological approaches with engineering applications. The book also contains cutting-edge developments in offshore foundation engineering such as anchor piles, suction piles, pile torsion modeling, soil ageing effects and scour estimation. The target audience primarily comprises research experts and practitioners in the field of offshore engineering, but the book may also be beneficial for graduate students.

Craig's Soil Mechanics

A Symposium

Geosynthetics Asia 2008 Proceedings of the 4th Asian Regional Conference on Geosynthetics

in Shanghai, China

Consolidation Analyses of Soils

Standard Test Method for Consolidated Undrained Triaxial Compression Test for Cohesive Soils

An Introduction to Foundations of Structures

A must have reference for any engineer involved with foundations, piers, and retaining walls, this remarkably comprehensive volume illustrates soil characteristic concepts with examples that detail a wealth of practical considerations, It covers the latest developments in the design of drilled pier foundations and mechanically stabilized earth retaining wall and explores a pioneering approach for predicting the nonlinear behavior of laterally loaded long vertical and batter piles. As complete and authoritative as any volume on the subject, it discusses soil formation, index properties, and classification; soil permeability, seepage, and the effect of water on stress conditions; stresses due to surface loads; soil compressibility and consolidation; and shear strength characteristics of soils. While this book is a valuable teaching text for advanced students, it is one that the practicing engineer will continually be taking off the shelf long after school lets out. Just the quick reference it affords to a huge range of tests and the appendices filled with essential data, makes it an essential addition to an civil engineering library.

The results of consolidated-undrained (termed R test in Corps of Engineers nomenclature) triaxial compression tests with pore pressure measurements performed on Vicksburg silty clay (CL) are presented and analyzed in this report. All triaxial specimens were compacted with a Harvard miniature compactor to 95 percent of standard maximum density with water contents 2 percentage points wet of standard optimum. After back-pressure saturation and consolidation under four different chamber pressures, the specimens were axially loaded at rates of strain varying from 0.001 to 1.0 percent/min. The purpose of the tests was to evaluate the effects, if any, of different rates of strain on the shear strength and deformation characteristics of this particular soil. Data presented include pore pressure observations, magnitudes of deviator stresses, Mohr's diagrams, and stress path plots. R triaxial test results indicate that this lean clay, which has a liquid limit of 34, plastic limit of 22, and plasticity index of 12, is relatively insensitive to the rates of strain used in axial loading. When other materials have been tested at different rates of strain in succeeding phases of the program, more definitive guidance on rates of strain for various fine-grained soils should be possible.

This book is one of the best-known and most respected books in geotechnical engineering. In its third edition, it presents both theoretical and practical knowledge of soil mechanics in engineering. It features expanded coverage of vibration problems, mechanics of drainage, passive earth pressure, and consolidation.

The second edition of this well established book has been comprehensively updated in line with recent developments. After presenting the fundamentals of stress and strain, and their graphical representation, the book includes chapters on failure states in soils and rocks, observed and elastic paths, and the use of discontinuities. New sections include shear bands and small strain behaviour, as well as the use of elastic shear modular stress calculations and discontinuities in plasticity calculations. Expanded coverage is also given to dilatancy of soils and roughness of rock joints.

Proceedings of the International Symposium IS-Yokohama 2000, Yokohama, Japan, 20-22 September 2000

Coastal Geotechnical Engineering in Practice, Volume 2

Clay Materials Used in Construction

36 Years GATE Civil Engineering Topic-wise Solved Paper (1984 - 2021) with Detailed Solutions

An Introduction to Soils Engineering

Offshore and Earthquake Engineering

Introductory technical guidance for civil and geotechnical engineers and other professional engineers and construction managers interested in geotechnical and soils engineering. Here is what is discussed: 1. BEARING CAPACITY ANALYSIS 2. DISTRIBUTION OF STRESSES IN SOIL 3. ENGINEERING PROPERTIES OF SOIL AND ROCK 4. LABORATORY TESTING OF SOILS 5. SEEPAGE AND DRAINAGE 6. SETTLEMENT AND VOLUME EXPANSION 7. SLOPE STABILITY ANALYSIS 8. SOIL GROUTING.

This investigation examines effects of anisotropic versus isotropic consolidation in consolidated-undrained triaxial compression tests performed on specimens of two clays consolidated from a slurry in large-diameter consolidometers. Shear strength and corresponding deformation characteristics were developed in both normally consolidated and overconsolidated ranges. Test results indicate that volume changes during consolidation are not a unique function of the major principal consolidation stress but instead are related to the mean effective consolidation stress and the deviator stress during consolidation. Consequently, for a given major principal consolidation stress, the undrained strength of anisotropically consolidated specimens is lower than that of isotropically consolidated specimens. Triaxial Testing of Soils explains how to carry out triaxial tests to demonstrate the effects of soil behaviour on engineering designs. An authoritative and comprehensive manual, it reflects current best practice and instrumentation. References are made throughout to easily accessible articles in the literature and the books focus is on how to obtain high quality experimental results.

Manual of Geotechnical Laboratory Soil Testing covers the physical, index, and engineering properties of soils, including compaction characteristics (optimum moisture content), permeability (coefficient of hydraulic conductivity), compressibility characteristics, and shear strength (cohesion intercept and angle of internal friction). Further, this manual covers data collection, analysis, computations, additional considerations, sources of error, precautionary measures, and the presentation results along with well-defined illustrations for each of the listed tests. Each test is based on relevant standards with pertinent references, broadly aimed at geotechnical design applications. FEATURES Provides fundamental coverage of elementary-level laboratory characterization of soils Describes objectives,

basic concepts, general understanding, and appreciation of the geotechnical principles for determination of physical, index, and engineering properties of soil materials Presents the step-by-step procedures for various tests based on relevant standards Interprets soil analytical data and illustrates empirical relationship between various soil properties Includes observation data sheet and analysis, results and discussions, and applications of test results This manual is aimed at undergraduates, senior undergraduates, and researchers in geotechnical and civil engineering. Prof. (Dr.) Bashir Ahmed Mir is among the senior faculty of the Civil Engineering Department of the National Institute of Technology Srinagar and has more than two decades of teaching experience. Prof. Mir has published more than 100 research papers in international journals and conferences; chaired technical sessions in international conferences in India and throughout the world; and provided consultancy services to more than 150 projects of national importance to various government and private agencies.

Hot Deserts

Effects of Strain Rate in Consolidated-Undrained Triaxial Compression Tests of Cohesive Soils. Report 2. Vicksburg Buckshot Clay (CH).

Sacramento Metropolitan Area Investigation

Proceedings of the IWS Kamakura 2002 Conference, Japan, 10-12 April 2002

Offshore Technology in Civil Engineering, Volume Five

An Introduction to Engineering Properties of Soil and Rock

Geosynthetics in Civil and Environmental Engineering presents contributions from the 4th Asian Regional Conference on Geosynthetics held in Shanghai, China. The book covers a broad range of topics, such as: fundamental principles and properties of geosynthetics, testing and standards, reinforcement, soil improvement and ground improvement, filter and drainage, landfill engineering, geosystem, transport, geosynthetics-pile support system and geocell, hydraulic application, and ecological techniques. Special case studies as well as selected government-sponsored projects such as the Three Gorges Dam, Qinghai-Tibet Railway, and Changi Land reclamation project are also discussed. The book will be an invaluable reference in this field.

Determination of the physical, chemical and mechanical properties of ground materials is the key to successfully deliver such projects as slope stabilization, excavation and lateral support, foundation etc. A book containing both theory of geomaterial testing and up-to-date testing methods is much in demand for obtaining reliable and accurate test results. This book is intended primarily to serve this need and aims at the clear explanation, in adequate depth, of the fundamental principles, requirements and procedures of soil and rock tests. It is intended that the book will serve as a useful source of reference for professionals in the field of geotechnical and geological engineering. It can work as a one-stop knowledge warehouse to build a basic cognition of material tests on which the readers are working. It helps college students bridge the gap between class education and engineering practice, and helps academic researchers guarantee reliable and accurate test results. It is also useful for training new technicians and providing a refresher for veterans. Engineers contemplating the ICE, IOM3 and other certification exams will find this book an essential test preparation aid. It is assumed that the reader has no prior knowledge of the subject but has a good understanding of basic mechanics.

This book of “GATE-2022 : CIVIL ENGINEERING” consists of previous year questions of GATE from 1986 to 2021, containing 36 years paper set. The questions are segregated in topic-wise format encompassing all subjects, such as Engineering Mechanics & Strength of Materials, Structural Analysis, RCC Structures & Prestressed Concrete, Steel Structures, Construction Planning & Management, Geotechnical Engineering, Surveying, Fluid Mechanics, Environmental Engineering, Hydrology and Irrigation. The book has questions in decreasing year-wise pattern which become it an ideal book for Civil Engineering aspirants.

Craig's Soil Mechanics continues to evolve and remain the definitive text for civil engineering students worldwide. It covers fundamental soil mechanics and its application in applied geotechnical engineering from A to Z and at the right depth for an undergraduate civil engineer, with sufficient extension material for supporting MSc level courses, and with practical examples and digital tools to make it a useful reference work for practising engineers. This new edition now includes: Restructured chapters on foundations and earthworks, the latter including new material on working platforms and collapse of underground cavities (sinkhole formation). New mobilised-stress-based deformation methods that can straightforwardly be used with both linear and non-linear soil stiffness models and field measurements of shear wave velocity, for serviceability limit state design. Extended sets of correlations for making sensible first estimates of soil parameters, adding deformation-based parameters for broader coverage than the Eighth Edition. Extended section on robust statistical selection of characteristic soil parameters. Greater use of consolidation theory throughout in determining whether actions, processes and laboratory/in-situ tests are drained or undrained. Extended chapter on in-situ testing, adding the Flat Dilatometer Test (DMT), and interpretation of consolidation parameters from CPTU and DMT testing. An updated section on pile load testing. Additional worked examples and end-of-chapter problems covering new material, with fully worked solutions for lecturers. The electronic resources on the book's companion website are developed further, with the addition of two new spreadsheet numerical analysis tools and improvement of existing tools from the Eighth Edition. Using these, readers can take real soil test data, interpret its mechanical properties and apply these to a range of common geotechnical design problems at ultimate and serviceability limiting states.

Hall of Fame Papers from the Early Years

Environmental Impact Statement

Soil Mechanics

Engineering, Geology and Geomorphology : Engineering Group Working Party Report

Report 1 : Vicksburg Silty Clay (CL)

Laboratory Shear Strength of Soil

Introductory technical guidance for civil and geotechnical engineers interested in engineering properties of soil and rock. Here is what is discussed: 1. SCOPE 2. COMPACTION CHARACTERISTICS OF SOILS 3. DENSITY OF COHESIONLESS SOILS 4. PERMEABILITY 5. CONSOLIDATION 6. SWELLING,

SHRINKAGE, AND COLLAPSIBILITY 7. SHEAR STRENGTH OF SOILS 8. ELASTIC PROPERTIES 9. MODULUS OF SUBGRADE REACTION 10. COEFFICIENT OF AT-REST EARTH PRESSURE 11. PROPERTIES OF INTACT ROCK 12. PROPERTIES OF TYPICAL SHALES.

Advanced Laboratory Stress-Strain Testing of Geomaterials

Load-deformation Behavior of Saturated Clays During Undrained Shear

Laboratory Shear Testing of Soils

Tables for Determining Isotropic and Anisotropic Shear Strengths from Consolidated Undrained Triaxial Compression Tests

Geotechnical Engineering