Record Nr. UNINA9910811576703321 Autore Davis R. O Titolo Plasticity and geomechanics / / R.O. Davis, A.P.S. Selvadurai Cambridge, UK;; New York,: Cambridge University Press, 2002 Pubbl/distr/stampa **ISBN** 1-107-13542-7 1-280-43458-9 9786610434589 1-139-14864-8 0-511-17831-X 0-511-06135-8 0-511-05502-1 0-511-30553-2 1-60119-758-6 0-511-61495-0 0-511-06981-2 Edizione [1st ed.] Descrizione fisica 1 online resource (xii, 287 pages) : digital, PDF file(s) Altri autori (Persone) SelvaduraiA. P. S Disciplina 624.1/51 Soggetti **Plasticity** Soil mechanics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Title from publisher's bibliographic system (viewed on 05 Oct 2015). Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Cover; Half-title; Title; Copyright; Contents; Preface; 1 Stress and strain; 2 Elastic and inelastic material behaviour; 3 Yield; 4 Plastic flow; 5 Collapse load theorems: 6 Slip line analysis: 7 Work hardening and modern theories for soil behaviour; Appendix A Non-Cartesian coordinate systems; Appendix B Mohr circles; Appendix C Principles of virtual work: Appendix D Extremum principles: Appendix E Drucker's stability postulate; Appendix F The associated flow rule; Appendix G A uniqueness theorem for elastic-plastic deformation; Appendix H Theorems of limit analysis Appendix I Limit analysis and limiting equilibriumIndex Sommario/riassunto Plasticity theory is widely used to describe the behaviour of soil and

rock in many engineering situations. Plasticity and Geomechanics

presents a concise introduction to the general subject of plasticity with a particular emphasis on applications in geomechanics. Derived from the authors' own lecture notes, this book is written with students firmly in mind. Excessive use of mathematical methods is avoided in the main body of the text and, where possible, physical interpretations are given for important concepts. In this way the authors present a clear introduction to the complex ideas and concepts of plasticity as well as demonstrating how this developing subject is of critical importance to geomechanics and geotechnical engineering. This book therefore complements Elasticity and Geomechanics by the same authors and will appeal to graduate students and researchers in the fields of soil mechanics, foundation engineering, and geomechanics.