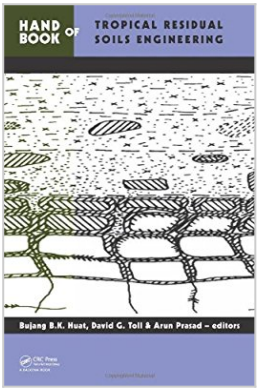

Handbook of Tropical Residual Soils Engineering

From CRC Press

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Residual soils are found in many parts of the world. Like other soils, they are used extensively in construction, either to build upon, or as construction material. They are formed when the rate of rock weathering is more rapid than transportation of the weathered particles by e.g., water, gravity and wind, which results in a large share of the soils formed remaining in place. The soils typically retain many of the characteristics of the parent rock. In a tropical region, residual soil layers can be very thick, sometimes extending to hundreds of meters before reaching un-weathered rock. Unlike the more familiar transported sediment soil, the engineering properties and behaviour of tropical residual soils may vary widely from place to place depending upon the rock of origin and the local climate during their formation; and hence are more difficult to predict and model mathematically. Despite their abundance and significance our knowledge and understanding of these soils is not as extensive as that of transported sediment soil.

Written by residual soil specialists from various parts of the world, this unique handbook presents data, knowledge and expertise on the subject. It provides insight into the engineering behaviour of tropical residual soils, which will be applicable to small or extensive construction works worldwide on such soils. This book covers almost all aspects of residual soils, from genesis, classification, formation, sampling and testing to behaviour of weakly bonded and unsaturated soil, volume change and shear strength. It features chapters on applications in slopes and foundation, as well as dedicated parts on residual soils in India, Hong Kong and Southeast Asia. A large number of graphs, tables, maps and references throughout the text provide further detail and insight.

This volume is intended as a reference guide for practitioners, researchers and advanced students in civil, construction and geological engineering. Unique in its coverage of the subject, it may serve as a standard that benefits every engineer involved in geological, foundation and construction work in tropical residual soils.

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Editorial Review

About the Author

Professor Bujang B.K. Huat graduated in 1983 from the Polytechnic of Central London, UK, and obtained his MSc and PhD at the Imperial College London, and the Victoria University Manchester, UK, in 1986 and 1991 respectively. He has spent his professional career as a Professor in Geotechnical Engineering, in the Department of Civil Engineering, Universiti Putra Malaysia, one of Malaysia's five research universities. Currently he serves as the Dean of School of Graduate Studies of the same university. His special area of interest is in the field of geotechnical and geological engineering, and slope engineering, and has authored and co-authored 18 books, edited 10 conference proceedings, and published more than 100 journal and conference proceedings papers in the field of soil mechanics and foundation engineering.

David G. Toll is Professor of Geotechnical Engineering in the School of Engineering and Computer Sciences at Durham University, UK. After graduating from Cardiff University with a BSc in Civil Engineering in 1979 he worked for Soil Mechanics Ltd and Engineering & Resources Consultants, before joining Imperial College, London as a Research Assistant, where he gained his PhD. He joined Durham University in 1988. He has been Visiting Professor at the National University of Singapore and Tongji University, China and held Research Fellowships at Nanyang Technological University, Singapore, University of Western Australia and Newcastle University, Australia. His research areas are unsaturated & tropical soils and geoinformatics. He has co-authored 7 edited books and conference proceedings and published more than 150 journal and conference proceedings papers. He is Chair of Joint Technical Committee 2 on Data Representation for the three International Societies (ISSMGE, ISRM, IAEG), a member of TC 106 on Unsaturated Soils of ISSMGE and Chair of the Northern Geotechnical Group of the Institution of Civil Engineers, UK.

Arun Prasad is Associate Professor of Geotechnical Engineering in the Institute of Technology at Banaras Hindu University, India. He graduated with a BSc in Civil Engineering in 1986 from Utkal University, India. He obtained MSc and PhD from Sambalpur and Devi Ahilya University, India in 1989 and 2000 respectively. He has worked as Post-Doctoral Researcher at Universiti Putra Malaysia during 2009–10. His special areas of research are in the soil stabilization of soft and contaminated soils. He has co-authored one book on Geotechnical Engineering and has published more than 50 papers in journals and conference proceedings.

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