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Book review
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Book review

Manual of Soil Laboratory Testing. Volume II: Permeability, Shear Strength and Compressibility Tests

K. H. Head and R. J. Epps. Whittles Publishing, Caithness, Scotland, UK, 2011, 3rd edn, ISBN 978-1904445-69-2, £110·00, 512 pp.

The first edition of this publication appeared in 1982 and was greeted with great enthusiasm among the geotechnical testing laboratories in the UK. The three volumes that made up the first edition have since become the standard reference for laboratory managers and technicians alike, containing as it did valuable explanations of all the tests described in BS 1377:1975.

This second volume of a three-part series contains all the tests that relate to permeability, shear strength and compressibility. While the content is primarily aimed at laboratory technicians, geotechnical engineers would do well to be aware of the publication since it provides valuable, easy-to-understand descriptions of tests that they will be specifying to obtain design parameters.

Since the first edition appeared, BS 1377 has been revised and, more recently, Eurocode 7 and its various supporting documents have become standards for use within the UK. As the authors state in their preface to the third edition, there was a need therefore to update this popular publication 'to take account of the current requirements of BS 1377:1990 and the impact of Eurocode 7 on sampling and testing practice'.

The resulting revision (which has been some time in the writing) has been worth the wait. It is well written, clear and concise and contains numerous figures and photographs to help the reader understand exactly which piece of testing equipment is being discussed. The brief history of each test type is informative and provides a useful background for each test.

Each section has been written so that experienced technicians will gain both insight and value from the explanations of theory and methodology, and there are many good examples of how to perform tests and perhaps more importantly how to combat any problems that may arise. The latter is certainly something that you do not get in the British Standard.

It is also interesting to have accounts of some of the rare and seldom seen tests with 'real' data and photographs accompanying the text.

The book's main strengths lie in the structured manner in which each test is described, which can be summarised as

(*a*) test type and test principle
(*b*) history of test
(*c*) test theory
(*d*) applications
(*e*) performing the test.

By providing examples of actual test data and explaining the various pitfalls that can occur both during the test and in interpreting the results, the authors have succeeded in making what can seem a daunting subject readily accessible and easy to understand. This particular publication has always been a valuable aide-mémoire to all serious geotechnical testing laboratories and the updated version should continue to act as the definitive reference for years to come.

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