

Principles of Pavement Design

by E. J. Yoder

Published by John Wiley & Sons Inc., New York and Chapman & Hill Ltd, London. 1st edition. 1959. pp. 569. Price 106s.

This book is to be welcomed as providing a wealth of up-to-date information on pavement design in a form which is clear and well presented. Despite the fact that it confines itself solely to American practice, it is clearly of considerable value to engineers in this country, especially since a great deal of pavement design in this country is based on American methods. It is, however, rather disappointing to find that the host of references which are given are confined solely to American literature.

The book is divided into five parts. In Part I fundamental principles are presented and discussed, and valuable information is included on various types of wheel loads and their effect on the behaviour of the pavement. The properties of the pavement components and design tests are dealt with in Part II, and in particular the principles of soil stabilization are well described with reference to the effect of the addition of various types of admixtures. The design tests are only briefly described and confined to soils and bitumens; it is assumed that the reader has a basic knowledge of soil mechanics and concrete technology. Parts III and IV are devoted to the design of flexible and rigid pavements and are well illustrated with design charts and worked examples. In each of these parts, roads and airfields are considered separately and the important differences in the design approach to these two types of pavings are carefully considered. Finally, in Part V, pavement failures and remedies are described and methods are given for strengthening existing pavements. The different types of failures are especially well explained and illustrated with photographs of typical examples.

The author, who is Associate Professor of Highway Engineering at Purdue University, has built up the main material of the book from lecture notes which were prepared at a level suitable for both graduates and undergraduates. Throughout the book, however, frequent reference is made to publications issued by various engineering bodies in America associated with pavement work, and as a result a comprehensive picture of differences in approach is given.

The book is to be recommended both for the student and for the practising engineer who wants to widen his knowledge of pavement design methods, although it must be emphasized that no mention of British pavement design practice will be found.

Sand and Gravel Handbook

Published by the Sand and Gravel Association of Great Britain, 48 Park Street, London, W.1. 1st edition, 1960. pp. 150. Price 20s.

It is a new and welcome departure for the S.A.G.A.G.B. to publish a handbook. This includes information about the Association itself and a series of chapters summarizing information on sand and gravel and their uses.

The handbook begins with a note on the industry and the Association, the addresses of its area and district secretaries, a list of 452 producer members, with an index to the location of members' plants and a map of them.*

The fourteen short chapters begin with one on terms and definitions—with an engaging admission of defeat in the face of certain local terms. This is followed by an extremely brief note on the classification of the main types of aggregates in Great Britain. A more thorough third chapter summarizes grading requirements.

Chapter IV is devoted to concrete, with sections on quantities and yield, grading zones for sand, water content, mix design, mixing and some common faults in concrete making. Chapter V describes dry lean concrete and cement-bound granular materials, and Chapter VI concerns building sands for plasters, renderings and mortars.

Other chapters are devoted to roadstone and surface dressing, coated gravel, filter media, routine testing at the quarry, screening plant, British Standards relating to sand and gravel, S.A.G.A.G.B. publications and its Research Department. Some good prestige photographs, miscellaneous information and an index complete the handbook.

The typography is always clear, but extremely restless; indeed towards the end it does not even remain constant for any given page number! The convenient loose-leaf format will make revision of sections a comparatively simple matter, and it is to be hoped that some of the sections at present barely deserving the title "chapter" will be reconsidered at an early date. Nevertheless, the list of producers and map and other information about the industry and the Sand and Gravel Association itself make the handbook useful to all interested in the production of concrete in Great Britain.

*Enlarged copies of the map (30 × 40 in.) can be ordered from 48 Park Street, price 30s including postage.