Book review

DEVELOPMENTS IN THE FORMULATION AND REINFORCEMENT OF CONCRETE

S. Mindess (ed.) CRC Press, London, 2008. ISBN 978 1420076097, £135, 294 pp.

Behind the baffling title, this book comprises 13 stand-alone chapters. In addition to chapters on hot weather concreting, underwater concrete, recycled materials in concrete and future developments, there are nine chapters on concrete products: high-strength, lightweight, self-compacting, high-density and radiation shielding, autoclaved aerated, sprayed, fibrous concrete reinforcement, foamed and polymer concrete.

The book certainly highlights the versatility and extensive range of applications of this most widely used of all construction materials. The chapters address both the underlying science and the production applications. The book seems to be most appropriate for the generalist engineer who, for project demands, seeks background and up-to-date information on a particular special concrete. It is, however, uncertain whether such an engineer would ever find this chapter hidden in such an entitled book. Perhaps it is for office concrete experts to pull it from their shelves and point generalists to gems within.

The chapter on sprayed concrete is one such gem. At only 14 pages it gives a quick and yet solid overview and with 31 references it provides plenty of pointers as to where to find more information. Likewise the chapter on recycled materials in concrete is valuable because it brings together the extensive research work in a field of particular relevance in the current age.

Other chapters are, however, less useful. The high-strength concrete chapter supposedly covers the use of this increasingly important special concrete in high-rise buildings, but provides only seven lines of text and a table and figure both sourced from a 1990 document! It is exhaustive on the subject of offshore structures, reflecting the expertise of the author to this chapter, but this is no compensation for a buildings engineer.

This leads to the weakness of the book. There is inconsistency in depth and detail, in units of measurement (imperial or metric or sometimes both) and in facts (annual world production of 8.7 billion t on page xiv and 13 billion t on page 271!).

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