Book reviews

Recycling of demolished concrete and masonry

T. C. Hanson (Editor)

Spon, London, 1992, ISBN 0 419 15820 0

This reviewer has recently considered making a review of the re-use of demolished concrete and masonry. His own sporadic efforts are totally obviated by the appearance of this book, which is a report of RILEM technical committee 37-DRC (Demolition and re-use of concrete). It comprises three reviews. The first, and longest, by T. C. Hansen, reports on recycled aggregate and recycled aggregate concrete 1945–89. It deals with aspects which are important to the engineer: production and quality of recycled aggregate; mechanical properties, durability, properties and production of recycled aggregate concrete; and other

uses. It contains a useful overview of codes and standards. Part 2, by Schulz and Hendricks, covers much the same areas, but extends the treatment to masonry. Part 3, by Molin and Lauritzen, describes the blasting of concrete, including localized cutting and partial demolition.

The book is to be recommended as an authoritative and comprehensive overview of progress in the field.

F. P. GLASSER
UNIVERSITY OF ABERDEEN

High performance fibre-reinforced cement composites

H. W. Reinhardt and A. E. Naaman (Editors)

Spon, London, 1992, ISBN 0 419 17630 6

There are few other fields of materials science known to the reviewer where scientists have spent so much effort, yet still have such doubts in defining apparently simple words. What, for example is meant by 'reinforcement', 'high performance' and 'structural' (as opposed to non-structural)? However, the book which is under review is not, as might be implied, on the semantics of materials science, but instead deals with cement-based composites. This reviewer's experience of cement composites, admittedly limited, is that they are certainly liable to produce a disorienting effect on the investigator: concepts which appear clearcut in other fields of materials science seem not to apply, or to apply only in ill-defined circumstances, to fibre-reinforced cement composites! Hence the soul-searching.

That said, the book arises from a RILEM-sponsored conference. Clearly, the conference fulfilled a need and was a success. The volume contains 43 papers, grouped according to practical and theoretical aspects. Among the practical aspects are: production technology, process optimization, infiltration techniques, structural applications, and the mechanical and fracture properties of products. More theoretical aspects include the derivation, measurement and interpretation of composite properties, modelling of properties and interface conditions, and the mechanical coupling between fibres and matrix.

Although the large number of papers included gives broad coverage, individual papers are of necessity brief, and authors have been unable to develop their chosen topics in depth. Some lengthier papers, par-

ticularly those dealing with more fundamental aspects of the subject, would have been welcome.

A useful summary of discussions is provided and the book has a substantial index. The latter is not, however, very user-friendly; for example, steel fibres and SIFCON are not cross-referenced, and unless the reader knows that SIFCON contains steel fibres, rele-

vant references are likely to be overlooked. Overall the book forms a useful contribution which will be welcomed by those in the field.

F. P. GLASSER
UNIVERSITY OF ABERDEEN

Progress in cement and concrete: cement and concrete science and technology: Vol. 1, Part 1

S. N. Ghosh (Editor)

ABI Books, New Delhi, 1991, 494 pp., £55.00, ISBN 81 85522 006

This book represents the first of a projected four-volume work covering all aspects of cement science and technology. It opens with a brief overview by the editor, followed by chapters on burnability of raw mixes (T. K. Chatterjee), cement manufacture (Kurdowski), plant modernization (A. K. Chatterjee), plant quality control (Vishwanathan), improved energy efficiency (Odler), clinker chemistry and mineralogy (Kurdowski), 'low pH' cements, (Ho Guojun), special and newer cements (L. Mohan), blended cements (Sersale), advanced materials (Young, Jennings), physiochemical foundations (Mechedlov-Petrossyan), high-strength concrete (Sarkar), and quality control (Frigione and Zenone).

The book is noteworthy because it is the first important work of its kind which has been edited and

printed in India. The design and typography are excellent, although the reproduction of electron micrographs is only adequate. Unfortunately the content is more variable; individual chapters vary in standard and depth of content. A few are excellent, some are mediocre, and a few are substandard. The spelling and proofreading are deficient. Firmer editorial control might have helped in grouping cognate chapters together, in eliminating duplication between chapters, and in ensuring that literature citations were complete. In summary, therefore, the book makes an uneven start and can only be recommended with reservation.

F. P. GLASSER
UNIVERSITY OF ABERDEEN