



BOOK REVIEWS

Concrete in the Service of Mankind, Proceedings of the International Congress, held at the University of Dundee, Scotland, U.K. on June 24–28, 1996, Ravindra K. Dhir, general editor. Published by E&F Spon, an imprint of Chapman & Hall. ISBN: 0 419 21500X (of the 5-volume set).

Concrete is the most ubiquitous volume construction material now and in the foreseeable future. Its design must be not only cost- but also durability- and environment-effective, as we have to live with concrete structures for a long time. Concrete can be thus considered as a friend of mankind; improper design, manufacture, and use, on the other hand, can cause long-lasting damages and losses. This is why the Concrete Technology unit of the University of Dundee has organized this major 5-day international congress as part of its continuing commitment to the development of excellence in concrete construction.

These ambitious aims were met, as shown in the papers of this 5-volume set. The central theme of the Congress was “Concrete in the Service of Mankind,” under which five self-contained conferences were organized. Each of the volumes have separate subtitles, editors, and ISBN numbers. The structure of these volumes is quite uniform, due to careful editorial work. The volumes, each about 600–800 pages, are divided according to the special conferences of the congress; clearly defined themes, starting with lead papers, give a good account on generalities and are followed by the individual papers.

The first volume, entitled “Concrete for Environment Enhancement and Protection,” Ravindra K. Dhir and Thomas D. Dyer, editors (ISBN 0 41921450X, 712 pages), contains the opening address and two important general papers on “Concrete in the Service of the Modern World,” by P.K. Mehta and B.C. Gerwick, and “The Role of the Cement and Concrete Industry in Developing Countries,” by J. Morris and S. Sephton and papers on six themes: (1) Recycling and Reuse, (2) City and Townscape Architecture, (3) Low Energy/Low Emission Cements, (4) Developing Marginal and Polluted Land, (5) Alternative/Marginal Aggregate Sources, and (6) Waste Materials and Alternative Products.

The second volume, “Concrete for Infrastructure and Utilities,” edited by Ravindra K. Dhir and Neil A. Henderson (ISBN 0 419 21460 7, 624 pages), contains 57 papers. The themes are: (1) Flood and River/Coastal Defences, (2) Bridges, Roads and Tunnels, (3) Water and Sewage Structures, (4) Enabling Continuous Airport Operations, (5) Offshore and Gas Exploration, and (6) Nuclear and Other Energy Sources.

The third volume is “Appropriate Concrete Technology” and is edited by Ravindra K. Dhir and Michael J. McCarthy (ISBN 0 419 21470 4, 641 pages) and contains 65 papers on six themes: (1) Criteria for Appropriateness; (2) Implications of Harmonization, (3) Versatility of Concrete, (4) Binder Technology, (5) Non-Ferrous Reinforcement, and (6) Design and Construction.

The fourth volume, “Radical Concrete Technology,” Ravindra K. Dhir and Peter C. Hewlett editors (ISBN 0 419 21480 1, 754 pages), contains 71 papers on: (1) High Performance Concrete, (2) Ultra Structures, (3) Maximizing Strength/Durability, (4) Performance Specification, (5) Construction Techniques, and (6) New Materials Technology.

The fifth and final volume is “Concrete Repair, Rehabilitation and Protection,” Ravindra K. Dhir and M. Roderick Jones, editors (86 papers in 886 pages). Themes are: (1) Protection

Against Deterioration, (2) Assessing Structural Condition, (3) Repair Materials, (4) Repair Methodology, (5) Durability of Rehabilitation, (6) Initial and Life-Cycle Costing, and (7) Contract Management.

Editing of the volumes is excellent. Each of the papers start with an abstract, followed by a keyword list. A short annotation of the authors' affiliation, position, main field of interest, etc. is a welcome addition; the running headlines, giving author names and a short title, facilitate the readers' orientation. Volumes are closed with detailed author and subject indexes. Interesting topics, clear subject identification, and the versatility of contents all show that concrete is really a servant of mankind. This 5-volume set, with more than 350 papers written by authors from 70 countries, is an important addition to all those dealing with concrete.

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Progress in Cement: Testing and Quality Control in Cement Industry, Volume 3.
Published by Akademia Books International, 88, Nehru Place, New Delhi-110 019, India.
S.N. Ghosh, Chief Editor.

This is the latest volume in the series published under the title "Progress in Cement and Concrete." Dedicated to testing and quality control aspects in the cement plants, Vol. 3 is a mirror of the latest techniques and tools that would be used by the cement manufacturer of the future.

The chapters cover vital topics like chemical testing, physical testing, zeolite cement, ISO-09000, European certification, and corrosion of steel in concrete structures. Chapters and data have also been included for optical microscopy, particle size distribution, X-ray fluorescence spectrometry, cement packaging, and clinker composition. The volume contains the latest quality control techniques like XRF Analysis, Gaussian distribution, quality control in mining operations, and a chapter on electro-conducting cementitious materials.

Quality control in a process is required not only for the testing of the finished or intermediate products, but also for the research and development that should rather be adjusted to develop new procedures to describe quality attributes such as the quantitative clinker phase analysis, which could possibly be involved in the process of quality control one day. This volume also contains interesting presentations about the new developments of testing techniques and their deployment to improve and optimize product properties. All in all, this compendium intends to inform researchers and quality controllers in the cement industry worldwide about the latest state of quality assurance and tends to encourage future developments in this field.

The volume embodies results and data of research carried out by renowned professionals, plant technologists, and quality control professionals. It is an excellent reference material for plant engineers, a provocative compendium for researchers, and a useful guide for students in the field of cement technology. The whole series provides excellent reference books for materials science, civil engineering, mineral science, and allied fields.