

Book review

Properties of Concrete, 5th edn

A. M. Neville. Pearson Education, Harlow, UK, 2011,
ISBN 978-0273-75580-7, £84.99, 846 pp.

This is the fifth (and, to quote the author, 'truly final') edition of what has become a classic work. First published in 1963, it has accompanied generations of engineers, many from their student days right through to their retirement, and has remained a valuable and reliable source of reference at each and every stage of their developing careers.

'Neville', as it is commonly known, has grown over the years to 846 pages, encompassing 14 chapters divided into approximately 250 topics. It has been translated into 12 languages and has sold over half a million copies. These statistics speak for themselves and indicate that not only is the book's content authoritative and scholarly, but that the material is also presented in a way which readers, all half million of them, find approachable and helpful.

The coverage is vast. It includes descriptions of the raw materials, properties of the fresh concrete, admixtures, properties of the hardened concrete, durability, testing, other cementitious materials, mix design and many others. The text for each section is concise and informative and accompanied by copious graphs, tables and diagrams. In short, the book is a mine of information.

The book has grown over its half century in response to the vast amount of research that has been undertaken into cement and concrete during this period. Significant developments over this period include, for instance, the acceptance and widespread use of admixtures, use of cement replacement materials, the increasing emphasis on durability and the chequered history

of high alumina cement, to name but a few. Keeping abreast of such developments is a considerable ongoing challenge and has prompted the regular updating of the text reflected in this being the fifth edition. New topics in this edition include delayed ettringite formation, recycled aggregate concrete and thaumasite sulfate attack. In addition there has been considerable augmentation and modification of many aspects of the existing text and a particular feature of this edition is the welcome inclusion of European standards, while retaining references to British Standards (and American Standards) where appropriate.

The knowledge base in cement and concrete technology is now so vast and ever expanding that no one text book is capable of encompassing it in its entirety. Thus, any book in this field must, perforce, be selective in what it includes and, just as importantly, what it leaves out. Professor Neville has achieved this balance with remarkable success, but recognises this dilemma by including a copious list of references at the end of each section for readers to consult if they wish to explore a topic further. There is some thinness in references to work published in the last five years or so, but this is just a minor shortcoming.

Overall, Professor Neville's book is a huge personal and professional achievement and this fifth ('and truly final') edition can be recommended unreservedly. It is entirely understandable that Professor Neville regards this as being his final edition, but its 50 years of existence proves the need for a book of this type. Hopefully, somebody will rise to the obvious challenge which Professor Neville's statement has created.

Richard Scott