

Book review

J. Bensted, P. Barnes (Eds.), *Structure and Performance of Cements*, 2nd Edition, Spon Press, 11 New Fetter Lane, London EC4P 4EE, 2002, 29 West 35th Street, New York, NY 10001

First published in 1983 (and edited by Barnes), this expanded 2nd Edition has addressed the need for such a book in an equivalent way to the original version, for its time. Since 1983, the various types of cements now available have increased considerably, the techniques for examination have increased, and our understanding of the performance has improved. Such changes are reflected in the increase in the number of chapters from the original 10 to 22, and the contributors from the original 18 to 43, which is necessary to do justice to the subject.

Three broad categories of subjects are presented:

- (a) Basic materials and methods, which include cement phase composition, Portland cement hydration, calcium aluminate cements, concrete with admixtures, special cements (including a wide variety, among them oil well cements), and various degradation mechanisms.
- (b) Cement extenders (including separate chapters on some)—slag, natural pozzolans, fly ash, metakaolin, and silica fume. This is consistent with an increasing interest in achieving the utilization of waste materials.

- (c) Examination techniques from X-ray diffraction and electron microscopy (much updated), more recent methods (e.g., electrical, nmr, synchrotron), and some treatment of cement composites have been included.

The coeditors and authors drawn from the worldwide community are to be congratulated on the generation of a well-conceived and well-edited treatise which, although not exhaustively large, is a worthy successor to the original 1983 edition. The new edition should realize its special niche in the cement literature archives. Only minimal overlap among chapters is present, which might be inevitable within a multiauthored publication. The “Structure and Performance of Cements” is recommended as a valuable resource for both industrial and academic researchers and practitioners.

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