Título: High-Performance Construction Materials

Autor: Shi, Caijun/ Mo, y L

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Sinopsis

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This book describes a number of high-performance construction materials, including concrete, steel, fiber-reinforced cement, fiber-reinforced plastics, polymeric materials, geosynthetics, masonry materials and coatings. It discusses the scientific bases for the manufacture and use of these high-performance materials. Testing and application examples are also included, in particular the application of relatively new high-performance construction materials to design practice.

Most books dealing with construction materials typically address traditional materials only rather than high-performance materials and, as a consequence, do not satisfy the increasing demands of today's society. On the other hand, books dealing with materials science are not engineering-oriented, with limited coverage of the application to engineering practice. This book is thus unique in reflecting the great advances made on high-performance construction materials in recent years.

This book is appropriate for use as a textbook for courses in engineering materials, structural materials and civil engineering materials at the senior undergraduate and graduate levels. It is also suitable for use by practice engineers, including construction, materials, mechanical and civil engineers.

Contents:
Introduction (C-J Shi & Y L Mo)
High Performance Concrete (C-J Shi et al.)
High Performance Fiber Reinforced Cement Composites (A E Naaman)
High Performance Steel Material and Structures for Earthquake Resistant Buildings (K-C Tsai et al.)
Advanced Fiber Reinforced Polymer Composites (L C Hollaway)
Enhancing the Performance of Masonry Structures (R E Klingner)
Geosynthetics _ Characteristics and Applications (P E Stevenson)

Coatings and Sealers (C Vipulanandan & M Isaac)
Smart Materials and Structures (D D L Chung et al.)