



# THE INTERNATIONAL BOOK REVIEW

## Advanced Polymer Concretes and Compounds

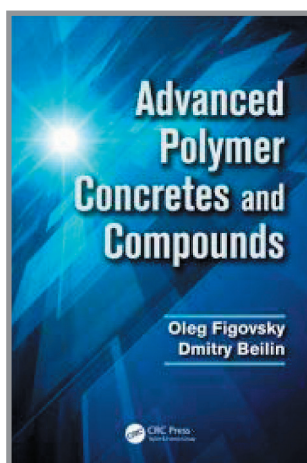
*Published:* CRC Press

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*Content:* 267 Pages / 179 Illustrations

*Authors:* Oleg Figovsky, Dmitry Beilin

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A new class of construction materials – polymer composite materials with unique combination of high strength and characteristics of non-metal materials – are the main innovation source in construction industry. Nanostructured polymer concretes and compounds are the example of these materials with specified physical and mechanical properties: mechanical strength, permeability, chemical resistance etc.

The monograph presents the latest achievements in fast developing area of nanotechnological construction materials to the readers. It deals with composition and characteristics of two new polymer concretes: one with polybutadiene binder and a silicate one with nanostructured organic-silicate matrix. There is a description of physical and chemical properties of these materials and production technology characteristics. The operational problems of polymer concretes in corrosive environments are discussed.

A detail description of the new, safe from ecological point of view, polymer for production of solid floors in industrial and civil buildings based on polyurethanes without isocyanates is given. The authors consider new coat-

ings and compounds in respect to different substrates: crack-resistant and corrosion-resistant based on water dispersion of chlorosulphurized polyethylene, epoxy rubber nanoheterogenous structure, water-soluble fire-proof and thermal resistant coatings, nanostructured binder for acid-resistant construction materials. These coatings and compounds can be widely used in different industrial areas and construction.

### **Nanomaterials based on soluble silicates**

*Publishing house:* Lambert Academic Publishing

ISBN-13 978-3-659-58361-2

*Content* 164 p.

*Авторы:* Pavel Kudryavtsev, Oleg Figovsky

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The monograph considers the characteristics and production methods for water-soluble high module silicate systems based on their transformations from the lowest oligomers into the highest ones with further formation of silica sol and performance of sol-gel process. The authors show the potentialities of the use of such systems like binders or modifying additives, to produce hybrid nanostructured composite materials with sol-gel processes as well as special features of their structuring.

The monograph presents examples of prospective application of these systems in industrial areas and construction, in production of nanostructured silicate polymer concrete. The implementation of sols for production of hybrid nanocomposites in the form of solid blocks and ultra-light fire-proof materials is considered. The spheres for creation of new nanocomposites acid-resistant materials and claddings for aggressive environments are offered.

The monograph is for wide range of scientific officeres, technologists and specialists as well as for lecturers, post graduates and last year students in technical universities for advanced studies of the technological principles of nanocomposite silicate-based materials.