



Nano Materials

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Nano Architecture: Applications of Nano Materials in Architecture and Design, by Sylvia Leydecker, Birkhauser Verlag, PO Box 133, CH-1040, Basel, Switzerland, 2008. 192pp, illus., € 39.90.

Written in a very easy-to-follow lucid language this book presents the different functions of nanomaterials in the context of their various applications in architecture, interior architecture and

design. According to several surveys, the predicted market development in the field of nanotechnology is enormous and nanotechnology has already led to the development of functional materials and surfaces that offer tremendous innovation potential, in particular with regard to greater energy efficiency. While in the area of architecture, many technologies are currently available, there is very little information available of its application in architectural context and related field. This book presents an excellent overview of different types of functional nanosurfaces available and can prove to be very useful for professionals and researchers in the fields of architecture, design and art. Anyone looking out for inspiring and visionary aspects of nanotechnology for use in the future can also find a wealth of information for this book.

The book begins with a chapter on trends and developments providing an overall understanding of the topic, its background and context: beginning with "What is nanotechnology?" and a short history of its development, and discusses the economics and ecology of this new technology as well as safety issues and associated risks.

The main body of the book contains 18 chapters, covering the different functions of nanomaterials in the context of their various applications in architecture, interior architecture and design, and with particular focus to their practice and their application in built case studies. The following selection of representative case studies features forward-looking projects from a variety of countries and complements the description of the different nano-functions, providing concrete examples of innovative applications so that all participants have a better idea of how they can be employed:

- Avoidance of floor level Self-cleaning: Lotus-Effect, Photo catalysis, Easy-to-clean (ETC), Anti-graffiti
- Avoidance of floor level Avoidance of floor level Air-purifying, Antibacterial, Fragrance capsules
- Thermal insulation: VIPs, Aerogel, PCMs
- UV protection, Solar protection
- Fire resistance
- Surface protection: Scratchproof and abrasion-resistant, Anti-fingerprint, Anti-reflective, Anti-fogging

- The holistic application of nanosurfaces in interiors

In the sequence and division of the nano-functions described in the book, some important features should be noted. Classification in accordance with nano-functions and changing properties does not make things clear, as with some materials changes may be triggered by multiple effects or in some cases stimulation by a single factor can change several properties at the same time. It is therefore not surprising that the nano-functions in the book have been separated on a case by case basis related to the potential for future architectural applications.

Nano-functions have been employed in interior design only occasionally if at all, and more or less by chance. To this end, the book provides some visionary concepts that could be realized in this or other similar forms. The book ends with useful links, recommended literature and details of trade fairs and other events that provide sources of further information on the topic.

This reviewer has been very impressed with the technical information of the book. The book would make an excellent reference book for architectural, structural, material science and engineering students and professionals in many fields. In particular, the book is suitable for all those active in the fields of architecture, design and art, for all who are open to innovative technology, on the look out for new materials and inspiring products of use in the future.

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