Building Constructions and Nanotechnology.. A new vision for Architecture

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Abstract
Nanotechnology, the key role in economic advancement, came after those series of successive scientific revolutions which led to revolutions in the field of materials and energy. Accordingly, it's named as the twenty-first century technology. Nanotechnology, design and manufacturing at the nano level, is opening new possibilities in designing the architectural environment and the sector of building constructions. With the development of this technology, Modern Architectural techniques will rise and creativity will reach new visions and designers will have many solutions. As a result of restructuring the atomic structure of materials and reduction their molecules and grains, nanomaterials are created. Nanomaterials have unique properties and qualities which not exist in their counterparts in the bigger scale. Therefore, nanotechnology available applications emphasize the architectural ability of nanomaterilas in energy conservation. In building construction sector, the most important modern applications for this technology, nanotechnology introduce materials that have remarkable mechanical, physical, chemical, electrical and thermal properties used in building materials, fire protection, air conditioning, thermal isolation, coatings in addition to improve glass industry and raise energy efficiency. One of the major opportunities that nanotechnology offers is improving the performance of existing buildings by energy production, storage and consuming within environmentally viable alternatives for current practices. The paper introduces an analytical study about nanomaterials and their potential impact on architectural applications. Also the paper aims to provide a framework for addressing relevant issues of nano-construction, bring an overview and illustrative examples of current early developments.

Keywords:
Nanotechnology, Nanomaterials, Atomic Structure, Photocatalysis, Building Constructions

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