METADATA

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Abstract

The book presents the basic principles that govern the architectural and building design of sustainable buildings. The aim is to classify and analyse the elements of bioclimatic and sustainable design that should be included in the design of the new buildings and the redesign of existing ones, today. The bioclimatic building, according to its definition, modifies the climate of its environment, with an appropriate design of its elements. Because the building envelope intervenes between the exterior and the interior space, it is mainly called upon to play the main role of converter of bioclimatic conditions. The shell, in other words, is called upon to play the role of climate conditions moderator, because the climate is variable, in order to provide stable conditions of thermal and visual comfort. A bioclimatic building, therefore, must be distinguished for and express its dynamic ability to modify the climate and adapt to it. Apart of the above, and in the context of an overall sustainable approach to architecture, the book also refers to other environmentally friendly design strategies, which include materials and building systems and installations, but also renewable energy sources, always from the architect's point of view. It is emphasised that the quality of the architectural result produced by any bioclimatic or construction choice is extremely important and this is because the applied bioclimatic techniques as well as building technology, i.e. the art of construction, is not only a sum of scientific and technical knowledge, but mainly the way in which they are assembled and utilised to contribute to the creation of a remarkable building design. The ultimate goal is the cultivation of ecological and environmental knowledge, as well as the awareness of the fact that sustainability must be addressed from the first steps of architectural design, as one of its integral parts.

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