

TOWARDS AN ECOLOGICAL DESIGN – SUSTAINABLE BUILDING

MATERIALS “STANDARD & DETERMINANTS”

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تاريخ النشر: سبتمبر ٢٠١٥ – المجلد رقم (١٤٧)

ملخص البحث (بلغة البحث المنشور):

Recently, buildings industry technology has widely developed including all levels, starting from the first design phases, then construction phases and systems till the end of the duration of the building. However, that industry has witnessed a number of failing aspects that are not only confined to the consumption of energy sources by building materials, but they also include the side effects that have been caused by those materials on the surrounding environment in the form of pollution, consumption of the preliminary energy sources, negative health effects on users, and so on.

Therefore, it was a must to pay attention to the steps of developing and modernizing that industry in a sufficient way that protects the environment generally and the user specifically. The most important step for that purpose is to innovate and modernize the ecological buildings as one of the fundamental and basic constituents of the green architecture.

Moreover, the research aims at defining the required standards and strategies for evaluating and determining the sustainability extent of the building materials through their different phases as a main step contributing in the development of the ecological buildings design and, thus, enabling the designer to choose the most suitable of those materials. We infer that the sustainability of materials has its relative significance or each material during its phases with the building, starting from the pre-building phase, then building phase till post-building phase. The impact of substance manufacturing has a clear impact on the achievement of eco-design as well as the operation phase. In spite of the relative significance of the materials' sustainability, yet this does not mean that we should not evaluate the system of the sustainability of the whole building through using the evaluation methods that are adopted internationally.

The research conclude the basic criteria for the ecological construction materials evaluation, a check list has been designed for these materials included the distribution of the percentage of design according to the relative importance of each phase and each standard, so it can be concluded Overall Rating article taking into consideration the importance of each stage and all the standard for its impact on the overall evaluation