الأبحاث المقدمة للترقية لدرجة / أستاذ
ملخصات الأبحاث باللغة العربية / الإنجليزية

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The Southern Walls As An Environmental Determinant A Case Study: Sakan Misr Project

ABSTRACT

Egypt is interested in providing suitable housing for individuals in a manner befitting the decent life required. For achieving that, it has been providing typical housing projects for citizens. Despite the multiplicity of places in which these projects are carried out, they were not provided by climate considerations in the design. The building envelope has a direct impact on the energy consumed for the cooling and heating. The study aims at examining the following: the impact of the southern wall design as an example for facades impact on the environmental behavior in terms of the design's ability to provide appropriate shading , the impact of increasing the percentage of shading on the southern wall, and the compatibility of the design according to the environmental recommendations of the Egyptian Energy Code to rationalize energy consumption in residential buildings. The study concluded that the southern facades do not comply with the recommendations of the code, while studying the effect of modifying the facade according to the code and the effect of increasing the percentage of shading. It was concluded that adherence to the recommendations of the Egyptian Energy Code contributes to rationalizing consumption by 16% for cooling works and 24% for heating works with a total of 17% reduction in the total energy required. However, increasing the percentage of shading contributes to reducing the energy needed for cooling when increasing the energy needed for heating, with a total energy saving that is relatively limited according to the percentage of shading on the facade.