عنوان مقاله:

Energy Simulation and Management of the Main Building Component Materials Using Comparative Analysis in a Mild Climate Zone

محل انتشار:

مجله انرژی تجدیدپذیر و محیط زیست, دوره 7, شماره 3 (سال: 1399)

تعداد صفحات اصل مقاله: 19

نویسنده:

.Nima Amani - *Department of Civil Engineering, Chalous Branch, Islamic Azad University, Chalous, Iran*

خلاصه مقاله:

The objective of this study is to evaluate the energy efficiency of residential buildings by using natural energy and optimizing the choice of materials for heat and cold saving with the Ecotect simulation software. According to analysis and simulation was found that the optimum material of main building components in a mild climate zone of Rasht city is the Brick Conc block Plaster for wall with total radiation incident of 340 W/m2 and radiation absorption of 240 W/m2; Double Glazed-Low E for window with total radiation incident 340 W/m2 and radiation absorption of 100 W/m2; Foam Core Ply Wood for door with total radiation incident of 340 W/m2 and radiation absorption of 200 W/m2; ConcSlab-OnGround for floor with total radiation incident of 340 W/m2 and radiation absorption of 220 W/m2; and Conc Roof Asphalt for roof with total radiation incident of 340 W/m2 and radiation absorption of 300 W/m2. According to the hourly temperature analysis for all storeys of the building in the two hot and cold days of the year, it is determined by the design and material selection requirements that the building will be in the near thermal comfort zone (below 30 .degrees) in the warm season

کلمات کلیدی:

energy conservation, comparative analysis, Residential Building, Materials, case study