

عنوان مقاله:

Investigating on Evolution of Windows from Qajar to Pahlavi Era in Tabriz's Ganjei-Zade House with Heat Dissipation Approach

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نویسندگان:

S. Abdoly Naser - *Department of Architecture, Tabriz Branch, Islamic Azad University, Tabriz, Iran*

F. Haghparast - *Faculty of Architecture and Urbanism, Tabriz Islamic Art University, Tabriz, Iran*

M. Singery - *Department of Architecture and Urbanism, Tabriz Branch, Islamic Azad University, Tabriz, Iran*

H. Sattari Sarbangholi - *Department of Architecture and Urbanism, Tabriz Branch, Islamic Azad University, Tabriz, Iran*

خلاصه مقاله:

Iranian vernacular architecture has rich experiences in terms of coordinating with its surroundings. although, high energy consumption was one of the major concerns in the past decades. According to statistics presented by Iranian Statistics Center, ۴۰% of the country's energy consumption is relevant to the construction industry. However, about ۷۰% of consumption is used solely for space heating and cooling. In the meantime, windows have a significant influence on the thermal performance. Ganjei-Zade House in Tabriz is one of the monuments and includes two parts. The north side of Qajar era and the western side was added to the former building in Pahlavi era. The present article deals with the study of the evolution of windows from Qajar to Pahlavi in Ganjei-zade house and the amount of heat dissipation from windows. These evaluations has been carried out by simulating Ganjei-zade house in the DesignBuilder software. The research related to this article was conducted based on analytic and comparative method and the purpose is to provide the important criteria for windows in residential buildings in the cold climate of Tabriz considering native architecture solutions in order to reduce heat dissipation. The conducted calculations confirm that the amount of heat losses from windows from Qajar to Pahlavi era, has been reduced by ۲۲.۲% and the amount of .heat dissipation per square meter of windows from Qajar period to Pahlavi was decreased by ۵۸.۳۳%

کلمات کلیدی:

Cold and dry climate of Tabriz, Designbuilder software, Ganjei-Zade house, Simulation, Windows heat losses

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