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Effect of Green Roofs to Prevent the Dissipation of Energy in Mountainous Areas

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Abstract : A green roof is formed by green plants alive and has many positive impacts in the regional climatic, as well as indoor. Green roof system to prevent solar radiation plays a role in the cooling space. The cooling is done by reducing thermal fluctuations on the exterior of the roof and by increasing the roof heat capacity which cause to keep the space under the roof cool in the summer and heating rate increases during the winter. A roof garden is one of the recommended ways to reduce energy consumption in large cities. Despite the scale of the city green roofs have effective functions, such as beautiful view of city and decontaminating the urban landscape and reduce mental stress, and in an exchange of energy and heat from outside to inside spaces. This article is based on a review of 20 articles and 10 books and valid survey results on the positive effects of green roofs to prevent energy waste in the building. According to these publications, three of the conventional roof, green roof typical and green roof with certain administrative details (layers of glass) and the use of resistant plants and shrubs have been analyzed and compared their heat transfer. The results of these studies showed that one of the best green roof systems for mountainous climate is tree and shrub system that in addition to being resistant to climate change in mountainous regions, will benefit from the other advantages of green roof. Due to the severity of climate change in mountainous areas it is essential to prevent the waste of buildings heating and cooling energy. Proper climate design can greatly help to reduce energy.

Keywords : green roof, heat transfer, reducing energy consumption, mountainous areas, sustainable architecture
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