

DYNAMIC SIMULATION OF THERMAL BEHAVIOR OF CONVENTIONAL AND GREEN ROOFS

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Abstract: *Green roofs are used for cover buildings where the facility is covered with a layer of vegetation above the waterproofing layer of the roof structure. This paper shows the use of green roofs on the premises at the site of the city of Belgrade to reduce the energy for heating the building compared to conventional thermal insulated roof type. The application of two basic types of green roofs, extensive and intensive, with different thickness of the thermal insulation of the roof is analyzed. Thermal behaviour of the object is implemented using dynamic simulations using energy modelling DesignBuilder software. The research results show the positive effects of using green roofs compared to the conventional roof in terms of energy savings for heating. The results of the research show that it is necessary to increase the application of green roofs in the future because a positive impact on increasing the energy efficiency of the building and improving the microclimate in global cities.*

Keywords: *green roofs, energy building simulation, energy savings, green roof model, energy performance of buildings.*