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ANALYSIS OF FLOOR AND CEILING HEATING WITH INTERMITTENT OPERATION

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Abstract

One of the most complex aspects of water accounting is the assessment of point and diffuse source pollution. At present, the building sector in European countries is responsible for 40% of the total energy consumption. To reduce the European Union dependency on energy import, the strategy undertaken in Lisbon is to reduce as much as possible the energy consumption of buildings and to increase the share of renewable energy sources. As an average, house heating represents about 75% from the total energy consumption in a Central European country. Improving the thermal resistance of the external envelope, low temperature heating systems could be installed. As a consequence, the exergy needs and losses of such a system will be lower in comparison with a traditional system. Reduction of energy consumption for heating could be obtained by setting proper operation of the system. Intermittent heating is used widely at radiator heating systems and energy savings up to 10% might be performed.
The aim of present paper was to evaluate how much energy saving might be obtained when floor and ceiling heating by intermittent operation is assumed. The measurements had been done under laboratory conditions in parallel with evaluation of thermal comfort parameters involving 32 subjects.

Key words: energy, heating, intermittent, thermal comfort

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