

THE INFLUENCE OF EXTERNAL WALL CONSTRUCTIONS ON INDOOR AIR PARAMETERS STABILITY

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ABSTRACT

This paper is devoted to analyses of influence of external wall constructions on indoor air parameters stability and energy performance of dwelling. It's present analysis of thermal mass impact on buildings energy performance and indoor air parameters stability in cold and humid climate of Baltic region. In Latvian climatic conditions dwelling buildings consumes 50% of total energy consumption for space heating. In winter time the average outdoor air temperatures fluctuation is ± 8 . In some cases the outdoor temperature can rapidly drop below heating system design temperature. In that case it is necessary to insure stability of indoor air internal surface temperature. The stability of indoor air parameter is very important factor for such institution as museums, schools, hospital and etc.

In the scope of this study practical measurement was done in 2 apartments: one with high thermal mass and low thermal resistance of building envelope; second - low thermal mass external and high thermal resistance.

In the scope of this paper the dependency between heat boiler capacity and level of thermal mass of building's envelope were evaluated.