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Dynamics of thermo-vacuum-impulsive drying of inert burning construction material

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Abstract

The influence of drying regimes of burning hard caps from an inert material (cellulose – polyvinyl-acetate – aluminum) on the rate of dehumidification was investigated. It is shown that convective drying even at the highest temperature equal to 110 °C is the least effective. It is found that of the four variants of the thermo-vacuum-impulsive drying the highest rate of moisture removal is characteristic for condition of combining thermo-vacuum-impulsive pass of hot fluid (70 °C, the vacuum 5 kPa) through the layer of material for 5 minutes with simultaneous heating of the form heated to the desired temperature. The number of pulses depends on the material moisture. This condition allows to reduce the drying time about in 8 times compared with the staffing process.