

# Modeling of Heat and Moisture Transfer in Wood in Finish Drying by the Energy of a Microwave Field

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A physicomathematical model of heat and moisture transfer in drying materials in the region below the hygroscopicity limit, including also the heating by the energy of a microwave field, has been developed. The developed system of equations has been solved numerically for three cases of drying of a wooden plate: convective drying, drying by the microfield-field energy, and drying combining the above two methods, i.e., combined drying. Results of numerical calculations of the temperature, vapor-pressure, and moisture-content distributions in the cross section of the plate at different instants of time, and also of the change in the average moisture content and temperature in the process of drying, have been presented. The calculation results have been analyzed; conclusions on the differences and distinctive features of convective, microwave, and combined heating and drying have been drawn.

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- **wood**
- **moisture content**
- **convective heating**

- **microwave drying**
- **combined heating and drying**