

عنوان مقاله:

Numerical Investigation of Melting PCMs in Thermal Storage Systems

محل انتشار:

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خلاصه مقاله:

The transient melting of paraffin wax in a cube is studied numerically in one and two dimensions. The finite difference method is used to discretize the governing equations and the method of line is used to solve the problem. Different boundary conditions and paraffin thicknesses are considered in this study. One and two-dimensional results show that stored thermal energy due to phase change of paraffin is dominant. Also by increasing liquid phase thickness, heat transfer rate to the solid phase and the melting rate decreases. The thermal boundary conditions significantly affected paraffin melting process.

کلمات کلیدی:

Phase change material, PCM, Thermal energy storage, Numerical, Paraffin

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