REVIEW OF PHASE CHANGE MATERIALS IN HEAT TRANSFER APPLICATIONS

Baskar[1], M. Ruban[2], D. Rajesh Kumar[3], R. Rakesh Kumar [4]

[1,2,3,4] UG scholar Department of Automobile Engineering, Vels Institute of Science Technology and Advanced Studies (VISTAS), Chennai

baskar133.se@velsuniv.ac.in

ABSTRACT

Phase change materials (PCMs) are used in latent heat thermal energy storage, which is a practical solution to the imbalance between energy supply and demand. However, it has a leakage issue and poor thermal conductivity. The recent experimental and numerical studies on phase change heat transfer are reviewed in this study. It turns out that the most popular PCM and porous support in the present experiments are metal foam and paraffin. The development of numbers is examined from the perspective of several simulation techniques. In addition, research on phase change heat transfer and material preparation is lacking. This analysis concludes by outlining potential future research areas for phase change heat transfer in porous ss-PCMs.

Keywords – Phase change materials, Thermal conductivity, Heat transfer.