

ABSTRACT

Traditional cooling techniques such as water cooling, air cooling, and water spray are not preferred in the current scenario due to their power requirements and complex deployments. Phase change materials (PCMs) have become an excellent alternative for cooling solar modules due to their excellent thermophysical properties. This article critically reviews recent research on the use of phase change materials as heat absorbing materials. Investigations include individual PCMs, composite PCMs, and experimental analysis on PCMs as secondary thermal energy storage. The composite PCM (Palmitic, Myristic & Lauric acid mixture) heatsink is to cool the solar panel by absorbing the heat. In recent decades, designers have tried to find the optimal design of such a structure. Later, many methods were developed to achieve this goal. The performance of a solar panel with a heatsink is initially examined through experiments in which water and forced air are passed through it, and the findings are then compared with a composite PCM heatsink.