

The reducing of heat gain through the outer walls of the buildings in summer will contribute in reducing the air conditioning costs. This is one of the best features of design requirements nowadays. To achieve this, the phase change materials (PCM) can be used as an embedded material in the walls to reduce heat transfer. The paraffin wax is one of the common materials used as a PCM in the building walls. The paraffin wax is used in this study with (20%) volume percentage in the external layer of the treated wall. In the present work, the treated wall (with embedded wax in the wall) and non-treated walls have been experimentally investigated. Two Iraqi wall models were employed to run the experiments, whereby these models were exposed to an external heat source using (1000 W) projector for each model. The temperatures were recorded at different locations in the walls during the charging and discharging periods. The results showed that the temperature of the internal surface for the treated wall was lower than that of the non-treated wall at the end of the discharging period (6 hr) where the temperature difference between the treated and non-treated walls was reached (1.6°C).