

Experimental investigation was carried out to study the effect of a hollow and inclination angles on the ability of a square flat plate squander the convective heat transfer. An experimental set-up of an uniformly heated Aluminum flat plate of a central hollow representing 0.25 of the entire surface area of the plate heated by a constant heat flux was used basically for this purpose. Experiments were performed for inclination angles of (0°, 15°, 30°, 45°, 60°, 75°, 90°) for a region of Rayleigh number between (151550-1616000). This study showed that the ability of the surface to dissipate heat was presented by the average Nusselt number as a function of Rayleigh number depending on the existence of the hollow and the inclination angle. The existing of the hollow increased the value of average Nusselt number up to (39%) in the horizontal state and change sequentially with the inclination angle and it reached.