

ملخص رسالة الماجستير

Finite Element Modeling of Concrete Slabs Exposed to High Temperatures.

This research present theoretical and experimental investigation of response of concrete slab exposed to high temperature. A computer program has been developed to estimate the temperature distribution through the slabs. In addition, 6 concrete slabs (40×40×8 cm) are tested under different exposure temperature (150, 200, 300, 400, 500 and 600 ° C) up to 2.5 hours and temperature at different locations (9 points) are recorded every 5 minutes interval. The results indicated that, the developed finite element program to predict temperature distribution within concrete slabs has a very reasonable accuracy. Also, effect of high temperature on concrete slabs whether on the deflection or on the stresses is drastic compared with the effect of applied loads.