

Effect of Fire Exposure on the Ultimate Strength of Loaded Columns

Authors : Hatem Hamdy Ghieth

Abstract : In the recent time many fires happened in many skeleton buildings. The fire may be continues for a long time. This fire may cause a collapse of the building. This collapse may be happened due to the time of exposure to fire as well as the rate of the loading to the carrying elements. In this research a laboratory study for reinforced concrete columns under effect of fire with temperature reaches (650 ° C) on the behavior of columns which loaded with axial load and with exposing to fire temperature only from all sides of columns. the main parameters of this study are level of load applying to the column, and the temperature applied to the fire, this temperatures was 500oC and 650oc. Nine concrete columns with dimensions 20x20x100 cms were casted one of these columns was tested to determine the ultimate load while the least were fired according to the experimental schedule.

Keywords : columns, fire duration, concrete strength, level of loading

Conference Title : ICBSE 2015 : International Conference on Building Science and Engineering

Conference Location : New York, United States

Conference Dates : June 04-05, 2015