**Abstract**

Progressive collapse of is a condition that occurs when a portion of load-bearing element suddenly loss of loading capacity by an extreme event such as blast, and the structure above the area of the initial damage subsequently fails. In the real world, some structures still are able to tolerate the local failures and maintain stability, however, some of the structures will collapse in only several seconds, such as "911" event, the collapse of the world trade center. When part of the structure fails, the total load in the system will not disappear, which means the loads will be redistributed unevenly to the adjacent part of structure. This phenomenon revealed that sustained high stresses in reinforced concrete elements can lead to catastrophic collapse. Due to very few of papers did the research on the reinforced concrete (**RC**) elements under high stress level sustained load. So the relevant experiments should be performed in this area. This paper gives the suggestions about how to apply the load in an experiment if researchers want to know the behavior of elements near to collapse especially focus on reinforced concrete column.

**Keywords:**

Progressive collapse of RC structure

RC structure under high stress level

Nonlinear analysis of RC structure

Prototype structure design