Abstract

The study aims to focus on the behavior of the reinforced concrete column under static load. In this research, the feasibility of using concrete waste as coarse aggregate in preparing new concrete mixes is studied. The waste concrete aggregate is referred to in this study as recycled Rubber. Five mixes are prepared in this study, one control mix with 100% natural coarse aggregate and four mixes containing replacement levels of Rubber starting from 5% to 20% by weight of coarse aggregate. The mixes are designed according to the Efnarc code; with a water-cement ratio of 0.47. Fresh concrete mixes regardless of concrete content were tested for their workability to test the effect of Rubber on the fresh state properties of concrete. Hard-state concrete was tested for its compressive strength at the age of 28 days.

In the present research, experimental studies have been devoted to investigating the behavior of self-compacting R/C short Hollow columns. The experimental work consists of the fabrication and testing of five reinforced concrete Hollow columns with a cross-section of **(150 x 150 mm)** and a total length **(450 mm)** which were tested under static load. One of them is a control column and four columns are using Rubber replacement with different percentages (5%, 10%, 15%, and 20%).