World Academy of Science, Engineering and Technology
International Journal of Civil and Environmental Engineering
Vol:11, No:05, 2017

Experimental Study on the Effect of Water-Cement Ratio and Replacement Ratio to the Capacity of the Recycled Aggregate Concrete

Authors : Feng Fu, Maria Karli

Abstract : In this paper, experimental studies were carried out to investigate the behaviour of recycled aggregate concrete (RAC). A number of compressive tests, tensile splitting tests, as well as impact tests were conducted. In the tests, different recycled aggregate replacement ratio, different mix design and different water to cement ratio have been chosen in the investigation. The behavior of the RAC concrete was investigated in detail. The results of the tests show that the water-cement ratio plays an important role in the strength of the concrete and RAC concrete exhibit sufficient strength in comparison to the normal aggregate concrete; the relevant design recommendations are also made.

Keywords : recycled aggregate concrete, compressive test, tensile splitting test, flexural strength test, impact test
Conference Title : ICCEA 2017 : International Conference on Civil Engineering and Architecture
Conference Location : Montreal, Canada
Conference Dates : May 11-12, 2017