

Properties of concrete with different percentage of the rice husk ash (RHA) as partial cement replacement

Abstract

The use of pozzolanic material from waste product as partial cement replacement in concrete contribute to reduce the environmental, economic problem through their waste and as well enhance the strength and properties of concrete. Rice husk ash (RHA) is one of the industrial waste that suitably used as a cement replacement due to its pozzolanic properties which can enhance the properties of concrete. In this study, the workability, compressive strength and water absorption of the concrete containing RHA is investigating. The chemical content of RHA also investigated by using X-ray Fluorescence Test (XRF). The different RHA percentage of 5%, 15% and 25% were used in this study with burning temperature 650°C. The concrete cube of size 100 mm x 100 mm x 100 mm were prepared and cured for 7, 14 and 28 days. Based on result, it was concluded that the optimum RHA replacement for cement in this report was 5 %, which provided the highest compressive strength at 28 days.

Keywords;

Burning Temperature, Cement Replacement, Compressive Strength, Rice Husk Ash (RHA), Water Absorption, Workability, X-Ray Fluorescence Test (XRF)